GLOBAL WATER MARKET 2017

VOLUME 1: COMPANIES AND MARKETS

PUBLICATION INFORMATION	
Unit conversion factors used in this publication:	iii
Exchange rates used in this publication:	iii
Indicators of utility service coverage:	iv
Indicators of water service coverage	iv
Indicators of wastewater service coverage	iv
Icons used in this publication:	V
Icons representing market sectors	V
Icons representing technology categories	V
Icons representing technology applications	V
Icons representing sector structure responsibilities	V
Icons representing the scope of private sector participation (PSP) projects	V
Icons representing significance/prevalence	vi
EXECUTIVE SUMMARY	VII
The big picture	vii
Market drivers and constraints	viii
The regional picture	viii
North America	viii
Latin America/Caribbean	ix
Capital expenditure by region, 2013-2020	ix
Europe/Former Soviet Union	ix
The top 40 global water markets by total spend, 2016–2020	Х
China	xi
India	xi
Other Asia Pacific	xi
Middle East/Africa	xii
2,000 pages In 100 words	xii
Global water market map	xiii
1. WATER MARKET OVERVIEW	1
1.1 What is the water market?	1
1.1.1 Defining the water market	1
1.1.2 By end-user type: utility/industrial/commercial/agricultural	1
Figure 1.1 The global water market, 2016	1
1.1.3 By spending type: capex/opex	1
Figure 1.2 The global water market: opex and capex, 2016	1
1.1.4 Capital expenditure on water	2
Figure 1.3 Global water capex, 2016	2
1.1.5 Operating expenditure on water	2
Figure 1.4 Global water opex, 2016	2
1.2 Market drivers	2
1.2.1 Scarcity and global warming	2
Figure 1.5 Water stress by region	3
Figure 1.6 Seasonal variability by region	3
Figure 1.7 Drought severity by region	4
1.2.1.1 Demand management	4
Figure 1.8 The dynamics of water use, 1900–2025	4
1.2.2 Urbanisation and access to water	5
1.2.2.1 Water access	5
Figure 1.9 Global access to drinking water	5
Figure 1.10 Global access to sanitation	5
1.2.3 Regulation	6

1.2.3.1 Major regulatory changes	6
1.2.3.2 European Union water regulation	7
Figure 1.11 List of water-related EU directives	7
1.2.4 Corporate water risk	7
Figure 1.12 CDP Water Project 2015 survey responses	8
1.3 Market restraints	8
1.3.1 Overview	8
1.3.1.1 Capital intensity	8
Figure 1.13 Capital intensity of utility services	9
1.3.2 Paying for water	9
1.3.2.1 Water tariffs	9
Figure 1.14 What makes a water tariff?	9
Figure 1.15 Evolution of water and wastewater tariffs by region, 2011-2015	10
Figure 1.16 GWI 2015 Water Tariff Survey	10
Figure 1.17 Standard connection charges by region	14
1.3.2.2 Operating expenditure	14
Figure 1.18 Revenues versus operating costs in selected countries	15
Figure 1.19 Utility water and wastewater costs and revenues per cubic metre sold	16
Figure 1.20 Operating cost recovery by region	17
1.3.2.3 Utility incorporation	17
Figure 1.21 The corporate structure of utilities	17
1.3.3 Capital spending	18
1.3.3.1 Debt finance	18
1.3.3.2 International financial institutions	19
Figure 1.22 Multilateral support to the water sector, 2014	19
1.3.4 Financing trends	19
Figure 1.23 Sources of finance for water and wastewater infrastructure 2006-2020	20
1.3.5 Reaching the market	20
Figure 1.24 Water and economic development	21
1.4 Market forecast	22
Figure 1.25 Structure of forecast model in Global Water Market 2017	22
1.4.1 Utility capital and operating expenditure	22
1.4.1.1 Changes and corrections	23
1.4.2 Industrial capital expenditure	23
1.4.3 Industrial operating expenditure	23
1.4.4 Seawater and brackish water desalination	24
1.4.5 Technologies forecast	24
Figure 1.26 Description of application categories	25
Figure 1.27 Description of treatment technology categories	25
1.4.6 Equipment forecast	26
1.4.7 Chemicals forecast	28
1.4.8 Global market forecast summary	28
Figure 1.28 Market forecast, 2013-2020	29
Figure 1.29 Market forecast breakdown, 2016	30
Figure 1.30 Market forecast data, 2013–2020	31
1.5 The water market	33
1.5.1 Market structure and dynamics	33
1.5.1.1 The utility market	33
Figure 1.31 The top 30 global water utilities	33
1.5.1.2 The industrial water market	34
Figure 1.32 Water usage by industry sector	34
Figure 1.33 Top 50 industrial water users by estimated water consumption	35
1.5.1.3 The supply chain	36
Figure 1.34 The water sector supply chain	37
1.5.1.4 Major players	38
	38
Figure 1.35 Top 50 global water companies	
Figure 1.35 Top 50 global water companies 1.5.2 Engineering & contracting	40
Figure 1.35 Top 50 global water companies 1.5.2 Engineering & contracting 1.5.2.1 Contracting models	40 40

1.5.2.3 Risk management	41
1.5.2.4 The engineering and systems integration market	41
Figure 1.36 Top 50 engineers and systems integrators	42
1.5.2.5 Market trends	43
1.5.2.6 Engineering and systems integration market forecast	44
Figure 1.37 Engineering and systems integration market forecast by region, 2013-2020	44
1.5.3 The DBO market	45
1.5.3.1 DBO description	45
Figure 1.38 DBO project structure	45
1.5.3.2 DBO market development	45
1.5.3.3 DBO market forecast	46
Figure 1.39 DBO market forecast: Capital and operating expenditure, 2013-2020	46
Figure 1.40 DBO market forecast: Capital expenditure by asset type, 2013-2020	47
Figure 1.41 DBO market forecast: Operating expenditure by asset type, 2013-2020	47
Figure 1.42 DBO market forecast: Capital expenditure by region, 2013-2020	48
Figure 1.43 DBO market forecast: Operating expenditure by region, 2013-2020	48
1.5.4 The BOT/BOO market	49
1.5.4.1 BOT/BOO description	49
Figure 1.44 Basic BOT project structure	49
Figure 1.45 Salalah IWPP contractual framework	50
1.5.4.2 BOT market development	50
1.5.4.3 Brownfield BOT and TOT	51
1.5.4.4 BOT market forecast	52
Figure 1.46 BOO/BOT market forecast: Capital and operating expenditure, 2013-2020	52
Figure 1.47 BOO/BOT market forecast: Capital expenditure by asset type, 2013-2020	53
Figure 1.48 BOO/BOT market forecast: Operating expenditure by asset type, 2013-2020	53
Figure 1.49 BOO/BOT market forecast: Capital expenditure by region, 2013-2020	54
Figure 1.50 BOO/BOT market forecast: Operating expenditure by region, 2013-2020	54
1.5.5 Utility outsourcing	55
1.5.5.1 Overview of outsourcing models	55
1.5.5.2 Investor-owned utility models	55
1.5.5.3 The UK regulatory model	55
1.5.5.4 Investor-owned utilities in the US	56
1.5.5.5 Investor-owned utilities in Chile	56
1.5.5.6 Other investor-owned utilities	56
1.5.6 Utility leasing	57
1.5.6.1 Rialto, California	57
	57
Figure 1.51 Rialto transaction structure	57
1.5.6.2 Bayonne, New Jersey 1.5.6.3 Allentown	
	58
1.5.6.4 Middletown, Pennsylvania	58
1.5.6.5 Utility leasing outside the US	58
1.5.7 Concession models	59
Figure 1.52 Water utility concession structure	59
1.5.7.1 Concession model market development	59
1.5.8 Operating/Affermage contracts	60
1.5.8.1 US contract operations	60
1.5.8.2 Affermage contracts	60
Figure 1.53 Affermage contract structure	61
1.5.8.3 The Spanish canon model	61
1.5.9 Management and performance contracts	62
1.5.9.1 Definition	62
1.5.9.2 Market development	62
1.5.9.3 Management contracts	62
1.5.9.4 Performance contracts	62
Performance contracts in developing countries	65
	6.5
Figure 1.54 Internal performance contracting in Uganda 1.5.10 Utility private sector participation market forecast	65 66

Figure 1.56 Private sector participation market forecast: capital expenditure by contract type, 2013–2020 1.6 Industrial Outsourcing	- 6
1.6.1 Overview	- 6
Figure 1.57 Global market for industrial outsourcing services by contract type, 2015	
Figure 1.58 Spending on industrial outsourced service, 2013-2020	e
1.6.2 Outsourced operations	- 6
1.6.3 Asset ownership models	e
Figure 1.59 Risk-sharing by contract structure	e
Figure 1.60 Capital and operating expenditure under BOT/BOO contracts, 2013-2020	7
1.6.4 Mobile water	
Figure 1.61 Spending on mobile water services by industry, 2013-2020	
Figure 1.62 Spending on mobile water services by region, 2013–2020	-
1.6.4.1 Major players in mobile water	
Figure 1.63 Major players in mobile water solutions	
1.6.5 Oil and gas water management	-
Figure 1.64 Types of water management in the unconventional industry	
Figure 1.65 Supply chain for water management services in the US unconventional industry	
1.6.5.1 Major water management challenges	-
Figure 1.66 Outline of key water management challenges in the major US shale plays	-
1.6.5.2 Market forecast	
Figure 1.67 Forecast of spending on oil & gas water management services in North America, 2013-2020	-
1.6.5.3 Main players	-
Figure 1.68 Selection of major water management companies in the upstream oil and gas sector	
. WATER AND WASTEWATER TREATMENT	7
Figure 2.1 Water and wastewater treatment functions by industry and application	
2.1 Treatment by sector	
Figure 2.2 Global capital expenditure by sector, 2013-2020	
Figure 2.3 Global capital expenditure by industry, 2013-2020	
2.1.1 Upstream oil & gas	
Figure 2.4 Trends in global crude oil price, 1990-2015	
Figure 2.5 Global capex at oil & gas companies	
2.1.1.1 Applications	
Figure 2.6 Upstream oil & gas: Capital expenditure by application, 2013-2020	
2.1.1.2 Technology systems	
Figure 2.7 Upstream oil & gas: Capital expenditure by technology, 2013-2020	
2.1.1.3 Regions	
Figure 2.8 Upstream oil & gas: Capital expenditure on water treatment in upstream oil & gas by region	
Figure 2.9 Figure 1.6 Upstream oil & gas: Top country markets, 2016-2020	
2.1.1.4 Key market players	
Figure 2.10 Key players in the upstream oil & gas water and wastewater treatment market	
Figure 2.11 A selection of the top water treatment providers in the upstream oil & gas market	
2.1.2 Refining & petrochemicals	
Figure 2.12 Top countries by refining capacity and number of refineries, 2015	
Figure 2.13 Future additional refining capacity by country, 2015-2019	
Figure 2.14 Future additional petrochemical capacity by country, 2015-2022	
2.1.2.1 Applications	
Figure 2.15 Refining and petrochemicals industry: Capital expenditure by application, 2013-2020	
2.1.2.2 Technology systems	
Figure 2.16 Refining and petrochemicals industry: Capital expenditure by technology, 2013-2020	
2.1.2.3 Regions	
Figure 2.17 Refining and petrochemicals industry: Capital expenditure by region, 2013-2020	
· · · · · · · · · · · · · · · · · · ·	
Figure 2.17 Refining and petrochemicals industry: Capital expenditure by region, 2013-2020	
Figure 2.17 Refining and petrochemicals industry: Capital expenditure by region, 2013-2020 Figure 2.18 Refining and petrochemicals industry: Top country markets, 2016-2020	-
Figure 2.17 Refining and petrochemicals industry: Capital expenditure by region, 2013-2020 Figure 2.18 Refining and petrochemicals industry: Top country markets, 2016-2020 2.1.2.4 Key market players Figure 2.19 Key players in the refinery water and wastewater treatment market	
Figure 2.17 Refining and petrochemicals industry: Capital expenditure by region, 2013-2020Figure 2.18 Refining and petrochemicals industry: Top country markets, 2016-20202.1.2.4 Key market playersFigure 2.19 Key players in the refinery water and wastewater treatment marketFigure 2.20 A selection of the top companies in the refining & petrochemicals industry	
Figure 2.17 Refining and petrochemicals industry: Capital expenditure by region, 2013-2020 Figure 2.18 Refining and petrochemicals industry: Top country markets, 2016-2020 2.1.2.4 Key market players Figure 2.19 Key players in the refinery water and wastewater treatment market	

Figure 2.28 Power: Capital expenditure by region, 2013-2020 Figure 2.48 Power: Capital expenditure by region, 2013-2020 Figure 2.28 Power: Top country markets, 2016-2020 2.1.34 Key market players in the power water and wastewater treatment market Figure 2.28 Key players in the power water and wastewater treatment market Figure 2.29 Production of metals and minerals by country, 2014-2015 Figure 2.29 Production of metals and minerals by commodity, 2014-2015 Figure 2.30 Selected major mining companies by commodity, 2014-2015 Figure 2.30 Mining: Capital expenditure by application, 2013-2020 2.1.4.1 Applications Figure 2.30 Mining: Capital expenditure by region, 2013-2020 2.1.4.3 Regions Figure 2.33 Mining: Capital expenditure by region, 2013-2020 2.1.4.4 Key market players Figure 2.33 Mining: Capital expenditure by region, 2013-2020 2.1.4.4 Key market players Figure 2.34 Mining: Capital expenditure by region, 2013-2020 2.1.4.4 Key market players Figure 2.34 Key players in the mining sector for water and wastewater treatment Figure 2.34 Key players in the mining sector for water and wastewater treatment Figure 2.37 Food and beverage: Capital expenditure by application, 2013-2020 2.1.5.1 Water trastment needs 2.1.5.1 Water trastment needs	Figure 2.22 Power: Capital expenditure by application, 2013-2020 2.1.3.2 Technology systems	96 97
 21.3.3 Regions Figure 2.24 Power: Top country markets, 2016-2020 21.3.4 Key market players Figure 2.25 Power: Top country markets, 2016-2020 21.3.4 Key market players in the power water and wastewater treatment market Figure 2.25 Key players in the power water and wastewater treatment market Figure 2.28 Roduction of metals and minerals by country, 2014-2015 Figure 2.29 Production of metals and minerals by commodity, 2014-2015 Figure 2.29 Production of metals and minerals by commodity, 2014-2015 Figure 2.29 Roduction of metals and minerals by commodity, 2014-2015 Figure 2.29 Noticition of metals and minerals by commodity and production, 2014 21.41 Alphications Figure 2.31 Mining: Capital expenditure by tachnology, 2013-2020 21.4.4 Regions Figure 2.33 Mining: Capital expenditure by region, 2013-2020 21.4.4 Regions Figure 2.34 Mining: Capital expenditure by region, 2013-2020 21.4.4 Regions Figure 2.35 Key players in the mining sector for water and wastewater treatment Figure 2.35 Key players in the mining sector for water and wastewater treatment Figure 2.36 A selection of the top water treatment providers in the mining market 21.51 Noter treatment needs 21.51 Water treatment needs 21.53 Ver treatment needs 21.54 Regions Figure 2.49 Food and beverage: Capital expenditure by technology, 2013-2020 Figure 2.49 Food and beverage: Capital expenditure by region, 2013-2020 21.54 Key players in the food & beverage: Top country markets, 2016-2020 21.55 Key market players Figure 2.44 Poly for paper production by region, 1990-2014 Figure 2.44 Poly for paper production by region, 1990-2014 Figure 2.44 Poly for paper production by region, 2013-2020 21.64 Key market players Figure 2.44 Poly for paper production by region, 2013-		97
Figure 2.4 Prover: Capital expenditure by region, 2013-2020 2.1.3.4 Key market players Figure 2.26 Key players in the power water and wastewater treatment market Figure 2.27 A selection of the top water treatment providers in the power market 2.1.4 Mining 2.1.7 A Mining Figure 2.29 Production of metals and minerals by commodity, 2014-2015 Figure 2.29 Production of metals and minerals by commodity, 2014-2015 Figure 2.30 Selected major mining companies by commodity and production, 2014 2.1.4.1 Applications Figure 2.33 Mining: Capital expenditure by technology, 2013-2020 2.1.4.2 Technology systems Figure 2.33 Mining: Capital expenditure by region, 2013-2020 2.1.4.3 Key market players Figure 2.34 Mining: Top country markets, 2016-2020 2.1.4.4 Key market players Figure 2.34 Mining: Top country markets, 2016-2020 2.1.5 Food & beverage 2.1.5 Food & beverage 2.1.5 Food and beverage: Capital expenditure by region, 2013-2020 2.1.5 Tood and beverage: Capital expenditure by application, 2013-2020 2.1.5.5 Key players in the mining sector for water and wastewater treatment Figure 2.39 Food and beverage: Capital expenditure by application, 2013-2020 2.1.5.5 Food and beverage: Capital expenditure by application, 2013-2020		98
Figure 2.25 Power Top country markets, 2016-2020 2.1.34 Key market players Figure 2.25 Key players in the power water and wastewater treatment market Figure 2.27 A selection of the top water treatment providers in the power market 2.1.4 Mining Figure 2.29 Production of metals and minerals by commodity, 2014-2015 Figure 2.29 Production of metals and minerals by commodity 2014-2015 Figure 2.29 Production of metals and minerals by commodity 2014-2015 Figure 2.30 Selected major mining companies by commodity and production, 2014 2.1.4.1 Applications Figure 2.33 Mining: Capital expenditure by technology, 2013-2020 2.1.4.2 Technology systems Figure 2.33 Mining: Capital expenditure by region, 2013-2020 Figure 2.34 Mining: Top country markets, 2016-2020 2.1.4.4 Key market players Call Secord & beverage 2.1.5 Food & beverage 2.1.5 Food & beverage 2.1.5 Food & and beverage: Capital expenditure by application, 2013-2020 Figure 2.33 Food and beverage: Capital expenditure by application, 2013-2020 2.1.5 Food & and beverage: Capital expenditure by application, 2013-2020 Figure 2.33 Food and beverage: Capital expenditure by technology, 2013-2020 Figure 2.34 Food and beverage: Capital expenditure by region, 2013-2020 Figure 2.35 P		98
 2.1.3.4 Key market players Figure 2.28 Key players in the power water and wastewater treatment market Figure 2.29 roduction of metals and minerals by country, 2014-2015 Figure 2.29 Production of metals and minerals by commodity 2014-2015 Figure 2.29 Production of metals and minerals by commodity and production, 2014 2.1.4.1 Applications Figure 2.30 Selected major mining companies by commodity and production, 2014 2.1.4.1 Applications Figure 2.30 Mining: Capital expenditure by application, 2013-2020 2.1.4.2 Technology systems Figure 2.33 Mining: Capital expenditure by technology, 2013-2020 2.1.4.3 Regions Figure 2.34 Mining: Capital expenditure by technology, 2013-2020 2.1.4.4 Key market players Figure 2.34 Mining: Capital expenditure by region, 2013-2020 2.1.4.4 Key market players Figure 2.34 Mining: Capital expenditure by region, 2013-2020 2.1.4.4 Key market players Figure 2.35 Key players in the mining sector for water and wastewater treatment Figure 2.34 Aselection of the top water treatment providers in the mining market 2.1.5.1 Vater treatment needs 2.1.5.2 Applications Figure 2.39 Food and beverage: Capital expenditure by technology, 2013-2020 2.1.5.4 Regions Figure 2.40 Food and beverage: Capital expenditure by region, 2013-2020 2.1.5.4 Key market players Figure 2.40 Food and beverage: Capital expenditure by region, 2013-2020 2.1.5.4 Key market players Figure 2.44 Players in the food & beverage water and wastewater treatment market Figure 2.44 Players Figure 2.44 Players in the food & beverage water and wastewater treatment market Figure 2.44 Players in the food & beverage water and wastewater treatment market Figure 2.44 Players in the food & beverage market, 2014-2020 2.1.5.5 Key market players <l< td=""><td></td><td>98</td></l<>		98
Figure 2.26 Key players in the power water treatment providers in the power market 2.1.4 Mining Figure 2.28 Production of metals and minerals by country, 2014-2015 Figure 2.29 Production of metals and minerals by commodity, 2014-2015 Figure 2.30 Selected major mining companies by commodity, 2014-2015 Figure 3.30 Selected major mining companies by commodity, 2014-2015 Figure 2.31 Mining: Capital expenditure by application, 2013-2020 21.4.4 Applications Figure 2.32 Mining: Capital expenditure by technology, 2013-2020 Figure 2.33 Mining: Capital expenditure by region, 2013-2020 Figure 2.34 Mining: Capital expenditure by region, 2013-2020 Figure 2.35 Key players in the mining sactor for water and wastewater treatment Figure 2.35 Key players in the poware treatment providers in the mining market 2.1.5 Cod & beverage 2	· · ·	99
Figure 2.27 A selection of the top water treatment providers in the power market 2.1.4 Mining Figure 2.28 Production of metals and minerals by country, 2014-2015 Figure 2.39 Production of metals and minerals by commodity, 2014-2015 Figure 2.39 Production of metals and minerals by commodity, 2014-2015 Figure 2.30 Mining: Capital expenditure by application, 2013-2020 2.1.4.2 Technology systems Figure 2.31 Mining: Capital expenditure by technology, 2013-2020 Figure 2.33 Mining: Top country markets, 2016-2020 2.1.4.3 Key market players Figure 2.35 Key players in the mining sector for water and wastewater treatment Figure 2.36 A selection of the top water treatment providers in the mining market 2.1.5.1 Water treatment needs 2.1.5.2 Applications Figure 2.37 Food and beverage: Capital expenditure by region, 2013-2020 2.1.5.3 Technology systems Figure 2.38 Food and beverage: Capital expenditure by region, 2013-2020 2.1.5.4 Regions Figure 2.48 Food and beverage: Capital expenditure by region, 2013-2020 2.1.5.5 Key market players Figure 2.49 Food and beverage: Capital expenditure by region, 2013-2020 2.1.5.5 Key market players Figure 2.49 Food and beverage: Capital expenditure by region, 2013-2020 2.1.5.5 Key market player		99
 2.1.4 Mining Figure 2.28 Production of metals and minerals by country, 2014-2015 Figure 2.29 Production of metals and minerals by commodity, 2014-2015 Figure 2.30 Selected major mining companies by commodity and production, 2014 2.1.4.1 Applications Figure 2.31 Mining: Capital expenditure by application, 2013-2020 2.1.4.2 Technology systems Figure 2.33 Mining: Capital expenditure by region, 2013-2020 2.1.4.3 Regions Figure 2.34 Mining: Capital expenditure by region, 2013-2020 2.1.4.4 Key market players Figure 2.34 Mining: Top country markets, 2016-2020 2.1.4.4 Key market players Figure 2.35 Key players in the mining sector for water and wastewater treatment Figure 2.35 Key players in the mining sector for water and wastewater treatment Figure 2.35 Food and beverage: Capital expenditure by application, 2013-2020 2.1.5.10 Water treatment needs 2.1.5.10 Ab beverage 2.1.5.10 Ab beverage: Capital expenditure by region, 2013-2020 2.1.5.3 Technology systems Figure 2.38 Food and beverage: Capital expenditure by region, 2013-2020 2.1.5.4 Regions Figure 2.39 Food and beverage: Capital expenditure by region, 2013-2020 2.1.5.5 Key market players Figure 2.44 Regions of the food & beverage water and wastewater treatment market Figure 2.44 Region of the top water treatment providers in the food & beverage market 2.1.6 Pulp & Paper Figure 2.44 Pulp for paper production by region, 1990-2014 Figure 2.44 Pulp for paper production by region, 1990-2014 Figure 2.44 Pulp for paper: Capital expenditure by region, 2013-2020 2.1.6.3 Regions Figure 2.45 Pulp and paper: Capital expenditure by region, 2013		100
Figure 2.38 Production of metals and minerals by commodity, 2014-2015 Figure 2.30 Selected major mining companies by commodity and production, 2014 2.1.4.1 Applications Figure 2.31 Mining: Capital expenditure by application, 2013-2020 2.1.4.2 Technology systems Figure 2.33 Mining: Capital expenditure by region, 2013-2020 2.1.4.3 Regions Figure 2.33 Mining: Capital expenditure by region, 2013-2020 2.1.4.3 Regions Figure 2.33 Mining: Capital expenditure by region, 2013-2020 Figure 2.34 Mining: Top county markets, 2016-2020 2.1.4.4 Key market players Figure 2.35 Key players in the mining sector for water and wastewater treatment Figure 2.35 Key players in the mining sector for water and wastewater treatment Figure 2.36 A selection of the top water treatment providers in the mining market 2.1.5.1 Vater treatment needs 2.1.5.1 Vater treatment needs 2.1.5.2 Applications Figure 2.37 Food and beverage: Capital expenditure by technology, 2013-2020 2.1.5.4 Regions Figure 2.40 Food and beverage: Capital expenditure by region, 2013-2020 2.1.5.4 Regions Figure 2.43 Food and beverage: Capital expenditure by region, 2013-2020 2.1.5.4 Regions Figure 2.44 Fuod and beverage: Capital expenditure by	• · · · ·	100
Figure 2.29 Production of metals and minerals by commodity, 2014-2015 Figure 2.30 Selected major mining companies by commodity and production, 2014 2.1.4.1 Applications Figure 2.31 Mining: Capital expenditure by application, 2013-2020 2.1.4.2 Technology systems Figure 2.33 Mining: Capital expenditure by region, 2013-2020 2.1.4.3 Regions Figure 2.33 Mining: Capital expenditure by region, 2013-2020 Figure 2.33 Mining: Copital expenditure by region, 2013-2020 Figure 2.35 Key players in the mining sector for water and wastewater treatment Figure 2.35 Key players in the mining sector for water and wastewater treatment Figure 2.36 A selection of the top water treatment providers in the mining market 2.1.5.1 Water treatment needs 2.1.5.1 Water treatment needs 2.1.5.2 Applications Figure 2.37 Food and beverage: Capital expenditure by technology, 2013-2020 2.1.5.4 Regions Figure 2.40 Food and beverage: Capital expenditure by region, 2013-2020 2.1.5.5 Key market players Figure 2.41 Key players in the food & beverage water and wastewater treatment market Figure 2.42 A selection of the top water treatment providers in the food & beverage Figure 2.43 Paper and paperboard production by region, 1990-2014 Figure 2.43 Paper and paper production by region, 1990-201		102
Figure 2.30 Selected major mining companies by commodity and production, 2014 21.4.1 Applications Figure 2.31 Mining: Capital expenditure by application, 2013-2020 21.4.2 Technology systems Figure 2.33 Mining: Capital expenditure by region, 2013-2020 21.4.3 Regions Figure 2.33 Mining: Capital expenditure by region, 2013-2020 Figure 2.33 Mining: Top country markets, 2016-2020 21.4.4 Key market players Figure 2.35 Key players in the mining sector for water and wastewater treatment Figure 2.35 Key players in the mining sector for water and wastewater treatment Figure 2.35 Key players in the mining sector for water and wastewater treatment Figure 2.37 Food and beverage: Capital expenditure by application, 2013-2020 21.5.1 Water treatment needs 21.5.2 Applications Figure 2.38 Food and beverage: Capital expenditure by technology, 2013-2020 21.5.4 Regions Figure 2.39 Food and beverage: Capital expenditure by region, 2013-2020 21.5.5 Key market players in the food & beverage water and wastewater treatment market Figure 2.42 Neod and beverage: Top country markets, 2016-2020 21.5.5 Key market players Figure 2.43 Player and paperboard production by region, 1990-2014 Figure 2.44 Ney players in the food & beverage water and wastewater treatment market		102
 2.1.4.1 Applications Figure 2.31 Mining: Capital expenditure by application, 2013-2020 2.1.4.2 Technology systems Figure 2.33 Mining: Capital expenditure by region, 2013-2020 2.1.4.3 Regions Figure 2.33 Mining: Capital expenditure by region, 2013-2020 Figure 2.33 Mining: Top country markets, 2016-2020 2.1.4.4 Key market players Figure 2.35 Key players in the mining sector for water and wastewater treatment Figure 2.35 Key players in the mining sector for water and wastewater treatment Figure 2.35 Key blayers Figure 2.35 Key players in the mining sector for water and wastewater treatment Figure 2.37 Food and beverage: Capital expenditure by application, 2013-2020 2.1.5.15 Vabplications Figure 2.37 Food and beverage: Capital expenditure by technology, 2013-2020 2.1.5.3 Technology systems Figure 2.39 Food and beverage: Capital expenditure by region, 2013-2020 2.1.5.4 Regions Figure 2.40 Food and beverage: Capital expenditure by region, 2013-2020 2.1.5.5 Key market players in the food & beverage water and wastewater treatment market Figure 2.41 Key players in the food & beverage water and wastewater treatment market Figure 2.41 Key players in the food & beverage water and wastewater treatment market Figure 2.44 Ney players in the food & beverage water and wastewater treatment market Figure 2.44 Pulp for paper production by region, 1990-2014 Figure 2.44 Pulp for paper production by region, 1990-2014 Figure 2.44 Pulp for paper production by region, 1990-2014 Figure 2.44 Pulp and paper: Capital expenditure by technology, 2013-2020 2.1.6.2 Technology systems Figure 2.44 Pulp and paper: Capital expenditure by region, 2013-2020 <		102
Figure 2.31 Mining: Capital expenditure by application, 2013-2020 2.1.4.2 Technology systems Figure 2.32 Mining: Capital expenditure by technology, 2013-2020 2.1.4.3 Regions Figure 2.33 Mining: Capital expenditure by region, 2013-2020 Figure 2.34 Mining: Capital expenditure by region, 2013-2020 Figure 2.35 Kay players in the mining sector for water and wastewater treatment Figure 2.35 Kay players in the mining sector for water and wastewater treatment Figure 2.35 Kay players in the mining sector for water and wastewater treatment Figure 2.35 Kay players in the mining sector for water and wastewater treatment Figure 2.35 Kay players in the mining sector for water and wastewater treatment Figure 2.35 Kay players in the mining sector for water and wastewater treatment Figure 2.37 Food and beverage: Capital expenditure by application, 2013-2020 2.1.5.1 Water treatment needs Figure 2.38 Food and beverage: Capital expenditure by technology, 2013-2020 Figure 2.38 Food and beverage: Top country markets, 2016-2020 2.1.5.5 May market players Figure 2.42 No Food and beverage: Top country markets, 2016-2020 2.1.5.5 Kay market players Figure 2.43 Paper and paperboard production by region, 1990-2014 Figure 2.44 Selection of the top water treatment providers in the food & beverage market 2.1.6 A		104
 2.1.4.2 Technology systems Figure 2.32 Mining: Capital expenditure by technology, 2013-2020 2.1.4.3 Regions Figure 2.33 Mining: Capital expenditure by region, 2013-2020 Figure 2.34 Mining: Top country markets, 2016-2020 2.1.4.4 Key market players Figure 2.35 Key players in the mining sector for water and wastewater treatment Figure 2.35 Key players in the mining sector for water and wastewater treatment Figure 2.35 Key players in the mining sector for water and wastewater treatment Figure 2.35 Key players in the mining sector for water and wastewater treatment Figure 2.35 Key players in the mining sector for water and wastewater treatment Figure 2.35 Food and beverage: Capital expenditure by application, 2013-2020 2.1.5.3 Technology systems Figure 2.37 Food and beverage: Capital expenditure by technology, 2013-2020 2.1.5.4 Regions Figure 2.39 Food and beverage: Capital expenditure by region, 2013-2020 Figure 2.40 Food and beverage: Capital expenditure by region, 2013-2020 Figure 2.40 Food and beverage: Capital expenditure by region, 2013-2020 Figure 2.40 Food and beverage: Capital expenditure by region, 2013-2020 Figure 2.42 As players Figure 2.42 As players Figure 2.42 As players in the food & beverage water and wastewater treatment market Figure 2.42 As players Figure 2.43 Paper and paperboard production by region, 1990-2014 Figure 2.44 Pulp for paper production by region, 1990-2014 Figure 2.45 Pulp and paper: Capital expenditure by application, 2013-2020 2.1.6.2 Technology systems Figure 2.47 Pulp and paper: Capital expenditure by region, 2013-2020 2.1.6.4 Key market players Figure 2.49 Rup and paper: Capital expenditure by region, 2013-2020 2.1.6.4 Key players in the pulp & paper water and wastewater treatment market Figure 2.47 Pulp and paper: Capita		104
Figure 2.32 Mining: Capital expenditure by technology, 2013-2020 2.1.4.3 Regions Figure 2.33 Mining: Capital expenditure by region, 2013-2020 Figure 2.33 Mining: Top country markets, 2016-2020 2.1.4.4 Key market players Figure 2.35 A selection of the top water treatment providers in the mining market 2.1.5.1 Water treatment needs 2.1.5.2 Applications Figure 2.37 Food and beverage: Capital expenditure by application, 2013-2020 2.1.5.3 Technology systems Figure 2.39 Food and beverage: Capital expenditure by technology, 2013-2020 2.1.5.4 Regions Figure 2.39 Food and beverage: Capital expenditure by region, 2013-2020 2.1.5.4 Regions Figure 2.39 Food and beverage: Capital expenditure by region, 2013-2020 2.1.5.5 Key market players Figure 2.40 Food and beverage: Top country markets, 2016-2020 2.1.5.5 Key market players in the food & beverage water and wastewater treatment market Figure 2.41 Key players in the food & beverage water and wastewater treatment market Figure 2.42 A selection of the top water treatment providers in the food & beverage market 2.1.6.4 Regions Figure 2.42 Nup and paperboard production by region, 1990-2014 Figure 2.42 A kell port on paper production by region, 2013-2020 2.1.6.4 Rep market players<		105
 2.1.4.3 Regions Figure 2.33 Mining: Capital expenditure by region, 2013-2020 Figure 2.34 Mining: Top country markets, 2016-2020 2.1.4.4 Key market players Figure 2.35 Key players in the mining sector for water and wastewater treatment Figure 2.36 A selection of the top water treatment providers in the mining market 2.1.5.4 Oct & beverage 2.1.5.2 Applications Figure 2.37 Food and beverage: Capital expenditure by application, 2013-2020 2.1.5.3 Technology systems Figure 2.38 Food and beverage: Capital expenditure by technology, 2013-2020 2.1.5.4 Regions Figure 2.39 Food and beverage: Capital expenditure by region, 2013-2020 2.1.5.5 Key market players Figure 2.40 Food and beverage: Capital expenditure by region, 2013-2020 2.1.5.5 Key players in the food & beverage water and wastewater treatment market Figure 2.41 Reg players Figure 2.42 A selection of the top water treatment providers in the food & beverage market 2.1.6.4 Regions Figure 2.42 A selection of the top water treatment providers in the food & beverage market 2.1.6.4 Pulp & Paper Figure 2.43 Paper and paperboard production by region, 1990-2014 Figure 2.44 Pulp for paper production by region, 1990-2014 Figure 2.45 Pulp and paper: Capital expenditure by application, 2013-2020 2.1.6.2 Technology systems Figure 2.46 Pulp and paper: Capital expenditure by region, 2013-2020 2.1.6.3 Regions Figure 2.49 Key players in the pulp & paper water and wastewater treatment market Figure 2.44 Pulp and paper: Capital expenditure by region, 2013-2020 2.1.6.3 Regions Figure 2.47 Pulp and paper: Capital expenditure by region, 2013-2020 2.1.6.4 Key market players Figure 2.49 Key players in the pulp & paper water and wastewater treatment market Figure 2.47 Pulp and paper: Capit		105
Figure 2.33 Mining: Capital expenditure by region, 2013-2020 Figure 2.34 Mining: Top country markets, 2016-2020 2.1.4.4 Key market players Figure 2.35 Key players in the mining sector for water and wastewater treatment Figure 2.36 A selection of the top water treatment providers in the mining market 2.1.5.15 God & beverage 2.1.5.17.1 Water treatment needs 2.1.5.2 Applications Figure 2.37 Food and beverage: Capital expenditure by application, 2013-2020 2.1.5.3 Technology systems Figure 2.37 Food and beverage: Capital expenditure by region, 2013-2020 2.1.5.4 Regions Figure 2.37 Food and beverage: Capital expenditure by region, 2013-2020 Figure 2.40 Food and beverage: Top country markets, 2016-2020 2.1.5.5 Key market players Figure 2.41 Key players in the food & beverage water and wastewater treatment market Figure 2.42 A selection of the top water treatment providers in the food & beverage market 2.1.6.2 Urblp & paper Figure 2.43 Paper and paperboard production by region, 1990-2014 Figure 2.44 Pulp for paper production by region, 1990-2014 Figure 2.45 Pulp and paper: Capital expenditure by technology, 2013-2020 2.1.6.2 Technology systems Figure 2.45 Pulp and paper: Capital expenditure by region, 2013-2020 2.1.6.2 Te		106
Figure 2.34 Mining: Top country markets, 2016-2020 2.1.4.4 Key market players 11.4.4 Key market players 11.5.2 Food & beverage 2.1.5.1 Water treatment needs 2.1.5.2 Applications 11.5.3 Technology systems 12.15.3 Technology systems 11.5.4 Regions 12.15.4 Regions 13.5.7 million and beverage: Capital expenditure by application, 2013-2020 2.1.5.3 Technology systems 13.5 Rehology and and beverage: Capital expenditure by region, 2013-2020 2.1.5.4 Regions 15.1.5.4 Regions 16.1.5.4 Regions 17.1.5.5 Key market players 19.1.5.5 Key market players 19.1.5.2 Key players in the food & beverage water and wastewater treatment market 19.1.5.2 Key and paper and paperboard production by region, 1990-2014 19.1.6 Pulp & paper 11.6 Pulp & paper 11.6 Pulp and paper: Capital expenditure by application, 2013-2020 21.6.3 Regions 19.1.6.4 Pulp for paper production by region, 1990-2014 19.1.6 Pulp and paper: Capital expenditure by application, 2013-2020 21.6.4 Pulp and paper: Capital expenditure by region, 2013-2020 21.6.3 Regions Figure 2.45 Pulp and paper: Capital expendit		106
21.1.4.4 Key market players Figure 2.35 Key players in the mining sector for water and wastewater treatment Figure 2.35 Key players in the top water treatment providers in the mining market 1 21.1.5 Food & beverage 1 21.1.5.1 Water treatment needs 1 21.5.2 Applications 1 Figure 2.37 Food and beverage: Capital expenditure by application, 2013-2020 1 21.5.3 Technology systems 1 Figure 2.38 Food and beverage: Capital expenditure by region, 2013-2020 1 21.5.4 Regions 1 Figure 2.40 Food and beverage: Capital expenditure by region, 2013-2020 1 Prigure 2.40 Food and beverage: Top country markets, 2016-2020 1 21.5.5 Key market players 1 Figure 2.41 Key players in the food & beverage water and wastewater treatment market 1 Figure 2.43 Paper and paperboard production by region, 1990-2014 1 Figure 2.44 Pulp for paper production by region, 1990-2014 1 Figure 2.45 Pulp and paper: Capital expenditure by application, 2013-2020 1 21.6.1 Applications 1 1 Figure 2.45 Pulp and paper: Capital expenditure by region, 2013-2020 1 21.6.2 Technology systems 1 1 F		106
Figure 2.35 Key players in the mining sector for water and wastewater treatment Figure 2.36 A selection of the top water treatment providers in the mining market 2.1.5 Food & beverage 2.1.5.1 Water treatment needs 2.1.5.2 Applications Figure 2.37 Food and beverage: Capital expenditure by application, 2013-2020 2.1.5.3 Technology systems Figure 2.38 Food and beverage: Capital expenditure by technology, 2013-2020 2.1.5.4 Regions Figure 2.39 Food and beverage: Capital expenditure by region, 2013-2020 2.1.5.5 Key market players Figure 2.40 Food and beverage: Top country markets, 2016-2020 2.1.5.5 Key market players Figure 2.41 Key players in the food & beverage water and wastewater treatment market Figure 2.42 A selection of the top water treatment providers in the food & beverage market 2.1.6.1 Applications Figure 2.43 Faper and paperboard production by region, 1990-2014 2.1.6.1 Applications Figure 2.45 Pulp and paper: Capital expenditure by application, 2013-2020 2.1.6.2 Technology systems Figure 2.44 Pulp for paper production by region, 1990-2014 2.1.6.1 Applications Figure 2.45 Pulp and paper: Capital expenditure by application, 2013-2020 2.1.6.2 Technology systems Figure 2.45 Pul		100
Figure 2.36 A selection of the top water treatment providers in the mining market 21.51 Water treatment needs 21.51 Water treatment needs 21.5.1 Water treatment needs 21.5.2 Applications Figure 2.37 Food and beverage: Capital expenditure by application, 2013-2020 21.5.3 Technology systems Figure 2.39 Food and beverage: Capital expenditure by technology, 2013-2020 21.5.4 Regions Figure 2.39 Food and beverage: Capital expenditure by region, 2013-2020 21.5.5 Key market players Figure 2.40 Food and beverage: Top country markets, 2016-2020 21.5.5 Key market players Figure 2.41 Key players in the food & beverage water and wastewater treatment market Figure 2.42 A selection of the top water treatment providers in the food & beverage market 21.6 Pulp & paper Figure 2.43 Paper and paperboard production by region, 1990-2014 Figure 2.43 Paper and paper: Capital expenditure by application, 2013-2020 21.6.2 Technology systems Figure 2.45 Pulp and paper: Capital expenditure by region, 1990-2014 Figure 2.45 Pulp and paper: Capital expenditure by region, 2013-2020 21.6.6 Key market players Figure 2.47 Pulp and paper: Capital expenditure by region, 2013-2020 21.6.3 Regions Figure 2.47 Pulp and pap		107
 2.1.5 Food & beverage 2.1.5.1 Water treatment needs 2.1.5.1 Water treatment needs 2.1.5.2 Applications Figure 2.37 Food and beverage: Capital expenditure by application, 2013-2020 2.1.5.3 Technology systems Figure 2.38 Food and beverage: Capital expenditure by technology, 2013-2020 2.1.5.4 Regions Figure 2.39 Food and beverage: Capital expenditure by region, 2013-2020 Figure 2.40 Food and beverage: Top country markets, 2016-2020 2.1.5.5 Key market players Figure 2.41 Key players in the food & beverage water and wastewater treatment market Figure 2.42 A selection of the top water treatment providers in the food & beverage market 2.1.6.1 Applications Figure 2.45 Pulp and paper production by region, 1990-2014 Figure 2.45 Pulp and paper: Capital expenditure by application, 2013-2020 2.1.6.2 Technology systems Figure 2.45 Pulp and paper: Capital expenditure by application, 2013-2020 2.1.6.3 Regions Figure 2.45 Pulp and paper: Capital expenditure by technology, 2013-2020 2.1.6.3 Regions Figure 2.45 Pulp and paper: Capital expenditure by technology, 2013-2020 2.1.6.3 Regions Figure 2.46 Pulp and paper: Capital expenditure by region, 2013-2020 2.1.6.4 Key market players Figure 2.47 Pulp and paper: Capital expenditure by region, 2013-2020 2.1.6.4 Key market players Figure 2.49 Key players in the pulp & paper water and wastewater treatment market Figure 2.50 A selection of the top water treatment providers in the pulp & paper market 2.1.7 Pharmaceuticals Figure 2.51 Top 20 pharmaceutical companies by global sales, 2014 2.1.7.1 Water treatment needs Figure 2.52 Wrified water quality standards from USP, Ph. Eur. and JP pharmacopoeias Figure 2.53 WFI quality standards from USP, Ph. Eur. and JP pharmacopoeias Figure		107
 2.1.5.1 Water treatment needs 2.1.5.2 Applications Figure 2.37 Food and beverage: Capital expenditure by application, 2013-2020 2.1.5.3 Technology systems Figure 2.38 Food and beverage: Capital expenditure by technology, 2013-2020 2.1.5.4 Regions Figure 2.39 Food and beverage: Capital expenditure by region, 2013-2020 2.1.5.4 Regions Figure 2.40 Food and beverage: Capital expenditure by region, 2013-2020 2.1.5.5 Key market players Figure 2.40 Food and beverage: Top country markets, 2016-2020 2.1.5.5 Key market players in the food & beverage water and wastewater treatment market Figure 2.42 A selection of the top water treatment providers in the food & beverage market 2.1.6 Pulp & paper Figure 2.43 Paper and paperboard production by region, 1990-2014 Figure 2.44 Pulp for paper production by region, 1990-2014 2.1.6.1 Applications Figure 2.45 Pulp and paper: Capital expenditure by application, 2013-2020 2.1.6.2 Fechnology systems Figure 2.47 Pulp and paper: Capital expenditure by technology, 2013-2020 2.1.6.3 Regions Figure 2.47 Pulp and paper: Capital expenditure by region, 2013-2020 2.1.6.4 Key market players Figure 2.49 Key players in the pulp & paper water and wastewater treatment market Figure 2.49 Key players in the pulp & paper water and wastewater treatment market Figure 2.51 Top 20 pharmaceutical companies by global sales, 2014 2.1.7 Harmaceuticals Figure 2.52 Wrified water quality standards from USP, Ph. Eur. and JP pharmacopoeias Figure 2.53 WFI quality standards from USP, Ph. Eur. and JP pharmacopoeias Figure 2.54 Pharmaceuticals: Capital expenditure by application, 2013-2020 2.1.7.2 Applications Figure 2.54 Pharmaceuticals: Capital expenditure by application, 2013-2020 2.1.7.3 Technology systems Figure		100
2.1.5.2 Applications Figure 2.37 Food and beverage: Capital expenditure by application, 2013-2020 2.1.5.3 Technology systems Figure 2.38 Food and beverage: Capital expenditure by technology, 2013-2020 2.1.5.4 Regions Figure 2.39 Food and beverage: Capital expenditure by region, 2013-2020 2.1.5.4 Regions Figure 2.39 Food and beverage: Capital expenditure by region, 2013-2020 Figure 2.40 Food and beverage: Top country markets, 2016-2020 2.1.5.5 Key market players Figure 2.41 Key players in the food & beverage water and wastewater treatment market Figure 2.42 A selection of the top water treatment providers in the food & beverage market 2.1.6.4 Pulp & paper Figure 2.43 Paper and paperboard production by region, 1990-2014 Figure 2.44 Pulp for paper production by region, 1990-2014 Figure 2.45 Pulp and paper: Capital expenditure by application, 2013-2020 2.1.6.2 Technology systems Figure 2.46 Pulp and paper: Capital expenditure by region, 2013-2020 2.1.6.3 Regions Figure 2.47 Pulp and paper: Capital expenditure by region, 2013-2020 2.1.6.4 Key market players Figure 2.47 Pulp and paper: Capital expenditure by region, 2013-2020 2.1.6.3 Regions Figure 2.47 Pulp and paper: Capital expenditure by region, 2013-2020 <	· · · · · · · · · · · · · · · · · · ·	100
Figure 2.37 Food and beverage: Capital expenditure by application, 2013-2020 2.1.5.3 Technology systems Figure 2.38 Food and beverage: Capital expenditure by technology, 2013-2020 2.1.5.4 Regions Figure 2.39 Food and beverage: Capital expenditure by region, 2013-2020 Figure 2.40 Food and beverage: Top country markets, 2016-2020 2.1.5.5 Key market players Figure 2.41 Key players in the food & beverage water and wastewater treatment market Figure 2.42 A selection of the top water treatment providers in the food & beverage market 2.1.6.4 Figure 2.43 Paper and paperboard production by region, 1990-2014 Figure 2.43 Paper and paper production by region, 1990-2014 Figure 2.43 Paper and paper: Capital expenditure by application, 2013-2020 2.1.6.1 Applications Figure 2.45 Pulp and paper: Capital expenditure by application, 2013-2020 2.1.6.2 Technology systems Figure 2.46 Pulp and paper: Capital expenditure by region, 2013-2020 2.1.6.3 Regions Figure 2.47 Pulp and paper: Capital expenditure by region, 2013-2020 2.1.6.4 Key market players Figure 2.47 Pulp and paper: Capital expenditure by region, 2013-2020 2.1.6.4 Key market players Figure 2.50 A selection of the top water treatment providers in the pulp & paper market 2.1.7 Pharmaceuticals		107
2.1.5.3 Technology systems Figure 2.38 Food and beverage: Capital expenditure by technology, 2013-2020 2.1.5.4 Regions Figure 2.39 Food and beverage: Capital expenditure by region, 2013-2020 Figure 2.40 Food and beverage: Top country markets, 2016-2020 2.1.5.5 Key market players Figure 2.41 Key players in the food & beverage water and wastewater treatment market Figure 2.42 A selection of the top water treatment providers in the food & beverage market 2.1.6.6 Pulp & paper Figure 2.43 Paper and paperboard production by region, 1990-2014 Figure 2.44 Pulp for paper production by region, 1990-2014 Figure 2.45 Pulp and paper: Capital expenditure by application, 2013-2020 2.1.6.1 Applications Figure 2.45 Pulp and paper: Capital expenditure by technology, 2013-2020 2.1.6.2 Technology systems Figure 2.47 Pulp and paper: Capital expenditure by region, 2013-2020 2.1.6.3 Regions Figure 2.47 Pulp and paper: Capital expenditure by region, 2013-2020 2.1.6.4 Key market players Figure 2.50 A selection of the top water treatment providers in the pulp & paper market Figure 2.51 Top 20 pharmaceutical companies by global sales, 2014 2.1.7.1 Water treatment needs Figure 2.52 Purified water quality standards from USP, Ph. Eur. and JP pharmacopoeias <		107
Figure 2.38 Food and beverage: Capital expenditure by technology, 2013-2020 2.1.5.4 Regions Figure 2.39 Food and beverage: Capital expenditure by region, 2013-2020 Figure 2.40 Food and beverage: Top country markets, 2016-2020 2.1.5.5 Key market players Figure 2.41 Key players in the food & beverage water and wastewater treatment market Figure 2.42 A selection of the top water treatment providers in the food & beverage market 2.1.6 Pulp & paper Figure 2.43 Paper and paperboard production by region, 1990-2014 Figure 2.44 Pulp for paper production by region, 1990-2014 2.1.6.1 Applications Figure 2.45 Pulp and paper: Capital expenditure by application, 2013-2020 2.1.6.2 Technology systems Figure 2.47 Pulp and paper: Capital expenditure by technology, 2013-2020 2.1.6.3 Regions Figure 2.47 Pulp and paper: Capital expenditure by region, 2013-2020 2.1.6.4 Key market players Figure 2.47 Pulp and paper: Top country markets, 2016-2020 2.1.6.4 Key market players Figure 2.50 A selection of the top water treatment providers in the pulp & paper market Figure 2.51 Top 20 pharmaceutical companies by global sales, 2014 2.1.7.1 Water treatment needs Figure 2.52 Purified water quality standards from USP, Ph. Eur. and JP pharmacopoeias <t< td=""><td></td><td>110</td></t<>		110
2.1.5.4 Regions Figure 2.39 Food and beverage: Capital expenditure by region, 2013-2020 Figure 2.40 Food and beverage: Top country markets, 2016-2020 2.1.5.5 Key market players Figure 2.41 Key players in the food & beverage water and wastewater treatment market Figure 2.42 A selection of the top water treatment providers in the food & beverage market 2.1.6.5 Key market players Figure 2.42 A selection of the top water treatment providers in the food & beverage market 2.1.6.4 Pulp & paper Figure 2.43 Paper and paperboard production by region, 1990-2014 Figure 2.44 Pulp for paper production by region, 1990-2014 Figure 2.45 Pulp and paper: Capital expenditure by application, 2013-2020 2.1.6.2 Technology systems Figure 2.46 Pulp and paper: Capital expenditure by technology, 2013-2020 2.1.6.3 Regions Figure 2.47 Pulp and paper: Top country markets, 2016-2020 2.1.6.4 Key market players Figure 2.49 Rulp and paper: Top country markets, 2016-2020 2.1.6.4 Key market players Figure 2.50 A selection of the top water treatment providers in the pulp & paper market 2.1.7 Pharmaceuticals Figure 2.51 Top 20 pharmaceutical companies by global sales, 2014 2.1.7.1 Water treatment needs Figure 2.52 Purified water quality standards from	····	110
Figure 2.39 Food and beverage: Capital expenditure by region, 2013-2020 Figure 2.40 Food and beverage: Top country markets, 2016-2020 2.1.5.5 Key market players Figure 2.41 Key players in the food & beverage water and wastewater treatment market Figure 2.42 A selection of the top water treatment providers in the food & beverage market 2.1.6.6 Pulp & paper Figure 2.43 Paper and paperboard production by region, 1990-2014 Figure 2.44 Pulp for paper production by region, 1990-2014 2.1.6.1 Applications Figure 2.45 Pulp and paper: Capital expenditure by application, 2013-2020 2.1.6.2 Technology systems Figure 2.47 Pulp and paper: Capital expenditure by region, 2013-2020 2.1.6.3 Regions Figure 2.47 Pulp and paper: Capital expenditure by region, 2013-2020 2.1.6.4 Key market players Figure 2.48 Pulp and paper: Top country markets, 2016-2020 2.1.6.4 Key market players Figure 2.50 A selection of the top water treatment providers in the pulp & paper market 2.1.7 Pharmaceuticals Figure 2.51 Top 20 pharmaceutical companies by global sales, 2014 2.1.7.1 Water treatment needs Figure 2.52 Purified water quality standards from USP, Ph. Eur. and JP pharmacopoeias Figure 2.53 WFI quality standards from USP, Ph. Eur. and JP pharmacopoeias		110
Figure 2.40 Food and beverage: Top country markets, 2016-2020 2.1.5.5 Key market players Figure 2.41 Key players in the food & beverage water and wastewater treatment market Figure 2.42 A selection of the top water treatment providers in the food & beverage market 2.1.6 Pulp & paper Figure 2.43 Paper and paperboard production by region, 1990-2014 2.1.6.1 Applications Figure 2.45 Pulp and paper: Capital expenditure by application, 2013-2020 2.1.6.2 Technology systems Figure 2.45 Pulp and paper: Capital expenditure by technology, 2013-2020 2.1.6.3 Regions Figure 2.46 Pulp and paper: Capital expenditure by region, 2013-2020 2.1.6.4 Key market players Figure 2.46 Pulp and paper: Capital expenditure by region, 2013-2020 2.1.6.4 Key market players Figure 2.47 Pulp and paper: Top country markets, 2016-2020 2.1.6.4 Key market players Figure 2.50 A selection of the top water treatment providers in the pulp & paper market 2.1.7 Pharmaceuticals Figure 2.51 Top 20 pharmaceutical companies by global sales, 2014 2.1.7.1 Water treatment needs Figure 2.52 Purified water quality standards from USP, Ph. Eur. and JP pharmacopoeias Figure 2.53 WFI quality standards from USP, Ph. Eur., and JP pharmacopoeias Figure 2.54 Pharmaceuticals		111
 2.1.5.5 Key market players Figure 2.41 Key players in the food & beverage water and wastewater treatment market Figure 2.42 A selection of the top water treatment providers in the food & beverage market 2.1.6 Pulp & paper Figure 2.43 Paper and paperboard production by region, 1990-2014 Figure 2.44 Pulp for paper production by region, 1990-2014 2.1.6.1 Applications Figure 2.45 Pulp and paper: Capital expenditure by application, 2013-2020 2.1.6.2 Technology systems Figure 2.47 Pulp and paper: Capital expenditure by technology, 2013-2020 2.1.6.3 Regions Figure 2.47 Pulp and paper: Capital expenditure by region, 2013-2020 2.1.6.4 Key market players Figure 2.49 Key players in the pulp & paper water and wastewater treatment market Figure 2.50 A selection of the top water treatment providers in the pulp & paper market 2.1.7 Pharmaceuticals Figure 2.51 Top 20 pharmaceutical companies by global sales, 2014 2.1.7.1 Water treatment needs Figure 2.52 Purified water quality standards from USP, Ph. Eur. and JP pharmacopoeias Figure 2.53 WFI quality standards from USP, Ph. Eur., and JP pharmacopoeias Figure 2.54 Pharmaceuticals: Capital expenditure by application, 2013-2020 2.1.7.3 Technology systems Figure 2.55 Pharmaceuticals: Capital expenditure by application, 2013-2020 		111
Figure 2.41 Key players in the food & beverage water and wastewater treatment market Figure 2.42 A selection of the top water treatment providers in the food & beverage market 2.1.6 Pulp & paper Figure 2.43 Paper and paperboard production by region, 1990-2014 Figure 2.44 Pulp for paper production by region, 1990-2014 2.1.6.1 Applications Figure 2.45 Pulp and paper: Capital expenditure by application, 2013-2020 2.1.6.2 Technology systems Figure 2.47 Pulp and paper: Capital expenditure by technology, 2013-2020 2.1.6.3 Regions Figure 2.47 Pulp and paper: Capital expenditure by region, 2013-2020 2.1.6.4 Key market players Figure 2.47 Pulp and paper: Top country markets, 2016-2020 2.1.6.4 Key market players Figure 2.49 Key players in the pulp & paper water and wastewater treatment market Figure 2.50 A selection of the top water treatment providers in the pulp & paper market 2.1.7 Pharmaceuticals Figure 2.51 Top 20 pharmaceutical companies by global sales, 2014 2.1.7.1 Water treatment needs Figure 2.53 WFI quality standards from USP, Ph. Eur. and JP pharmacopoeias Figure 2.54 Pharmaceuticals: Capital expenditure by application, 2013-2020 2.1.7.3 Technology systems		112
Figure 2.42 A selection of the top water treatment providers in the food & beverage market 2.1.6 Pulp & paper Figure 2.43 Paper and paperboard production by region, 1990-2014 Figure 2.44 Pulp for paper production by region, 1990-2014 2.1.6.1 Applications Figure 2.45 Pulp and paper: Capital expenditure by application, 2013-2020 2.1.6.2 Technology systems Figure 2.46 Pulp and paper: Capital expenditure by technology, 2013-2020 2.1.6.3 Regions Figure 2.47 Pulp and paper: Capital expenditure by region, 2013-2020 2.1.6.4 Key market players Figure 2.48 Pulp and paper: Top country markets, 2016-2020 2.1.6.4 Key market players in the pulp & paper water and wastewater treatment market Figure 2.50 A selection of the top water treatment providers in the pulp & paper market 2.1.7 Pharmaceuticals Figure 2.51 Top 20 pharmaceutical companies by global sales, 2014 2.1.7.1 Water treatment needs Figure 2.52 Purified water quality standards from USP, Ph. Eur. and JP pharmacopoeias Figure 2.53 WFI quality standards from USP, Ph. Eur., and JP pharmacopoeias Figure 2.54 Pharmaceuticals: Capital expenditure by application, 2013-2020 2.1.7.3 Technology systems Figure 2.55 Pharmaceuticals: Capital expenditure by technology, 2013-2020		112
 2.1.6 Pulp & paper Figure 2.43 Paper and paperboard production by region, 1990-2014 Figure 2.44 Pulp for paper production by region, 1990-2014 2.1.6.1 Applications Figure 2.45 Pulp and paper: Capital expenditure by application, 2013-2020 2.1.6.2 Technology systems Figure 2.46 Pulp and paper: Capital expenditure by technology, 2013-2020 2.1.6.3 Regions Figure 2.47 Pulp and paper: Capital expenditure by region, 2013-2020 2.1.6.4 Key market players Figure 2.48 Pulp and paper: Top country markets, 2016-2020 2.1.6.4 Key market players Figure 2.50 A selection of the top water treatment providers in the pulp & paper market 2.1.7 Pharmaceuticals Figure 2.51 Top 20 pharmaceutical companies by global sales, 2014 2.1.7.1 Water treatment needs Figure 2.52 Purified water quality standards from USP, Ph. Eur. and JP pharmacopoeias Figure 2.53 WFI quality standards from USP, Ph. Eur., and JP pharmacopoeias 2.1.7.2 Applications Figure 2.54 Pharmaceuticals: Capital expenditure by application, 2013-2020 2.1.7.3 Technology systems Figure 2.55 Pharmaceuticals: Capital expenditure by application, 2013-2020 		112
Figure 2.43 Paper and paperboard production by region, 1990-2014Figure 2.44 Pulp for paper production by region, 1990-20142.1.6.1 ApplicationsFigure 2.45 Pulp and paper: Capital expenditure by application, 2013-20202.1.6.2 Technology systemsFigure 2.46 Pulp and paper: Capital expenditure by technology, 2013-20202.1.6.3 RegionsFigure 2.47 Pulp and paper: Capital expenditure by region, 2013-20202.1.6.4 Key market playersFigure 2.48 Pulp and paper: Top country markets, 2016-20202.1.6.4 Key market playersFigure 2.49 Key players in the pulp & paper water and wastewater treatment marketFigure 2.50 A selection of the top water treatment providers in the pulp & paper market2.1.7.1 Water treatment needsFigure 2.52 Purified water quality standards from USP, Ph. Eur. and JP pharmacopoeiasFigure 2.53 WFI quality standards from USP, Ph. Eur., and JP pharmacopoeiasFigure 2.54 Pharmaceuticals: Capital expenditure by application, 2013-20202.1.7.3 Technology systemsFigure 2.55 Pharmaceuticals: Capital expenditure by rechnology, 2013-2020		113
Figure 2.44 Pulp for paper production by region, 1990-20142.1.6.1 ApplicationsFigure 2.45 Pulp and paper: Capital expenditure by application, 2013-20202.1.6.2 Technology systemsFigure 2.46 Pulp and paper: Capital expenditure by technology, 2013-20202.1.6.3 RegionsFigure 2.47 Pulp and paper: Capital expenditure by region, 2013-20202.1.6.4 Key market playersFigure 2.48 Pulp and paper: Top country markets, 2016-20202.1.6.4 Key market playersFigure 2.49 Key players in the pulp & paper water and wastewater treatment marketFigure 2.50 A selection of the top water treatment providers in the pulp & paper market2.1.7 PharmaceuticalsFigure 2.51 Top 20 pharmaceutical companies by global sales, 20142.1.7.1 Water treatment needsFigure 2.53 WFI quality standards from USP, Ph. Eur. and JP pharmacopoeiasFigure 2.54 Pharmaceuticals: Capital expenditure by application, 2013-20202.1.7.3 Technology systemsFigure 2.55 Pharmaceuticals: Capital expenditure by technology, 2013-2020		113
2.1.6.1 Applications Figure 2.45 Pulp and paper: Capital expenditure by application, 2013-2020 2.1.6.2 Technology systems Figure 2.46 Pulp and paper: Capital expenditure by technology, 2013-2020 2.1.6.3 Regions Figure 2.47 Pulp and paper: Capital expenditure by region, 2013-2020 2.1.6.4 Key market play and paper: Top country markets, 2016-2020 Figure 2.48 Pulp and paper: Top country markets, 2016-2020 2.1.6.4 Key market players Figure 2.49 Key players in the pulp & paper water and wastewater treatment market Figure 2.50 A selection of the top water treatment providers in the pulp & paper market Figure 2.51 Top 20 pharmaceutical companies by global sales, 2014 2.1.7.1 Water treatment needs Figure 2.52 Purified water quality standards from USP, Ph. Eur. and JP pharmacopoeias Figure 2.53 WFI quality standards from USP, Ph. Eur., and JP pharmacopoeias Figure 2.54 Pharmaceuticals: Capital expenditure by application, 2013-2020 2.1.7.3 Technology systems Figure 2.55 Pharmaceuticals: Capital expenditure by technology, 2013-2020		114
Figure 2.45 Pulp and paper: Capital expenditure by application, 2013-2020 2.1.6.2 Technology systems Figure 2.46 Pulp and paper: Capital expenditure by technology, 2013-2020 2.1.6.3 Regions Figure 2.47 Pulp and paper: Capital expenditure by region, 2013-2020 Figure 2.48 Pulp and paper: Top country markets, 2016-2020 2.1.6.4 Key market players Figure 2.49 Key players in the pulp & paper water and wastewater treatment market Figure 2.50 A selection of the top water treatment providers in the pulp & paper market 2.1.7 Pharmaceuticals Figure 2.51 Top 20 pharmaceutical companies by global sales, 2014 2.1.7.1 Water treatment needs Figure 2.52 Purified water quality standards from USP, Ph. Eur. and JP pharmacopoeias Figure 2.53 WFI quality standards from USP, Ph. Eur., and JP pharmacopoeias Figure 2.54 Pharmaceuticals: Capital expenditure by application, 2013-2020 2.1.7.3 Technology systems Figure 2.55 Pharmaceuticals: Capital expenditure by technology, 2013-2020		115
2.1.6.2 Technology systemsFigure 2.46 Pulp and paper: Capital expenditure by technology, 2013-20202.1.6.3 RegionsFigure 2.47 Pulp and paper: Capital expenditure by region, 2013-2020Figure 2.48 Pulp and paper: Top country markets, 2016-20202.1.6.4 Key market playersFigure 2.49 Key players in the pulp & paper water and wastewater treatment marketFigure 2.50 A selection of the top water treatment providers in the pulp & paper market2.1.7 PharmaceuticalsFigure 2.51 Top 20 pharmaceutical companies by global sales, 20142.1.7.1 Water treatment needsFigure 2.52 Purified water quality standards from USP, Ph. Eur. and JP pharmacopoeiasFigure 2.53 WFI quality standards from USP, Ph. Eur., and JP pharmacopoeias2.1.7.2 ApplicationsFigure 2.54 Pharmaceuticals: Capital expenditure by application, 2013-20202.1.7.3 Technology systemsFigure 2.55 Pharmaceuticals: Capital expenditure by technology, 2013-2020		115
Figure 2.46 Pulp and paper: Capital expenditure by technology, 2013-20202.1.6.3 Regions1Figure 2.47 Pulp and paper: Capital expenditure by region, 2013-20201Figure 2.48 Pulp and paper: Top country markets, 2016-202012.1.6.4 Key market players1Figure 2.49 Key players in the pulp & paper water and wastewater treatment market1Figure 2.50 A selection of the top water treatment providers in the pulp & paper market12.1.7 Pharmaceuticals1Figure 2.51 Top 20 pharmaceutical companies by global sales, 201412.1.7.1 Water treatment needs1Figure 2.52 Purified water quality standards from USP, Ph. Eur. and JP pharmacopoeias1Figure 2.53 WFI quality standards from USP, Ph. Eur., and JP pharmacopoeias1Figure 2.54 Pharmaceuticals: Capital expenditure by application, 2013-202012.1.7.3 Technology systems1Figure 2.55 Pharmaceuticals: Capital expenditure by technology, 2013-20201		115
2.1.6.3 Regions 1 Figure 2.47 Pulp and paper: Capital expenditure by region, 2013-2020 1 Figure 2.48 Pulp and paper: Top country markets, 2016-2020 1 2.1.6.4 Key market players 1 Figure 2.49 Key players in the pulp & paper water and wastewater treatment market 1 Figure 2.50 A selection of the top water treatment providers in the pulp & paper market 1 2.1.7 Pharmaceuticals 1 Figure 2.51 Top 20 pharmaceutical companies by global sales, 2014 1 2.1.7.1 Water treatment needs 1 Figure 2.52 Purified water quality standards from USP, Ph. Eur. and JP pharmacopoeias 1 Figure 2.54 Pharmaceuticals: Capital expenditure by application, 2013-2020 1 2.1.7.3 Technology systems 1 Figure 2.55 Pharmaceuticals: Capital expenditure by technology, 2013-2020 1	· · · · · · · · · · · · · · · · · · ·	116
Figure 2.47 Pulp and paper: Capital expenditure by region, 2013-2020Figure 2.48 Pulp and paper: Top country markets, 2016-20202.1.6.4 Key market playersFigure 2.49 Key players in the pulp & paper water and wastewater treatment marketFigure 2.50 A selection of the top water treatment providers in the pulp & paper market2.1.7 PharmaceuticalsFigure 2.51 Top 20 pharmaceutical companies by global sales, 20142.1.7.1 Water treatment needsFigure 2.52 Purified water quality standards from USP, Ph. Eur. and JP pharmacopoeiasFigure 2.53 WFI quality standards from USP, Ph. Eur., and JP pharmacopoeias2.1.7.2 ApplicationsFigure 2.54 Pharmaceuticals: Capital expenditure by application, 2013-20202.1.7.3 Technology systemsFigure 2.55 Pharmaceuticals: Capital expenditure by technology, 2013-2020		110
Figure 2.48 Pulp and paper: Top country markets, 2016-20202.1.6.4 Key market playersFigure 2.49 Key players in the pulp & paper water and wastewater treatment marketFigure 2.50 A selection of the top water treatment providers in the pulp & paper market2.1.7 PharmaceuticalsFigure 2.51 Top 20 pharmaceutical companies by global sales, 20142.1.7.1 Water treatment needsFigure 2.52 Purified water quality standards from USP, Ph. Eur. and JP pharmacopoeiasFigure 2.53 WFI quality standards from USP, Ph. Eur., and JP pharmacopoeias2.1.7.2 ApplicationsFigure 2.54 Pharmaceuticals: Capital expenditure by application, 2013-20202.1.7.3 Technology systemsFigure 2.55 Pharmaceuticals: Capital expenditure by technology, 2013-2020		117
2.1.6.4 Key market players1Figure 2.49 Key players in the pulp & paper water and wastewater treatment market1Figure 2.50 A selection of the top water treatment providers in the pulp & paper market12.1.7 Pharmaceuticals1Figure 2.51 Top 20 pharmaceutical companies by global sales, 201412.1.7.1 Water treatment needs1Figure 2.52 Purified water quality standards from USP, Ph. Eur. and JP pharmacopoeias1Figure 2.53 WFI quality standards from USP, Ph. Eur., and JP pharmacopoeias12.1.7.2 Applications1Figure 2.54 Pharmaceuticals: Capital expenditure by application, 2013-202012.1.7.3 Technology systems1Figure 2.55 Pharmaceuticals: Capital expenditure by technology, 2013-20201		117
Figure 2.49 Key players in the pulp & paper water and wastewater treatment marketFigure 2.50 A selection of the top water treatment providers in the pulp & paper market2.1.7 PharmaceuticalsFigure 2.51 Top 20 pharmaceutical companies by global sales, 20142.1.7.1 Water treatment needsFigure 2.52 Purified water quality standards from USP, Ph. Eur. and JP pharmacopoeiasFigure 2.53 WFI quality standards from USP, Ph. Eur., and JP pharmacopoeias2.1.7.2 ApplicationsFigure 2.54 Pharmaceuticals: Capital expenditure by application, 2013-20202.1.7.3 Technology systemsFigure 2.55 Pharmaceuticals: Capital expenditure by technology, 2013-2020		117
Figure 2.50 A selection of the top water treatment providers in the pulp & paper market 2.1.7 Pharmaceuticals Figure 2.51 Top 20 pharmaceutical companies by global sales, 2014 2.1.7.1 Water treatment needs Figure 2.52 Purified water quality standards from USP, Ph. Eur. and JP pharmacopoeias Figure 2.53 WFI quality standards from USP, Ph. Eur., and JP pharmacopoeias 2.1.7.2 Applications Figure 2.54 Pharmaceuticals: Capital expenditure by application, 2013-2020 2.1.7.3 Technology systems Figure 2.55 Pharmaceuticals: Capital expenditure by technology, 2013-2020		118
2.1.7 Pharmaceuticals 1 Figure 2.51 Top 20 pharmaceutical companies by global sales, 2014 1 2.1.7.1 Water treatment needs 1 Figure 2.52 Purified water quality standards from USP, Ph. Eur. and JP pharmacopoeias 1 Figure 2.53 WFI quality standards from USP, Ph. Eur., and JP pharmacopoeias 1 2.1.7.2 Applications 1 Figure 2.54 Pharmaceuticals: Capital expenditure by application, 2013-2020 1 2.1.7.3 Technology systems 1 Figure 2.55 Pharmaceuticals: Capital expenditure by technology, 2013-2020 1		110
Figure 2.51 Top 20 pharmaceutical companies by global sales, 201412.1.7.1 Water treatment needs1Figure 2.52 Purified water quality standards from USP, Ph. Eur. and JP pharmacopoeias1Figure 2.53 WFI quality standards from USP, Ph. Eur., and JP pharmacopoeias12.1.7.2 Applications1Figure 2.54 Pharmaceuticals: Capital expenditure by application, 2013-202012.1.7.3 Technology systems1Figure 2.55 Pharmaceuticals: Capital expenditure by technology, 2013-20201		120
2.1.7.1 Water treatment needs 1 Figure 2.52 Purified water quality standards from USP, Ph. Eur. and JP pharmacopoeias 1 Figure 2.53 WFI quality standards from USP, Ph. Eur., and JP pharmacopoeias 1 2.1.7.2 Applications 1 Figure 2.54 Pharmaceuticals: Capital expenditure by application, 2013-2020 1 2.1.7.3 Technology systems 1 Figure 2.55 Pharmaceuticals: Capital expenditure by technology, 2013-2020 1		120
Figure 2.52 Purified water quality standards from USP, Ph. Eur. and JP pharmacopoeias 1 Figure 2.53 WFI quality standards from USP, Ph. Eur., and JP pharmacopoeias 1 2.1.7.2 Applications 1 Figure 2.54 Pharmaceuticals: Capital expenditure by application, 2013-2020 1 2.1.7.3 Technology systems 1 Figure 2.55 Pharmaceuticals: Capital expenditure by technology, 2013-2020 1		120
Figure 2.53 WFI quality standards from USP, Ph. Eur., and JP pharmacopoeias 1 2.1.7.2 Applications 1 Figure 2.54 Pharmaceuticals: Capital expenditure by application, 2013-2020 1 2.1.7.3 Technology systems 1 Figure 2.55 Pharmaceuticals: Capital expenditure by technology, 2013-2020 1		120
2.1.7.2 Applications 1 Figure 2.54 Pharmaceuticals: Capital expenditure by application, 2013-2020 1 2.1.7.3 Technology systems 1 Figure 2.55 Pharmaceuticals: Capital expenditure by technology, 2013-2020 1	• • • • •	121
Figure 2.54 Pharmaceuticals: Capital expenditure by application, 2013-202012.1.7.3 Technology systems1Figure 2.55 Pharmaceuticals: Capital expenditure by technology, 2013-20201		121
2.1.7.3 Technology systems 1 Figure 2.55 Pharmaceuticals: Capital expenditure by technology, 2013-2020 1		123
Figure 2.55 Pharmaceuticals: Capital expenditure by technology, 2013-2020		123
2.1.7.4 Regions		124
Figure 2.57 Photosoca tipolo. Control our andit, as here size 2012-2020		125
Figure 2.56 Pharmaceuticals: Capital expenditure by region, 2013-2020	FIGURE Z DO EDARMACEUTICAIS' CADITAL EXPENdITURE DV REGION 2013-2020	125

Figure 2.57 Pharmaceuticals: Top country markets, 2016-2020	125
2.1.7.5 Key market players	126
Figure 2.58 Key players in the pharmaceuticals water and wastewater treatment market	126
Figure 2.59 A selection of the top water treatment providers in the pharmaceuticals market	127
2.1.8 Microelectronics	128
Figure 2.60 Worldwide semiconductor sales by region, 2015-2016	128
2.1.8.1 Applications	129
Figure 2.61 Microelectronics: Capital expenditure by application, 2013-2020	129
2.1.8.2 Technology systems	130
Figure 2.62 Microelectronics: Capital expenditure by technology, 2013–2020	130
2.1.8.3 Regions	131
Figure 2.63 Microelectronics: Capital expenditure by region, 2013-2020	131
Figure 2.64 Microelectronics: Top country markets, 2016-2020	131
2.1.8.4 Key market players	132
Figure 2.65 Key players in the microelectronics water and wastewater treatment market	132
Figure 2.66 A selection of the top water treatment providers in the microelectronics market	133
2.1.9 Utilities	134
Figure 2.67 Municipal water cycle	134
Figure 2.68 Utility spending by sector, 2013-2020	135
2.1.9.1 Drinking water	136
Figure 2.69 Drinking water treatment train	136
Figure 2.70 Capital expenditure on drinking water treatment by technology, 2013-2020	138
Figure 2.71 Capital expenditure on drinking water treatment by region, 2013-2020	139
2.1.9.2 Wastewater	140
Figure 2.72 Municipal wastewater treatment steps	140
Wastewater reuse	141
Figure 2.73 New contracted capacity of municipal water reuse vs desalination, 1990–2030	141
Figure 2.74 Capital expenditure on wastewater treatment by technology, 2013-2020	142
Figure 2.75 Capital expenditure on wastewater treatment by region, 2013-2020	143
2.1.9.3 Seawater and brackish water desalination	143
Figure 2.76 Annual and cumulative contracted desalination capacity, 1990-2014	143
Figure 2.77 Annual contracted desalination capacity by feedwater, 1990-2014	144
Technology trends	145
Figure 2.78 Awarded membrane and thermal desalination capacity, 1990-2014	145
Figure 2.79 Time evolution of membrane versus thermal technologies	145
Figure 2.80 Annual contracted global capacity by technology, 2013-2020	146
Figure 2.81 Capital expenditure on seawater and brackish water desalination by technology, 2013-2020	146
Regional trends	147
Figure 2.82 Annual global contracted capacity by region, 2013-2020	148
Figure 2.83 Capital expenditure on seawater and brackish water desalination by region, 2013-2020	148
Figure 2.84 Annual global capacity by feedwater, 2013-2020	149
Key market players	150
Figure 2.85 Top 20 plant suppliers by awarded capacity, 2006-2015	150
Figure 2.86 Top 20 plant suppliers by awarded capacity, 2014–2015	150
2.2 Treatment by technology system	151
Figure 2.87 Gobal capital expenditure by technology, 2013–2020	151
2.2.1 Oil/water separation	152
Figure 2.88 Maturity of technologies versus applicability to the oil & gas industry	153
2.2.1.1 Market drivers and restraints	154
	154
Drivers	154
Restraints	
Figure 2.89 Market forces for oil/water separation	155
2.2.1.2 Sectors	155
Figure 2.90 Capital expenditure on oil/water separation technology by sector, 2013-2020	156
Figure 2.91 Capital expenditure on oil/water separation technology by industry, 2013-2020	156
2.2.1.3 Applications	157
Figure 2.92 Capital expenditure on oil/water separation technology by application, 2013-2020	157
2.2.1.4 Regions	158
Figure 2.93 Capital expenditure on oil/water separation technology by region, 2013-2020	158

2.2.1.5 Key market players Figure 2.94 Key players in the oil/water separation technology market	
2.2.2 Suspended solids removal	
Figure 2.95 Maturity of suspended solids removal technologies versus applicability	
2.2.2.1 Market drivers and restraints	
Drivers	
Restraints	
Figure 2.96 Market forces for suspended solids removal	
2.2.2.2 Sectors	
Figure 2.97 Capital expenditure on suspended solids removal by sector, 2013-2020	
Figure 2.98 Capital expenditure on suspended solids removal by industry, 2013-2020	
2.2.2.3 Applications	
Figure 2.99 Capital expenditure on suspended solids removal by application, 2013-2020	
2.2.2.4 Regions	
Figure 2.100 Capital expenditure on suspended solids removal by region, 2013-2020	
2.2.2.5 Key market players	
Figure 2.101 Technology by effluent particle size and players	
2.2.3 Dissolved solids removal	
Figure 2.102 Maturity of dissolved solids removal technologies versus application	
Figure 2.103 Dissolved solids removal techniques	
2.2.3.1 Market drivers and restraints	
Drivers	
Restraints	
Figure 2.104 Market forces for dissolved solids removal	
2.2.3.2 Sectors	
Figure 2.105 Capital expenditure on dissolved solids removal by sector, 2013-2020	
Figure 2.106 Capital expenditure on dissolved solids removal by industry, 2013-2020	
2.2.3.3 Applications	
Figure 2.107 Capital expenditure on dissolved solids removal by application, 2013-2020	
2.2.3.4 Regions	
Figure 2.108 Capital expenditure on dissolved solids removal by region, 2013-2020	
2.2.3.5 Key market players	
Figure 2.109 Key players in the dissolved solids technology market	
2.2.4 Biological treatment	
Figure 2.110 Biological treatment technologies	
Figure 2.111 Maturity of biological treatment technologies versus application	
2.2.4.1 Market drivers and restraints	
Drivers	
Restraints	
Figure 2.112 Market forces for biological treatment	
2.2.4.2 Sectors	
Figure 2.113 Capital expenditure on biological treatment by sector, 2013-2020	
Figure 2.114 Capital expenditure on biological treatment by industry, 2013-2020	
2.2.4.3 Applications	
Figure 2.115 Capital expenditure on biological treatment by application, 2013-2020	
2.2.4.4 Regions	
Figure 2.116 Capital expenditure on biological treatment by region, 2013-2020	
2.2.4.5 Key market players	
Figure 2.117 Key players in the biological treatment technology market	
2.2.5 Disinfection/oxidation	
Figure 2.118 Maturity of technologies versus application	
2.2.5.1 Market drivers and restraints	
Drivers	
Restraints	
Figure 2.119 Market forces for disinfection	
2.2.5.2 Sectors	
Figure 2.120 Capital expenditure on disinfection by sector, 2013-2020	
Figure 2.121 Capital expenditure on disinfection by industry, 2013-2020	

Figure 2.122 Capital expenditure on disinfection by application, 2013-2020 2.2.5.4 Regions	18 19
Figure 2.123 Capital expenditure on disinfection by region, 2013-2020	19
2.2.5.5 Key market players	19
Figure 2.124 Key players in the disinfection technology market	19
2.2.6 Sludge management	19
Sources of sludge	19
Sludge management methods	19
Figure 2.125 Progression of sludge management selection in developed nations, 1970-present	19
Sludge treatment technologies	19
Figure 2.126 Key sludge treatment technologies and management methods	19
2.2.6.1 Market drivers and restraints	19
Drivers	19
Restraints	19
Figure 2.127 Market forces for sludge management	19
2.2.6.2 Sectors	19
Figure 2.128 Capital expenditure on sludge management by sector, 2013-2020	19
Figure 2.129 Capital expenditure on sludge management by industry, 2013-2020	19
2.2.6.3 Applications	19
Figure 2.130 Capital expenditure on sludge management by application, 2013-2020	19
2.2.6.4 Regions	20
Figure 2.131 Capital expenditure on sludge management by region, 2013-2020	20
2.2.6.5 Key market players	20
Figure 2.132 Key companies active in the sludge treatment market	20
2.3 Water treatment equipment	20
2.3.1 High pressure membranes	20
2.3.1.1 Market trends	20
2.3.1.2 Membrane research directions	20
Figure 2.133 Current high pressure membrane research and development projects	20
2.3.1.3 Market forecast	20
Figure 2.134 Spending on high pressure membranes by sector, 2013–2020	20
Figure 2.135 Spending on high pressure membranes by region, 2013–2020	20
2.3.1.4 Key market players	20
Figure 2.136 Selection of major high pressure membrane manufacturers	20
2.3.2 Low pressure membranes	20
2.3.2.1 Market trends	20
2.3.2.2 Membrane research directions	20
Figure 2.137 Current low-pressure membrane research and development projects	20
2.3.2.3 Market forecast	20
Figure 2.138 Total spending on low pressure membranes by sector, 2013–2020	20
Figure 2.139 Total spending on low pressure membranes by region, 2013-2020	20
2.3.2.4 Key market players	20
Figure 2.140 Key low pressure membrane suppliers	21
2.3.3 Thermal desalination equipment	21
2.3.3.1 Market trends	21
2.3.3.2 Market forecast	21
Figure 2.141 Total spending on thermal desalination equipment by sector, 2013–2020	21
Figure 2.142 Total spending on thermal desalination equipment by sector, 2013-2020	21
3. NETWORKS AND ENVIRONMENT	21
3.1 Water and wastewater networks	21
3.1.1 Market drivers and restraints	21
Figure 3.1 Total water and wastewater networks capital and operating expenditure, 2016	21
Figure 3.2 Water network capital expenditure by equipment category, 2016	21
Figure 3.3 Wastewater network capital expenditure by equipment category, 2016	21
Figure 3.4 Typical parameters for trenchless installation techniques	21
3.1.2 Approaches to asset management	21
Figure 3.5 Plan-do-act-check cycle	21
Figure 3.6 Management strategies for water networks	21

3.1.2.1 Non-revenue water and losses	218
Figure 3.7 Non-revenue water rates in selected countries	218
Figure 3.8 IWA water balance	219
3.1.2.2 Pipe replacement and rehabilitation	219
3.1.2.3 Leak management	220
Figure 3.9 Types of leaks	220
3.1.3 Market forecast	221
Figure 3.10 Water and wastewater network capital expenditure, 2013-2020	221
Figure 3.11 Utility water network capital expenditure by region, 2013-2020	222
Figure 3.12 Top 10 utility water network markets, 2016-2020	222
Figure 3.13 Utility wastewater network capital expenditure by region, 2013-2020	223
Figure 3.14 Top 10 utility wastewater network markets, 2016-2020	223
3.1.4 Smart water networks	224
Figure 3.15 Smart water layers and forecast categories	224
3.1.4.1 Market drivers and restraints	225
Drivers	225
Restraints	225
Figure 3.16 Water treatment market forces in smart water networks	226
3.1.4.2 Challenges and opportunities	227
3.1.4.3 Regional trends	228
Figure 3.17 Split of the SWN market between early adopters and other countries, 2015 and 2020	228
Figure 3.18 Worldwide capital expenditure on SWNs by region, 2015-2020	229
Figure 3.19 Worldwide capital expenditure on SWNs by country, 2015-2020	230
3.1.4.4 Trends by tier and market segment	230
Figure 3.20 Worldwide capital expenditure on SWNs by system, 2015-2020	231
Figure 3.21 Worldwide capital expenditure on SWNs by tier, 2015-2020	231
3.1.4.5 Key market players	232
Figure 3.22 Companies active in the smart water network market	232
Figure 3.23 Companies active in the instrumentation layer	234
Figure 3.24 Companies active in the communications layer	235
Figure 3.25 Companies active in the data analysis/management layer	236
3.2 Resources and environment	237
3.2.1 Storage	237
Figure 3.26 Examples of water storage project costs	237
3.2.2 Groundwater development	237
Figure 3.27 Aquifer stress as studied by GRACE	238
Figure 3.28 Largest aquifer systems	238
3.2.3 Water transfer	240
Figure 3.29 Cost comparison by water source type	240
Figure 3.30 Examples of water transfer project costs	241
3.2.4 Watershed protection	241
3.3 Equipment markets	242
3.3.1 Pipes	242
Figure 3.31 Characteristics of key water and wastewater pipe materials	242
3.3.1.1 Market trends	244
Figure 3.32 Total spending on pipes by sector, 2013-2020	245
Figure 3.33 Total spending on pipes by sector, 2013-2020	245
3.3.1.2 Key market players	243
Figure 3.34 A selection of major water and wastewater pipe suppliers	240
	240
3.3.2 Pumps	
3.3.2.1 Market trends	247
Figure 3.35 Total spending on pumps by sector, 2013-2020	248
Figure 3.36 Total spending on pumps by region, 2013-2020	249
3.3.2.2 Key market players	249
Figure 3.37 A selection of major international water pump manufacturers	249
	250
3.3.3 Valves	
Figure 3.38 Main valve types used in the water sector	250

Figure 3.40 Total spending on valves by region, 2013-2020	252
3.3.3.2 Key market players	252
Figure 3.41 A selection of major water valve manufacturers	252
4. CHEMICALS & CONSUMABLES	253
4.1 Chemicals	253
Figure 4.1 Outline of major water treatment chemicals and their applicability	254
Figure 4.2 Global spending on commodity and specialty chemicals, 2013-2020	255
4.1.1 Market forecast	256
4.1.1.1 Sectors	256
Figure 4.3 Global spending on water treatment chemicals by sector, 2013-2020	256
Figure 4.4 Global spending on water treatment chemicals by industry, 2013-2020	257
4.1.1.2 Chemical type	258
Figure 4.5 Global spending by chemical type, 2013-2020	258
4.1.1.3 Applications	259
Figure 4.6 Global spending on water treatment chemicals by application, 2013-2020	259
4.1.1.4 Regions	260
Figure 4.7 Global spending on water treatment chemicals by region, 2013-2020	260
4.1.2 Key market players	261
Figure 4.8 Major chemical suppliers and service companies	261
4.2 Consumables & Services	262
4.2.1 Ion exchange resins	262
4.2.2 Filtration	262
4.2.3 Activated carbon	263

VOLUME 2: THE AMERICAS

5. ARGENTINA	265
6. BOLIVIA	274
7. BRAZIL	283
8. CANADA	318
9. CHILE	347
10. COLOMBIA	373
11. COSTA RICA	397
12. DOMINICAN REPUBLIC	406
13. ECUADOR	416
14. EL SALVADOR	423
15. GUATEMALA	434
16. HONDURAS	440
17. MEXICO	451
18. PANAMA	481
19. PARAGUAY	493
20. PERU	503
21. TRINIDAD AND TOBAGO	527
22. UNITED STATES	534
23. URUGUAY	614

24. VENEZUELA	621
VOLUME 3: EUROPE	
25. AUSTRIA	629
26. AZERBAIJAN	640
27. BELARUS	649
28. BELGIUM	660
29. BULGARIA	670
30. CROATIA	683
31. CYPRUS	695
32. CZECH REPUBLIC	702
33. DENMARK	715
34. ESTONIA	726
35. FINLAND	736
36. FRANCE	745
37. GERMANY	766
38. GREECE	786
39. HUNGARY	795
40. IRELAND	809
41. ITALY	822
42. KAZAKHSTAN	844
43. LATVIA	857
44. LITHUANIA	866
45. LUXEMBOURG	873
46. NETHERLANDS	882
47. NORWAY	895
48. POLAND	907
49. PORTUGAL	921
50. ROMANIA	933
51. RUSSIAN FEDERATION	945
52. SERBIA	978
53. SLOVAKIA	992
54. SLOVENIA	1003
55. SPAIN	1015
56. SWEDEN	1039

57. SWITZERLAND	1045
58. UKRAINE	1057
59. UNITED KINGDOM	1072
VOLUME 4: MIDDLE EAST AND AFRICA	
60. ALGERIA	1095
61. ANGOLA	1116
62. BAHRAIN	1125
63. CAMEROON	1132
64. CÔTE D'IVOIRE	1139
65. EGYPT	1145
66. ETHIOPIA	1166
67. GHANA	1173
68. IRAN	1180
69. IRAQ	1209
70. ISRAEL	1220
71. JORDAN	1234
72. KENYA	1247
73. KUWAIT	1255
74. LEBANON	1266
75. MOROCCO	1275
76. NAMIBIA	1301
77. NIGERIA	1308
78. OMAN	1329
79. QATAR	1351
80. RWANDA	1368
81. SAUDI ARABIA	1379
82. SOUTH AFRICA	1406
83. TANZANIA	1432
84. TUNISIA	1442
85. TURKEY	1451
86. UGANDA	1464
87. UNITED ARAB EMIRATES	1471

VOLUME 5: ASIA PACIFIC

88. AUSTRALIA	1493
89. BANGLADESH	1519
90. CHINA	1526
91. HONG KONG	1563
92. INDIA	1576
93. INDONESIA	1626
94. JAPAN	1654
95. MALAYSIA	1675
96. NEW ZEALAND	1696
97. PAKISTAN	1706
98. PHILIPPINES	1716
99. SINGAPORE	1739
100. SOUTH KOREA	1755
101. SRI LANKA	1769
102. TAIWAN	1780
103. THAILAND	1793
104. VIETNAM	1803
INTERVIEWEES	1829
REFERENCES	1832

GLOBAL WATER MARKET 2017

VOLUME 1: COMPANIES AND MARKETS

PUBLICATION INFORMATION	Ш
EXECUTIVE SUMMARY	VII
1. WATER MARKET OVERVIEW	1
2. WATER AND WASTEWATER TREATMENT	78
3. NETWORKS AND ENVIRONMENT	214
4. CHEMICALS & CONSUMABLES	253

VOLUME 2: THE AMERICAS

PUBLICATION INFORMATION	Ш
Unit conversion factors used in this publication:	iii
Exchange rates used in this publication:	iii
Indicators of utility service coverage:	iv
Indicators of water service coverage	iv
Indicators of wastewater service coverage	iv
Icons used in this publication:	V
Icons representing market sectors	V
Icons representing technology categories	V
Icons representing technology applications	V
Icons representing sector structure responsibilities	V
Icons representing the scope of private sector participation (PSP) projects	V
Icons representing significance/prevalence	vi
5. ARGENTINA	265
5.1 Water availability and demand	265
Figure 5.1 Water resources	265
Figure 5.2 Sectoral water withdrawal	265
5.2 Utility sector	265
Figure 5.3 Utility service performance	265
Figure 5.4 Water and wastewater utilities serving greater than 300,000 people	265
5.2.1 Utility water	266
Figure 5.5 Water supply indicators	266
Figure 5.6 Percentage of people connected to water supply network	266
Figure 5.7 Meter coverage	267
5.2.2 Utility wastewater	267
Figure 5.8 Wastewater indicators	267
Figure 5.9 Percentage of wastewater treated to secondary level	268
5.2.3 Utility funding	268
Figure 5.10 Benchmark water and wastewater tariffs for selected major cities, 2015	268
Figure 5.11 Overseas development assistance for the water and sanitation sector, 2008-2014	268
5.2.4 Private sector participation	269
Figure 5.12 Selected major projects involving private sector participation	269
5.3 Current and future projects	269
Figure 5.13 Projects tracked by GWI	269
5.4 Market forecast	270
Figure 5.14 Market forecast, 2013-2020	270
Figure 5.15 Market forecast breakdown, 2016	271
Figure 5.16 Market forecast data, 2013-2020	272
6. BOLIVIA	274
6.1 Water availability and demand	274

Figure 6.1 Water resources	274
Figure 6.2 Sectoral water withdrawal	274
6.2 Utility sector	274
Figure 6.3 Utility service performance	274
Figure 6.4 Water and wastewater utilities serving greater than 300,000 people	274
6.2.1 Utility water	275
Figure 6.5 Water supply indicators	275
Figure 6.6 Number of people connected to water supply network	275
Figure 6.7 Percentage of people connected to water supply network	276
6.2.2 Utility wastewater	276
Figure 6.8 Wastewater indicators	276
Figure 6.9 Number of people connected to sewerage network	277
Figure 6.10 Percentage of people connected to sewerage network	277
6.2.3 Utility funding	278
Figure 6.11 Benchmark water and wastewater tariffs for selected major cities, 2015	278
Figure 6.12 Overseas development assistance for the water and sanitation sector, 2008-2014	278
6.3 Market forecast	279
Figure 6.13 Market forecast, 2013-2020	279
Figure 6.14 Market forecast breakdown, 2016	280
Figure 6.15 Market forecast data, 2013-2020	281
	201
7. BRAZIL	283
7.1 Top market opportunities	283
7.2 Sector structure and regulation	283
Figure 7.1 Water sector structure	283
Figure 7.2 Water sector funding organisations	286
Figure 7.3 Regulations applicable to the water sector	286
Figure 7.4 PLANSAB goals for water supply and sanitation in Brazil	289
7.3 Water resources	289
Figure 7.5 Projected change in water stress by 2020	289
Figure 7.6 Water resources	207
Figure 7.7 Water vithdrawals by sector, 2010–2030	290
7.3.1 Desalination	290
7.3.2 Water reuse	270
7.3.3 Water transfer	291
7.3.4 Groundwater protection	291
7.3.5 Reservoirs and storage	291
¥	
7.3.6 Demand management	292 292
7.4 Utility sector	
7.4.1 Utility sector strategies and investment planning	292
7.4.1.1 Water service extension	292
7.4.1.2 Asset management	292
7.4.1.3 Non-revenue water	292
7.4.1.4 Smart water	292
7.4.1.5 Wastewater networks	293
7.4.1.6 Wastewater treatment	293
7.4.1.7 Wastewater polishing	293
7.4.2 Utility sector structure and performance	293
Figure 7.8 Utility market structure	293
Figure 7.9 Water and wastewater utilities serving greater than 300,000 people	294
Figure 7.10 Utility service performance	295
Figure 7.11 Water supply indicators	296
Figure 7.12 Wastewater service indicators	296
7.4.3 Utility infrastructure	296
Figure 7.13 Major water treatment plants	296
Figure 7.14 Major wastewater treatment plants	297
5	297
Figure 7.15 Major desalination plants	277
	297

Figure 7.17 Water and wastewater charges for a benchmark user in selected major cities, 2015	298
Figure 7.18 Sources of utility funding	298
Figure 7.19 Sources of debt used to fund utility investments	298
Figure 7.20 Overseas development assistance for the water and sanitation sector, 2008-2014	299
7.4.5 Utility procurement	300
Figure 7.21 Procurement models used	300
Figure 7.22 Criteria for comparing bids on construction contracts	300
7.4.6 Private sector participation	301
Figure 7.23 Models of private sector participation	301
7.4.7 Current and future projects	301
Figure 7.24 Future utility investment projects	301
7.5 Industrial water	309
Figure 7.25 Industrial water market significance	309
7.5.1 Oil & gas	309
7.5.2 Pulp & paper and food & beverage	309
7.5.3 Mining	310
7.6 Market participants	310
Figure 7.26 Major companies active in the water sector	310
7.7 Market forecast	313
7.7.1 Future market directions	313
7.7.2 Notes on market forecast	313
Figure 7.27 Market forecast, 2013-2020	314
Figure 7.28 Market forecast breakdown, 2016	315
Figure 7.29 Market forecast data, 2013–2020	315
7.8 Data Sources	310
Figure 7.30 Sources of data used in this report	317
	517
8. CANADA	318
8.1 Top market opportunities	318
8.2 Sector structure and regulation	318
Figure 8.1 Water sector structure	318
Figure 8.2 Water sector funding organisations	319
Figure 8.3 Regulations applicable to the water sector	320
8.3 Water resources	322
Figure 8.4 Projected change in water stress by 2020	322
Figure 8.5 Water resources	322
Figure 8.6 Water withdrawals by sector, 2010-2030	323
8.3.1 Desalination	323
8.3.2 Water reuse	323
8.3.3 Water transfer	323
8.3.4 Groundwater protection	324
8.3.5 Reservoirs and storage	324
8.3.6 Demand management	324
8.4 Utility sector	324
8.4.1 Utility sector strategies and investment planning	324
8.4.1.1 Wastewater infrastructure	324
8.4.1.2 Water treatment	325
8.4.1.3 Networks	325
8.4.2 Utility sector structure and performance	325
Figure 8.7 Utility market structure	325
Figure 8.8 Water and wastewater utilities serving greater than 300,000 people	325
Figure 8.9 Utility service performance	320
Figure 8.9 Utility service performance Figure 8.10 Water supply indicators	326
Figure 8.11 Wastewater service indicators	327
8.4.3 Utility infrastructure	328
Figure 8.12 Major water treatment plants	328
	328
Figure 8.13 Major wastewater treatment plants	202
Figure 8.13 Major wastewater treatment plants Figure 8.14 Major water reuse plants 8.4.4 Utility funding	328 329

Figure 8.15 Water and wastewater charges for a benchmark user in selected major cities, 2015 Figure 8.16 Sources of utility funding	329 329
Figure 8.17 Sources of debt used to fund utility investments	329
8.4.4.1 Federal/provincial funding	329
8.4.4.2 Tariffs	330
8.4.4.3 First Nations	330
8.4.5 Utility procurement	330
Figure 8.18 Procurement models used	330
Figure 8.19 Criteria for comparing bids on construction contracts	331
8.4.6 Private sector participation	332
Figure 8.20 Models of private sector participation	332
8.4.6.1 Contract operations	332
8.4.6.2 Privately financed projects	332
Figure 8.21 Water and wastewater projects supported by the P3 Canada Fund	333
8.4.7 Current and future projects	333
Figure 8.22 Future utility investment projects	333
8.5 Industrial water	337
Figure 8.23 Industrial water withdrawals	337
Figure 8.24 Industrial water market significance	337
8.5.1 Upstream oil & gas	337
8.5.2 Mining	338
8.6 Market participants	338
Figure 8.25 Major companies active in the water sector	338
8.7 Market forecast	341
8.7.1 Future market directions	341
8.7.2 Notes on market forecast	341
Figure 8.26 Market forecast, 2013–2020	342
Figure 8.27 Market forecast breakdown, 2016	343
Figure 8.28 Market forecast data, 2013–2020	344
8.8 Data Sources	346
Figure 8.29 Sources of data used in this report	346
9. CHILE	347
9.1 Top market opportunities	347
9.2 Sector structure and regulation	347
Figure 9.1 Water sector structure	347
Figure 9.2 Water sector funding organisations	349
Figure 9.3 Regulations applicable to the water sector	349
9.3 Water resources	351
Figure 9.4 Projected change in water stress by 2020	351
	351
Figure 9.5 Water resources	352
Figure 9.5 Water resources Figure 9.6 Water withdrawals by sector, 2010-2030	
Figure 9.6 Water withdrawals by sector, 2010-2030	352
Figure 9.6 Water withdrawals by sector, 2010-2030 9.3.1 Desalination	352
Figure 9.6 Water withdrawals by sector, 2010-2030 9.3.1 Desalination 9.3.1.1 Municipal desalination	352
Figure 9.6 Water withdrawals by sector, 2010-2030 9.3.1 Desalination 9.3.1.1 Municipal desalination 9.3.1.2 Industrial desalination	352 352
Figure 9.6 Water withdrawals by sector, 2010-2030 9.3.1 Desalination 9.3.1.1 Municipal desalination 9.3.1.2 Industrial desalination 9.3.2 Water reuse	352 352 353
Figure 9.6 Water withdrawals by sector, 2010-2030 9.3.1 Desalination 9.3.1.1 Municipal desalination 9.3.1.2 Industrial desalination 9.3.2 Water reuse 9.3.3 Water transfer	352 352 353 353
Figure 9.6 Water withdrawals by sector, 2010-2030 9.3.1 Desalination 9.3.1.1 Municipal desalination 9.3.1.2 Industrial desalination 9.3.2 Water reuse 9.3.3 Water transfer 9.3.4 Groundwater protection	352 352 353 353 353 353
Figure 9.6 Water withdrawals by sector, 2010-2030 9.3.1 Desalination 9.3.1.1 Municipal desalination 9.3.1.2 Industrial desalination 9.3.2 Water reuse 9.3.3 Water transfer 9.3.4 Groundwater protection 9.3.5 Reservoirs and storage	352 352 353 353 353 353 353
Figure 9.6 Water withdrawals by sector, 2010-2030 9.3.1 Desalination 9.3.1.1 Municipal desalination 9.3.1.2 Industrial desalination 9.3.2 Water reuse 9.3.3 Water transfer 9.3.4 Groundwater protection 9.3.5 Reservoirs and storage 9.3.6 Demand management	352 352 353 353 353 353 353 354
Figure 9.6 Water withdrawals by sector, 2010-20309.3.1 Desalination9.3.1.1 Municipal desalination9.3.1.2 Industrial desalination9.3.2 Water reuse9.3.3 Water transfer9.3.4 Groundwater protection9.3.5 Reservoirs and storage9.3.6 Demand management9.4 Utility sector	352 353 353 353 353 353 353 354 354
Figure 9.6 Water withdrawals by sector, 2010-20309.3.1 Desalination9.3.1.1 Municipal desalination9.3.1.2 Industrial desalination9.3.2 Water reuse9.3.3 Water transfer9.3.4 Groundwater protection9.3.5 Reservoirs and storage9.3.6 Demand management9.4 Utility sector9.4.1 Utility sector strategies and investment planning	352 353 353 353 353 353 353 354 354 354
Figure 9.6 Water withdrawals by sector, 2010-2030 9.3.1 Desalination 9.3.1.1 Municipal desalination 9.3.1.2 Industrial desalination 9.3.2 Water reuse 9.3.3 Water transfer 9.3.4 Groundwater protection 9.3.5 Reservoirs and storage 9.3.6 Demand management 9.4.1 Utility sector strategies and investment planning 9.4.1.1 Water service extension	352 353 353 353 353 353 353 354 354 354 354
Figure 9.6 Water withdrawals by sector, 2010-20309.3.1 Desalination9.3.1.1 Municipal desalination9.3.2 Water reuse9.3.3 Water transfer9.3.4 Groundwater protection9.3.5 Reservoirs and storage9.3.6 Demand management9.4.1 Utility sector strategies and investment planning9.4.1.1 Water service extension9.4.1.2 Non-revenue water	352 353 353 353 353 353 354 354 354 354 354
Figure 9.6 Water withdrawals by sector, 2010-20309.3.1 Desalination9.3.1.1 Municipal desalination9.3.1.2 Industrial desalination9.3.2 Water reuse9.3.3 Water transfer9.3.4 Groundwater protection9.3.5 Reservoirs and storage9.3.6 Demand management9.4 Utility sector9.4.1 Utility sector strategies and investment planning9.4.1.1 Water service extension9.4.1.2 Non-revenue water9.4.1.3 Smart water	352 353 353 353 353 353 354 354 354 354 354
Figure 9.6 Water withdrawals by sector, 2010-20309.3.1 Desalination9.3.1.1 Municipal desalination9.3.1.2 Industrial desalination9.3.2 Water reuse9.3.3 Water transfer9.3.4 Groundwater protection9.3.5 Reservoirs and storage9.3.6 Demand management9.4.1 Utility sector9.4.1 Utility sector strategies and investment planning9.4.1.1 Water service extension9.4.1.2 Non-revenue water9.4.1.4 Wastewater networks	352 353 353 353 353 353 353 354 354 354 354
Figure 9.6 Water withdrawals by sector, 2010-20309.3.1 Desalination9.3.1.1 Municipal desalination9.3.1.2 Industrial desalination9.3.2 Water reuse9.3.3 Water transfer9.3.4 Groundwater protection9.3.5 Reservoirs and storage9.3.6 Demand management9.4.1 Utility sector9.4.1.1 Water service extension9.4.1.2 Non-revenue water9.4.1.3 Smart water9.4.1.4 Wastewater networks9.4.1.5 Wastewater treatment and polishing	352 353 353 353 353 353 353 354 354 354 354
Figure 9.6 Water withdrawals by sector, 2010-20309.3.1 Desalination9.3.1.1 Municipal desalination9.3.1.2 Industrial desalination9.3.2 Water reuse9.3.3 Water transfer9.3.4 Groundwater protection9.3.5 Reservoirs and storage9.3.6 Demand management9.4.1 Utility sector9.4.1 Utility sector strategies and investment planning9.4.1.1 Water service extension9.4.1.2 Non-revenue water9.4.1.4 Wastewater networks	352 353 353 353 353 353 353 354 354 354 354

Figure 9.9 Utility service performance	355
rigue 7.7 dunty service performance	355
Figure 9.10 Water supply indicators	356
Figure 9.11 Wastewater service indicators	356
9.4.3 Utility infrastructure	356
Figure 9.12 Major water treatment plants	356
Figure 9.13 Wastewater treatment plants by level of treatment	356
Figure 9.14 Major wastewater treatment plants	357
Figure 9.15 Major desalination plants	357
9.4.4 Utility funding	358
Figure 9.16 Water and wastewater charges for a benchmark user in selected major cities, 2015	358
Figure 9.17 Sources of utility funding	358
Figure 9.18 Sources of debt used to fund utility investments	358
Figure 9.19 Overseas development assistance for the water and sanitation sector, 2008-2014	358
9.4.5 Utility procurement	359
Figure 9.20 Procurement models used	359
	359
Figure 9.21 Criteria for comparing bids on construction contracts	
9.4.6 Private sector participation	360
Figure 9.22 Models of private sector participation	360
9.4.7 Current and future projects	360
Figure 9.23 Future utility investment projects	360
9.5 Industrial water	364
Figure 9.24 Industrial water market significance	364
9.6 Market participants	365
Figure 9.25 Major companies active in the water sector	365
9.7 Market forecast	367
9.7.1 Future market directions	367
9.7.2 Notes on market forecast	367
Figure 9.26 Market forecast, 2013–2020	368
Figure 9.27 Market forecast breakdown, 2016	369
Figure 9.28 Market forecast data, 2013-2020	270
= 100000000000000000000000000000000000	370
9.8 Data Sources	370
9.8 Data Sources	372
9.8 Data Sources Figure 9.29 Sources of data used in this report 10. COLOMBIA	372 372 373
9.8 Data Sources Figure 9.29 Sources of data used in this report 10. COLOMBIA 10.1 Top market opportunities	372 372 373 373
9.8 Data Sources Figure 9.29 Sources of data used in this report 10. COLOMBIA 10.1 Top market opportunities 10.2 Sector structure and regulation	372 372 373 373 373 373
9.8 Data Sources Figure 9.29 Sources of data used in this report 10. COLOMBIA 10.1 Top market opportunities 10.2 Sector structure and regulation Figure 10.1 Water sector structure	372 372 373 373 373 373 373
9.8 Data Sources Figure 9.29 Sources of data used in this report 10. COLOMBIA 10.1 Top market opportunities 10.2 Sector structure and regulation Figure 10.1 Water sector structure Figure 10.2 Water sector funding organisations	372 372 373 373 373 373 373 374
9.8 Data Sources Figure 9.29 Sources of data used in this report 10. COLOMBIA 10.1 Top market opportunities 10.2 Sector structure and regulation Figure 10.1 Water sector structure Figure 10.2 Water sector funding organisations Figure 10.3 Regulations applicable to the water sector	372 372 373 373 373 373 373 374 375
9.8 Data Sources Figure 9.29 Sources of data used in this report 10. COLOMBIA 10.1 Top market opportunities 10.2 Sector structure and regulation Figure 10.1 Water sector structure Figure 10.2 Water sector funding organisations Figure 10.3 Regulations applicable to the water sector 10.2.1 New wastewater discharge regulations through Resolution 631 of 2015	372 372 373 373 373 373 374 375 376
9.8 Data Sources Figure 9.29 Sources of data used in this report 10. COLOMBIA 10.1 Top market opportunities 10.2 Sector structure and regulation Figure 10.1 Water sector structure Figure 10.2 Water sector funding organisations Figure 10.3 Regulations applicable to the water sector 10.2.1 New wastewater discharge regulations through Resolution 631 of 2015 10.3 Water resources	372 372 373 373 373 373 373 374 375 376 377
9.8 Data Sources Figure 9.29 Sources of data used in this report 10. COLOMBIA 10.1 Top market opportunities 10.2 Sector structure and regulation Figure 10.1 Water sector structure Figure 10.2 Water sector funding organisations Figure 10.3 Regulations applicable to the water sector 10.2.1 New wastewater discharge regulations through Resolution 631 of 2015 10.3 Water resources Figure 10.4 Projected change in water stress by 2020	372 372 373 373 373 373 373 374 375 376 377 377
9.8 Data Sources Figure 9.29 Sources of data used in this report 10. COLOMBIA 10.1 Top market opportunities 10.2 Sector structure and regulation Figure 10.1 Water sector structure Figure 10.2 Water sector funding organisations Figure 10.3 Regulations applicable to the water sector 10.2.1 New wastewater discharge regulations through Resolution 631 of 2015 10.3 Water resources Figure 10.4 Projected change in water stress by 2020 Figure 10.5 Water resources	372 372 373 373 373 373 373 374 375 376 377 377 377
9.8 Data Sources Figure 9.29 Sources of data used in this report 10. COLOMBIA 10.1 Top market opportunities 10.2 Sector structure and regulation Figure 10.1 Water sector structure Figure 10.2 Water sector funding organisations Figure 10.3 Regulations applicable to the water sector 10.2.1 New wastewater discharge regulations through Resolution 631 of 2015 10.3 Water resources Figure 10.4 Projected change in water stress by 2020 Figure 10.5 Water resources Figure 10.6 Water withdrawals by sector, 2010-2030	372 372 373 373 373 373 374 375 376 377 377 377 377 377
9.8 Data Sources Figure 9.29 Sources of data used in this report 10. COLOMBIA 10.1 Top market opportunities 10.2 Sector structure and regulation Figure 10.1 Water sector structure Figure 10.2 Water sector funding organisations Figure 10.3 Regulations applicable to the water sector 10.2.1 New wastewater discharge regulations through Resolution 631 of 2015 10.3 Water resources Figure 10.4 Projected change in water stress by 2020 Figure 10.5 Water resources Figure 10.6 Water withdrawals by sector, 2010-2030 10.3.1 Desalination	372 372 373 373 373 373 373 374 375 376 377 377 377 377 378
9.8 Data Sources Figure 9.29 Sources of data used in this report 10. COLOMBIA 10.1 Top market opportunities 10.2 Sector structure and regulation Figure 10.1 Water sector structure Figure 10.2 Water sector structure Figure 10.3 Regulations applicable to the water sector 10.3 Water resources Figure 10.4 Projected change in water stress by 2020 Figure 10.5 Water resources Figure 10.6 Water withdrawals by sector, 2010-2030 10.3.1 Desalination 10.3.2 Water reuse	372 372 373 373 373 373 373 374 375 376 377 377 377 377 377 378 378
9.8 Data Sources Figure 9.29 Sources of data used in this report 10. COLOMBIA 10.1 Top market opportunities 10.2 Sector structure and regulation Figure 10.1 Water sector structure Figure 10.2 Water sector funding organisations Figure 10.3 Regulations applicable to the water sector 10.2.1 New wastewater discharge regulations through Resolution 631 of 2015 10.3 Water resources Figure 10.4 Projected change in water stress by 2020 Figure 10.5 Water resources Figure 10.6 Water withdrawals by sector, 2010-2030 10.3.1 Desalination 10.3.2 Water reuse 10.3.3 Water transfer	372 372 373 373 373 373 373 374 375 376 377 377 377 377 377 377 378 378 378
9.8 Data Sources Figure 9.29 Sources of data used in this report 10. COLOMBIA 10.1 Top market opportunities 10.2 Sector structure and regulation Figure 10.1 Water sector structure Figure 10.2 Water sector funding organisations Figure 10.3 Regulations applicable to the water sector 10.2.1 New wastewater discharge regulations through Resolution 631 of 2015 10.3 Water resources Figure 10.4 Projected change in water stress by 2020 Figure 10.5 Water resources Figure 10.6 Water withdrawals by sector, 2010-2030 10.3.1 Desalination 10.3.2 Water reuse 10.3.3 Water transfer 10.3.4 Groundwater protection	372 372 373 373 373 373 373 374 375 376 377 377 377 377 377 377 377 378 378 378
9.8 Data Sources Figure 9.29 Sources of data used in this report 10. COLOMBIA 10.1 Top market opportunities 10.2 Sector structure and regulation Figure 10.1 Water sector structure Figure 10.2 Water sector funding organisations Figure 10.3 Regulations applicable to the water sector 10.2.1 New wastewater discharge regulations through Resolution 631 of 2015 10.3 Water resources Figure 10.4 Projected change in water stress by 2020 Figure 10.5 Water resources Figure 10.6 Water withdrawals by sector, 2010-2030 10.3.1 Desalination 10.3.2 Water reuse 10.3.3 Water transfer 10.3.4 Groundwater protection 10.3.5 Reservoirs and storage	372 372 373 373 373 373 373 374 375 376 377 377 377 377 377 377 377 378 378 378
9.8 Data Sources Figure 9.29 Sources of data used in this report 10. COLOMBIA 10.1 Top market opportunities 10.2 Sector structure and regulation Figure 10.1 Water sector structure Figure 10.2 Water sector funding organisations Figure 10.3 Regulations applicable to the water sector 10.2.1 New wastewater discharge regulations through Resolution 631 of 2015 10.3 Water resources Figure 10.4 Projected change in water stress by 2020 Figure 10.5 Water resources Figure 10.6 Water withdrawals by sector, 2010-2030 10.3.1 Desalination 10.3.2 Water reuse 10.3.3 Water transfer 10.3.4 Groundwater protection 10.3.5 Reservoirs and storage 10.3.6 Demand management	372 372 373 373 373 373 374 375 376 377 377 377 377 377 377 377 378 378 378
9.8 Data Sources Figure 9.29 Sources of data used in this report 10. COLOMBIA 10.1 Top market opportunities 10.2 Sector structure and regulation Figure 10.1 Water sector structure Figure 10.2 Water sector funding organisations Figure 10.3 Regulations applicable to the water sector 10.2.1 New wastewater discharge regulations through Resolution 631 of 2015 10.3 Water resources Figure 10.4 Projected change in water stress by 2020 Figure 10.5 Water resources Figure 10.6 Water withdrawals by sector, 2010-2030 10.3.1 Desalination 10.3.2 Water transfer 10.3.4 Groundwater protection 10.3.5 Reservoirs and storage 10.3.6 Demand management 10.4 Utility sector	372 372 373 373 373 373 374 375 376 377 377 377 377 377 377 377 377 378 378
9.8 Data Sources Figure 9.29 Sources of data used in this report 10. COLOMBIA 10.1 Top market opportunities 10.2 Sector structure and regulation Figure 10.1 Water sector structure Figure 10.2 Water sector funding organisations Figure 10.3 Regulations applicable to the water sector 10.3 Water resources Figure 10.4 Projected change in water stress by 2020 Figure 10.5 Water resources Figure 10.6 Water withdrawals by sector, 2010-2030 10.3.1 Desalination 10.3.2 Water transfer 10.3.3 Water transfer 10.3.4 Groundwater protection 10.3.5 Reservoirs and storage 10.3.6 Demand management 10.4.1 Utility sector	372 372 373 373 373 373 373 374 375 376 377 377 377 377 377 377 377 377 377
9.8 Data Sources Figure 9.29 Sources of data used in this report 10. COLOMBIA 10.1 Top market opportunities 10.2 Sector structure and regulation Figure 10.1 Water sector structure Figure 10.2 Water sector funding organisations Figure 10.3 Regulations applicable to the water sector 10.2.1 New wastewater discharge regulations through Resolution 631 of 2015 10.3 Water resources Figure 10.4 Projected change in water stress by 2020 Figure 10.5 Water resources Figure 10.6 Water withdrawals by sector, 2010-2030 10.3.1 Desalination 10.3.2 Water transfer 10.3.4 Groundwater protection 10.3.5 Reservoirs and storage 10.3.6 Demand management 10.4 Utility sector	372 372 373 373 373 373 373 374 375 376 377 377 377 377 377 377 377 377 377
9.8 Data Sources Figure 9.29 Sources of data used in this report 10. COLOMBIA 10.1 Top market opportunities 10.2 Sector structure and regulation Figure 10.1 Water sector structure Figure 10.2 Water sector funding organisations Figure 10.3 Regulations applicable to the water sector 10.3 Water resources Figure 10.4 Projected change in water stress by 2020 Figure 10.5 Water resources Figure 10.6 Water withdrawals by sector, 2010-2030 10.3.1 Desalination 10.3.2 Water transfer 10.3.3 Water transfer 10.3.4 Groundwater protection 10.3.5 Reservoirs and storage 10.3.6 Demand management 10.4.1 Utility sector	372 372 373 373 373 373 373 374 375 376 377 377 377 377 377 377 377 377 377
9.8 Data Sources Figure 9.29 Sources of data used in this report 10. COLOMBIA 10.1 Top market opportunities 10.2 Sector structure and regulation Figure 10.1 Water sector structure Figure 10.2 Water sector funding organisations Figure 10.3 Regulations applicable to the water sector 10.2.1 New wastewater discharge regulations through Resolution 631 of 2015 10.3 Water resources Figure 10.4 Projected change in water stress by 2020 Figure 10.5 Water resources Figure 10.6 Water withdrawals by sector, 2010-2030 10.3.1 Desalination 10.3.2 Water reuse 10.3.4 Groundwater protection 10.3.5 Reservoirs and storage 10.3.6 Demand management 10.4.1 Utility sector 10.4.1.1 Water service extension	372 372 373 373 373 373 373 374 375 376 377 377 377 377 377 377 377 377 377
9.8 Data Sources Figure 9.29 Sources of data used in this report 10. COLOMBIA 10.1 Top market opportunities 10.2 Sector structure and regulation Figure 10.1 Water sector structure Figure 10.2 Water sector funding organisations Figure 10.3 Regulations applicable to the water sector 10.2.1 New wastewater discharge regulations through Resolution 631 of 2015 10.3 Water resources Figure 10.4 Projected change in water stress by 2020 Figure 10.5 Water resources Figure 10.6 Water withdrawals by sector, 2010-2030 10.3.1 Desalination 10.3.2 Water reuse 10.3.3 Water transfer 10.3.4 Groundwater protection 10.3.5 Reservoirs and storage 10.3.6 Demand management 10.4.1 Utility sector 10.4.1 Utility sector strategies and investment planning 10.4.1.2 Non-revenue water	372 372 373 373 373 373 373 374 375 376 377 377 377 377 377 377 377 377 377
9.8 Data Sources Figure 9.29 Sources of data used in this report 10. COLOMBIA 10.1 Top market opportunities 10.2 Sector structure and regulation Figure 10.1 Water sector structure Figure 10.2 Water sector funding organisations Figure 10.3 Regulations applicable to the water sector 10.2.1 New wastewater discharge regulations through Resolution 631 of 2015 10.3 Water resources Figure 10.4 Projected change in water stress by 2020 Figure 10.5 Water resources Figure 10.6 Water withdrawals by sector, 2010-2030 10.3.1 Desalination 10.3.2 Water transfer 10.3.3 Water transfer 10.3.4 Groundwater protection 10.3.5 Reservoirs and storage 10.4.1 Utility sector 10.4.1 Utility sector strategies and investment planning 10.4.1.2 Non-revenue water 10.4.1.3 Smart water	372 372 373 373 373 373 373 374 375 376 377 377 377 377 377 377 377 377 377

Figure 10.7 Utility market structure	380
Figure 10.8 Water and wastewater utilities serving greater than 300,000 people	380
Figure 10.9 Utility service performance	381
Figure 10.10 Water supply indicators	381
Figure 10.11 Wastewater service indicators	382
10.4.3 Utility infrastructure	382
Figure 10.12 Major water treatment plants	382
Figure 10.13 Wastewater treatment plants by level of treatment	382
Figure 10.14 Major wastewater treatment plants	383
Figure 10.15 Major desalination plants	383
10.4.4 Utility funding	383
Figure 10.16 Water and wastewater charges for a benchmark user in selected major cities, 2015	383
Figure 10.17 Sources of utility funding Figure 10.18 Sources of debt used to fund utility investments	383
Figure 10.18 Sources of debt used to fund utility investments Figure 10.19 Overseas development assistance for the water and sanitation sector, 2008-2014	384
10.4.5 Utility procurement	385
Figure 10.20 Procurement models used	385
Figure 10.20 Proceeding the fi	385
10.4.6 Private sector participation	386
Figure 10.22 Models of private sector participation	386
10.4.7 Current and future projects	387
Figure 10.23 Future utility investment projects	387
10.5 Industrial water	388
Figure 10.24 Industrial water withdrawals	388
Figure 10.25 Market significance	388
10.5.1 Oil & gas opportunities	389
10.5.2 Other industries	389
10.6 Market participants	390
Figure 10.26 Major companies active in the water sector	390
10.7 Market forecast	392
10.7.1 Future market directions	392
10.7.2 Notes on market forecast	392
Figure 10.27 Market forecast, 2013-2020	393
Figure 10.28 Market forecast breakdown, 2016	394
Figure 10.29 Market forecast data, 2013-2020	395
11. COSTA RICA	397
11.1 Water availability and demand	397
Figure 11.1 Water resources	397
Figure 11.2 Sectoral water withdrawal	397
11.2 Utility sector	397
Figure 11.3 Utility service performance	397
Figure 11.4 Water and wastewater utilities serving greater than 300,000 people	397
11.2.1 Utility water	398
Figure 11.5 Water supply indicators	398
Figure 11.6 Number of people connected to water supply network	398
Figure 11.7 Percentage of people connected to water supply network	399
11.2.2 Utility wastewater	399
Figure 11.8 Wastewater indicators	399
Figure 11.9 Percentage of people connected to sewerage network	400
Figure 11.10 Wastewater treatment plants by level of treatment	400
11.2.3 Utility funding	400
Figure 11.11 Benchmark water and wastewater tariffs for selected major cities, 2015	400
	401
Figure 11.12 Overseas development assistance for the water and sanitation sector, 2008-2014	100
11.3 Market forecast	402
11.3 Market forecast Figure 11.13 Market forecast, 2013-2020	402
11.3 Market forecast	

12. DOMINICAN REPUBLIC

406
406
406
406
40 /

12. DOMINICAN REFOREIC	400
12.1 Water availability and demand	406
Figure 12.1 Water resources	406
Figure 12.2 Sectoral water withdrawal	406
12.2 Utility sector	406
Figure 12.3 Utility service performance	406
Figure 12.4 Water and wastewater utilities serving greater than 300,000 people	406
12.2.1 Utility water	407
Figure 12.5 Water supply indicators	407
Figure 12.6 Number of water connections	407
Figure 12.7 Utility water supply capacity	408
Figure 12.8 Non-revenue water	408
12.2.2 Utility wastewater	409
Figure 12.9 Wastewater indicators	409
Figure 12.10 Volume of wastewater produced	409
Figure 12.11 Percentage of wastewater collected Figure 12.12 Percentage of wastewater treated to secondary level	410
12.2.3 Utility funding	410
Figure 12.13 Benchmark water and wastewater tariffs for selected major cities, 2015	410
Figure 12.14 Overseas development assistance for the water and sanitation sector, 2008–2014	410
12.3 Market forecast	412
Figure 12.15 Market forecast, 2013-2020	412
Figure 12.16 Market forecast breakdown, 2016	413
Figure 12.17 Market forecast data, 2013–2020	414
13. ECUADOR	416
13.1 Water availability and demand Figure 13.1 Water resources	416
Figure 13.1 Water resources Figure 13.2 Sectoral water withdrawal	416
13.2 Utility sector	416
Figure 13.3 Utility service performance	416
Figure 13.4 Water and wastewater utilities serving greater than 300,000 people	416
13.2.1 Utility water	417
Figure 13.5 Water supply indicators	417
13.2.2 Utility wastewater	417
Figure 13.6 Wastewater indicators	417
13.2.3 Utility funding	417
Figure 13.7 Benchmark water and wastewater tariffs for selected major cities, 2015	417
Figure 13.8 Overseas development assistance for the water and sanitation sector, 2008-2014	418
13.3 Current and future projects	418
Figure 13.9 Projects tracked by GWI	418
13.4 Market forecast	419
Figure 13.10 Market forecast, 2013-2020	419
Figure 13.11 Market forecast breakdown, 2016	420
Figure 13.12 Market forecast data, 2013-2020	421
14. EL SALVADOR	423
14.1 Water availability and demand	423
Figure 14.1 Water resources	423
Figure 14.2 Sectoral water withdrawal	423
14.2 Utility sector	423
Figure 14.3 Utility service performance	423
Figure 14.4 Water and wastewater utilities serving greater than 300,000 people	423
14.2.1 Utility water	424
Figure 14.5 Water supply indicators	424
Figure 14.6 Number of people connected to water supply network	424
	425
Figure 14.7 Percentage of people connected to water supply network	
Figure 14.7 Percentage of people connected to water supply network Figure 14.8 Number of water connections Figure 14.9 Utility water supply capacity	425 425 426

	426
Figure 14.11 Non-revenue water	427
14.2.2 Utility wastewater	427
Figure 14.12 Wastewater indicators	427
Figure 14.13 Number of people connected to sewerage network	428
Figure 14.14 Percentage of people connected to sewerage network	428
Figure 14.15 Number of sewerage connections	429
14.2.3 Utility funding	429
Figure 14.16 Benchmark water and wastewater tariffs for selected major cities, 2015	429
Figure 14.17 Overseas development assistance for the water and sanitation sector, 2008-2014	429
14.3 Market forecast	430
Figure 14.18 Market forecast, 2013-2020	430
Figure 14.19 Market forecast breakdown, 2016	431
Figure 14.20 Market forecast data, 2013-2020	432
15. GUATEMALA	434
15.1 Water availability and demand	434
Figure 15.1 Water resources	434
Figure 15.2 Sectoral water withdrawal	434
15.2 Utility sector	434
Figure 15.3 Utility service performance	434
15.2.1 Utility water	434
Figure 15.4 Water supply indicators	434
15.2.2 Utility wastewater	435
Figure 15.5 Wastewater indicators	435
15.2.3 Utility funding	435
Figure 15.6 Overseas development assistance for the water and sanitation sector, 2008-2014	435
15.3 Market forecast	436
Figure 15.7 Market forecast, 2013-2020	436
Figure 15.8 Market forecast breakdown, 2016	437
Figure 15.9 Market forecast data, 2013-2020	438
16. HONDURAS	440
16.1 Water availability and demand	440
Figure 16.1 Water resources	440
Figure 16.2 Sectoral water withdrawal	
	440
16.2 Utility sector	440
Figure 16.3 Utility service performance	440 440
Figure 16.3 Utility service performance Figure 16.4 Water and wastewater utilities serving greater than 300,000 people	440 440 440
Figure 16.3 Utility service performance Figure 16.4 Water and wastewater utilities serving greater than 300,000 people 16.2.1 Utility water	440 440 440 441
Figure 16.3 Utility service performance Figure 16.4 Water and wastewater utilities serving greater than 300,000 people 16.2.1 Utility water Figure 16.5 Water supply indicators	440 440 440 441 441
Figure 16.3 Utility service performance Figure 16.4 Water and wastewater utilities serving greater than 300,000 people 16.2.1 Utility water Figure 16.5 Water supply indicators Figure 16.6 Number of people connected to water supply network	440 440 440 441 441 441
Figure 16.3 Utility service performance Figure 16.4 Water and wastewater utilities serving greater than 300,000 people 16.2.1 Utility water Figure 16.5 Water supply indicators Figure 16.6 Number of people connected to water supply network Figure 16.7 Percentage of people connected to water supply network	440 440 440 441 441 441 442
Figure 16.3 Utility service performance Figure 16.4 Water and wastewater utilities serving greater than 300,000 people 16.2.1 Utility water Figure 16.5 Water supply indicators Figure 16.6 Number of people connected to water supply network Figure 16.7 Percentage of people connected to water supply network Figure 16.8 Number of water connections	440 440 441 441 441 441 442 442
Figure 16.3 Utility service performance Figure 16.4 Water and wastewater utilities serving greater than 300,000 people 16.2.1 Utility water Figure 16.5 Water supply indicators Figure 16.6 Number of people connected to water supply network Figure 16.7 Percentage of people connected to water supply network Figure 16.8 Number of water connections Figure 16.9 Utility water supply capacity	440 440 441 441 441 441 442 442 442 443
Figure 16.3 Utility service performance Figure 16.4 Water and wastewater utilities serving greater than 300,000 people 16.2.1 Utility water Figure 16.5 Water supply indicators Figure 16.6 Number of people connected to water supply network Figure 16.7 Percentage of people connected to water supply network Figure 16.8 Number of water connections Figure 16.9 Utility water supply capacity 16.2.2 Utility wastewater	440 440 441 441 441 441 442 442 442 443 443
Figure 16.3 Utility service performance Figure 16.4 Water and wastewater utilities serving greater than 300,000 people 16.2.1 Utility water Figure 16.5 Water supply indicators Figure 16.6 Number of people connected to water supply network Figure 16.7 Percentage of people connected to water supply network Figure 16.8 Number of water connections Figure 16.9 Utility water supply capacity 16.2.2 Utility wastewater Figure 16.10 Wastewater indicators	440 440 441 441 441 441 442 442 442 443 443 443
Figure 16.3 Utility service performance Figure 16.4 Water and wastewater utilities serving greater than 300,000 people 16.2.1 Utility water Figure 16.5 Water supply indicators Figure 16.6 Number of people connected to water supply network Figure 16.7 Percentage of people connected to water supply network Figure 16.8 Number of water connections Figure 16.9 Utility water supply capacity 16.2.2 Utility wastewater Figure 16.10 Wastewater indicators Figure 16.11 Number of people connected to sewerage network	440 440 441 441 441 441 442 442 442 443 443 443 443
Figure 16.3 Utility service performance Figure 16.4 Water and wastewater utilities serving greater than 300,000 people 16.2.1 Utility water Figure 16.5 Water supply indicators Figure 16.6 Number of people connected to water supply network Figure 16.7 Percentage of people connected to water supply network Figure 16.8 Number of water connections Figure 16.9 Utility water supply capacity 16.2.2 Utility wastewater Figure 16.10 Wastewater indicators Figure 16.11 Number of people connected to sewerage network Figure 16.12 Percentage of people connected to sewerage network	440 440 441 441 441 442 442 442 443 443 443 443 444
Figure 16.3 Utility service performance Figure 16.4 Water and wastewater utilities serving greater than 300,000 people 16.2.1 Utility water Figure 16.5 Water supply indicators Figure 16.6 Number of people connected to water supply network Figure 16.7 Percentage of people connected to water supply network Figure 16.8 Number of water connections Figure 16.9 Utility water supply capacity 16.2.2 Utility wastewater Figure 16.10 Wastewater indicators Figure 16.11 Number of people connected to sewerage network Figure 16.12 Percentage of people connected to sewerage network	440 440 441 441 441 441 442 442 442 443 443 443 443 444 444 445
Figure 16.3 Utility service performance Figure 16.4 Water and wastewater utilities serving greater than 300,000 people 16.2.1 Utility water Figure 16.5 Water supply indicators Figure 16.6 Number of people connected to water supply network Figure 16.7 Percentage of people connected to water supply network Figure 16.8 Number of water connections Figure 16.9 Utility water supply capacity 16.2.2 Utility wastewater Figure 16.10 Wastewater indicators Figure 16.11 Number of people connected to sewerage network Figure 16.12 Percentage of people connected to sewerage network Figure 16.13 Number of sewerage connections	440 440 441 441 441 441 442 442 442 443 443 443 443 444 444 445 445
Figure 16.3 Utility service performance Figure 16.4 Water and wastewater utilities serving greater than 300,000 people 16.2.1 Utility water Figure 16.5 Water supply indicators Figure 16.6 Number of people connected to water supply network Figure 16.7 Percentage of people connected to water supply network Figure 16.7 Percentage of people connected to water supply network Figure 16.8 Number of water connections Figure 16.9 Utility water supply capacity 16.2.2 Utility wastewater Figure 16.10 Wastewater indicators Figure 16.11 Number of people connected to sewerage network Figure 16.12 Percentage of people connected to sewerage network Figure 16.13 Number of sewerage connections 16.2.3 Utility funding Figure 16.14 Benchmark water and wastewater tariffs for selected major cities, 2015	440 440 441 441 441 442 442 442 443 443 443 443 444 444 444
Figure 16.3 Utility service performance Figure 16.4 Water and wastewater utilities serving greater than 300,000 people 16.2.1 Utility water Figure 16.5 Water supply indicators Figure 16.6 Number of people connected to water supply network Figure 16.7 Percentage of people connected to water supply network Figure 16.8 Number of water connections Figure 16.9 Utility water supply capacity 16.2.2 Utility wastewater Figure 16.10 Wastewater indicators Figure 16.11 Number of people connected to sewerage network Figure 16.12 Percentage of people connected to sewerage network Figure 16.13 Number of sewerage connected to sewerage network Figure 16.14 Benchmark water and wastewater tariffs for selected major cities, 2015 Figure 16.15 Overseas development assistance for the water and sanitation sector, 2008-2014	440 440 441 441 441 442 442 442 443 443 443 443 443 444 444
Figure 16.3 Utility service performance Figure 16.4 Water and wastewater utilities serving greater than 300,000 people 16.2.1 Utility water Figure 16.5 Water supply indicators Figure 16.6 Number of people connected to water supply network Figure 16.7 Percentage of people connected to water supply network Figure 16.8 Number of water connections Figure 16.9 Utility water supply capacity 16.2.2 Utility wastewater Figure 16.10 Wastewater indicators Figure 16.11 Number of people connected to sewerage network Figure 16.12 Percentage of people connected to sewerage network Figure 16.13 Number of sewerage connections 16.2.3 Utility funding Figure 16.14 Benchmark water and wastewater tariffs for selected major cities, 2015 Figure 16.15 Overseas development assistance for the water and sanitation sector, 2008-2014 16.2.4 Private sector participation	440 440 441 441 441 442 442 442 443 443 443 443 443 444 445 445 445 445
Figure 16.3 Utility service performance Figure 16.4 Water and wastewater utilities serving greater than 300,000 people 16.2.1 Utility water Figure 16.5 Water supply indicators Figure 16.6 Number of people connected to water supply network Figure 16.7 Percentage of people connected to water supply network Figure 16.8 Number of water connections Figure 16.9 Utility water supply capacity 16.2.2 Utility wastewater Figure 16.10 Wastewater indicators Figure 16.11 Number of people connected to sewerage network Figure 16.12 Percentage of people connected to sewerage network Figure 16.13 Number of sewerage connections 16.2.3 Utility funding Figure 16.14 Benchmark water and wastewater tariffs for selected major cities, 2015 Figure 16.15 Overseas development assistance for the water and sanitation sector, 2008-2014 16.2.4 Private sector participation Figure 16.16 Selected major projects involving private sector participation	440 440 441 441 441 442 442 442 442 443 443 443 443 443 444 444
Figure 16.3 Utility service performance Figure 16.4 Water and wastewater utilities serving greater than 300,000 people 16.2.1 Utility water Figure 16.5 Water supply indicators Figure 16.6 Number of people connected to water supply network Figure 16.7 Percentage of people connected to water supply network Figure 16.8 Number of water connections Figure 16.9 Utility water supply capacity 16.2.2 Utility wastewater Figure 16.10 Wastewater indicators Figure 16.11 Number of people connected to sewerage network Figure 16.12 Percentage of people connected to sewerage network Figure 16.13 Number of sewerage connections 16.2.3 Utility funding Figure 16.14 Benchmark water and wastewater tariffs for selected major cities, 2015 Figure 16.15 Overseas development assistance for the water and sanitation sector, 2008-2014 16.2.4 Private sector participation	440 440 441 441 441 442 442 442 443 443 443 443 443 444 444
Figure 16.3 Utility service performance Figure 16.4 Water and wastewater utilities serving greater than 300,000 people 16.2.1 Utility water Figure 16.5 Water supply indicators Figure 16.6 Number of people connected to water supply network Figure 16.7 Percentage of people connected to water supply network Figure 16.8 Number of water connections Figure 16.9 Utility water supply capacity 16.2.2 Utility wastewater Figure 16.10 Wastewater indicators Figure 16.11 Number of people connected to sewerage network Figure 16.12 Percentage of people connected to sewerage network Figure 16.13 Number of people connected to sewerage network Figure 16.14 Benchmark water and wastewater tariffs for selected major cities, 2015 Figure 16.14 Benchmark water and wastewater tariffs for selected major cities, 2015 Figure 16.15 Overseas development assistance for the water and sanitation sector, 2008-2014 16.2.4 Private sector participation Figure 16.16 Selected major projects involving private sector participation 16.3 Market forecast Figure 16.17 Market forecast, 2013-2020	440 440 441 441 441 441 442 442 442 443 443 443 443 443 444 444
Figure 16.3 Utility service performance Figure 16.4 Water and wastewater utilities serving greater than 300,000 people 16.2.1 Utility water Figure 16.5 Water supply indicators Figure 16.6 Number of people connected to water supply network Figure 16.7 Percentage of people connected to water supply network Figure 16.8 Number of water connections Figure 16.9 Utility water supply capacity 16.2.2 Utility wastewater Figure 16.10 Wastewater indicators Figure 16.11 Number of people connected to sewerage network Figure 16.12 Percentage of people connected to sewerage network Figure 16.13 Number of sewerage connections 16.2.3 Utility funding Figure 16.14 Benchmark water and wastewater tariffs for selected major cities, 2015 Figure 16.15 Overseas development assistance for the water and sanitation sector, 2008-2014 16.2.4 Private sector participation Figure 16.16 Selected major projects involving private sector participation	440 440 441 441 441 441 442 442 442 442 443 443 443 443 444 444

451

17. MEXICO

17.1 Top market opportunities	451
17.2 Sector structure and regulation	451
Figure 17.1 Water sector structure	451
Figure 17.2 Water sector funding organisations	452
Figure 17.3 Regulations applicable to the water sector	453
17.2.1 Enforcement of existing water regulations in industry	453
17.2.2 2012 Public-Private Partnership Law	454
17.2.3 New General Water Law	454
17.3 Water resources	454
Figure 17.4 Projected change in water stress by 2020	454
Figure 17.5 Water resources	455
Figure 17.6 Water withdrawals by sector, 2010–2030	455
17.3.1 Desalination	455
17.3.2 Water reuse	456
17.3.3 Water transfer	456
17.3.4 Groundwater protection	456
17.3.5 Reservoirs and storage	456
17.3.6 Demand management	456
17.4 Utility sector	457
17.4.1 Utility sector strategies and investment planning	457
17.4.1 Water service extension	457
17.4.1.2 Non-revenue water	457
17.4.1.3 Smart water	457
17.4.1.4 Wastewater treatment	457
17.4.1.5 Wastewater polishing	457
17.4.2 Utility sector structure and performance	458
Figure 17.7 Utility market structure	458
Figure 17.8 Water and wastewater utilities serving greater than 300,000 people	458
Figure 17.9 Utility service performance	460
Figure 17.10 Water supply indicators	460
Figure 17.11 Wastewater service indicators	461
17.4.3 Utility infrastructure	461
Figure 17.12 Major water treatment plants	461
Figure 17.13 Wastewater treatment plants by level of treatment	462
Figure 17.14 Major wastewater treatment plants	462
Figure 17.15 Major desalination plants	462
Figure 17.16 Major water reuse plants	463
17.4.4 Utility funding	463
Figure 17.17 Water and wastewater charges for a benchmark user in selected major cities, 2015	463
Figure 17.18 Sources of utility funding	464
Figure 17.19 Sources of debt used to fund utility investments	464
Figure 17.20 Overseas development assistance for the water and sanitation sector, 2008-2014	464
17.4.5 Utility procurement	465
Figure 17.21 Procurement models used	465
Figure 17.22 Criteria for comparing bids on construction contracts	465
17.4.6 Private sector participation	466
Figure 17.23 Models of private sector participation	466
Figure 17.24 Private sector participation models currently in play in Mexico's water sector	467
17.4.7 Current and future projects	468
Figure 17.25 Future utility investment projects	468
17.5 Industrial water	471
Figure 17.26 Industrial water market significance	471
17.5.1 Oil & gas sector	471
17.5.1.1 Oil sector reform	471
17.5.1.2 Pemex/Global Water Development Partners joint venture	471
17.5.1.3 Upstream opportunities	472
17.5.1.4 Downstream opportunities	472
Downsulean opportunities	4/2

17.5.2 Other industries	472
17.5.2.1 Auto manufacturing	472
17.5.2.2 Food & beverage	473
17.5.2.3 Mining	473
17.6 Market participants	473
Figure 17.27 Major companies active in the water sector	473
17.7 Market forecast	476
17.7.1 Future market directions	476
17.7.2 Notes on market forecast	476
Figure 17.28 Market forecast, 2013-2020	477
Figure 17.29 Market forecast breakdown, 2016	478
Figure 17.30 Market forecast data, 2013-2020	479
18. PANAMA	481
18.1 Water availability and demand	481
Figure 18.1 Water resources	481
Figure 18.2 Sectoral water withdrawal	481
18.2 Utility sector	481
Figure 18.3 Utility service performance	481
Figure 18.4 Water and wastewater utilities serving greater than 300,000 people	481
18.2.1 Utility water	482
Figure 18.5 Water supply indicators	482
Figure 18.6 Number of people connected to water supply network	482
Figure 18.7 Percentage of people connected to water supply network	483
Figure 18.8 Number of water connections	483
Figure 18.9 Utility water supply capacity	484
Figure 18.10 Meter coverage	484
Figure 18.11 Non-revenue water	485
18.2.2 Utility wastewater	485
Figure 18.12 Wastewater indicators	485
Figure 18.13 Number of people connected to sewerage network	486
Figure 18.14 Percentage of people connected to sewerage network	486
Figure 18.15 Number of sewerage connections	487
18.2.3 Utility funding	487
Figure 18.16 Benchmark water and wastewater tariffs for selected major cities, 2015	487
Figure 18.17 Overseas development assistance for the water and sanitation sector, 2008-2014	487
18.2.4 Private sector participation	488
Figure 18.18 Selected major projects involving private sector participation	488
18.3 Current and future projects	488
Figure 18.19 Projects tracked by GWI	488
18.4 Market forecast	489
Figure 18.20 Market forecast, 2013–2020	489
Figure 18.21 Market forecast breakdown, 2016	490
Figure 18.22 Market forecast data, 2013-2020	491
19. PARAGUAY	493
19.1 Water availability and demand	493
Figure 19.1 Water resources	493
Figure 19.2 Sectoral water withdrawal	493
19.2 Utility sector	493
Figure 19.3 Utility service performance	493
Figure 19.4 Water and wastewater utilities serving greater than 300,000 people	493
19.2.1 Utility water	494
Figure 19.5 Water supply indicators	494
Figure 19.6 Number of people connected to water supply network	494
Figure 19.7 Percentage of people connected to water supply network	495
Figure 19.8 Number of water connections	495
19.2.2 Utility wastewater	496
Figure 19.9 Wastewater indicators	496

Figure 19.10 Number of people connected to sewerage network	496
Figure 19.11 Percentage of people connected to sewerage network	497
Figure 19.12 Number of sewerage connections	497
19.2.3 Utility funding	497
Figure 19.13 Benchmark water and wastewater tariffs for selected major cities, 2015	497
Figure 19.14 Overseas development assistance for the water and sanitation sector, 2008-2014	498
19.3 Current and future projects	498
Figure 19.15 Projects tracked by GWI	498
19.4 Market forecast	499
Figure 19.16 Market forecast, 2013-2020	499
Figure 19.17 Market forecast breakdown, 2016	500
Figure 19.18 Market forecast data, 2013–2020	501
20. PERU	503
20.1 Top market opportunities	503
20.2 Sector structure and regulation	503
Figure 20.1 Water sector structure	503
Figure 20.2 Water sector funding organisations	504
Figure 20.3 Regulations applicable to the water sector	504
20.3 Water resources	507
Figure 20.4 Projected change in water stress by 2020	507
Figure 20.5 Water resources	507
Figure 20.6 Water withdrawals by sector, 2010–2030	507
20.3.1 Desalination	508
20.3.2 Water reuse	508
20.3.3 Water transfer	509
20.3.4 Groundwater protection	509
20.3.5 Reservoirs and storage	510
20.3.6 Demand management	510
20.4 Utility sector	510
	510
20.4.1 Utility sector strategies and investment planning 20.4.1.1 Water service extension	510
20.4.1.2 Wastewater treatment	510
	510
20.4.1.3 Wastewater polishing	
20.4.1.4 Asset management	511
20.4.1.5 Smart water	511
20.4.1.6 Non-revenue water	511
20.4.1.7 Wastewater networks	511
20.4.2 Utility sector structure and performance	511
Figure 20.7 Utility market structure	511
Figure 20.8 Water and wastewater utilities serving greater than 300,000 people	511
Figure 20.9 Utility service performance	512
Figure 20.10 Water supply indicators	512
Figure 20.11 Wastewater service indicators	513
20.4.3 Utility infrastructure	513
Figure 20.12 Major water treatment plants	513
Figure 20.13 Wastewater treatment plants by level of treatment	513
Figure 20.14 Major wastewater treatment plants	514
Figure 20.15 Major desalination plants	514
20.4.4 Utility funding	514
Figure 20.16 Water and wastewater charges for a benchmark user in selected major cities, 2015	514
Figure 20.17 Sources of utility funding	514
Figure 20.18 Sources of debt used to fund utility investments	514
Figure 20.19 Overseas development assistance for the water and sanitation sector, 2008-2014	515
20.4.5 Utility procurement	515
Figure 20.20 Procurement models used	515
Figure 20.21 Criteria for comparing bids on construction contracts	516
20.4.6 Private sector participation	516
	516

20.4.7 Current and future projects	517
Figure 20.23 Future utility investment projects	517
20.5 Industrial water	520
Figure 20.24 Industrial water market significance	520
20.6 Market participants	521
Figure 20.25 Major companies active in the water sector	521
20.7 Market forecast	522
20.7.1 Future market directions	522
20.7.2 Notes on market forecast	522
Figure 20.26 Market forecast, 2013–2020	523
Figure 20.27 Market forecast breakdown, 2016	523
Figure 20.28 Market forecast data, 2013-2020	525
21. TRINIDAD AND TOBAGO	527
21.1 Water availability and demand	527
Figure 21.1 Water resources	527
Figure 21.2 Sectoral water withdrawal	527
21.2 Utility sector	527
Figure 21.3 Utility service performance	527
21.2.1 Utility water	527
Figure 21.4 Water supply indicators	527
Figure 21.5 Number of people connected to water supply network	528
Figure 21.6 Percentage of people connected to water supply network	528
21.2.2 Utility wastewater	529
Figure 21.7 Wastewater indicators	529
21.2.3 Utility funding	529
Figure 21.8 Overseas development assistance for the water and sanitation sector, 2008-2014	529
21.3 Market forecast	530
Figure 21.9 Market forecast, 2013-2020	530
Figure 21.10 Market forecast breakdown, 2016	531
Figure 21.10 Market forecast breakdown, 2016 Figure 21.11 Market forecast data, 2013-2020	531 532
Figure 21.11 Market forecast data, 2013-2020	532
Figure 21.11 Market forecast data, 2013-2020 22. UNITED STATES	532 534
Figure 21.11 Market forecast data, 2013-2020 22. UNITED STATES 22.1 Top market opportunities	532 534 534
Figure 21.11 Market forecast data, 2013-2020 22. UNITED STATES 22.1 Top market opportunities 22.2 Sector structure and regulation	532 534 534 535
Figure 21.11 Market forecast data, 2013-2020 22. UNITED STATES 22.1 Top market opportunities 22.2 Sector structure and regulation Figure 22.1 Water sector structure	532 534 535 535 535
Figure 21.11 Market forecast data, 2013-2020 22. UNITED STATES 22.1 Top market opportunities 22.2 Sector structure and regulation Figure 22.1 Water sector structure Figure 22.2 Water sector funding organisations	532 534 535 535 535 536
Figure 21.11 Market forecast data, 2013-2020 22. UNITED STATES 22.1 Top market opportunities 22.2 Sector structure and regulation Figure 22.1 Water sector structure Figure 22.2 Water sector funding organisations Figure 22.3 Regulations applicable to the water sector	532 534 534 535 535 536 536
Figure 21.11 Market forecast data, 2013-2020 22. UNITED STATES 22.1 Top market opportunities 22.2 Sector structure and regulation Figure 22.1 Water sector structure Figure 22.2 Water sector funding organisations Figure 22.3 Regulations applicable to the water sector 22.3 Water resources	532 534 534 535 535 536 536 536 539
Figure 21.11 Market forecast data, 2013-2020 22. UNITED STATES 22.1 Top market opportunities 22.2 Sector structure and regulation Figure 22.1 Water sector structure Figure 22.1 Water sector structure Figure 22.2 Water sector funding organisations Figure 22.3 Regulations applicable to the water sector 22.3 Water resources Figure 22.4 Projected change in water stress by 2020	532 534 535 535 535 536 536 536 539 539
Figure 21.11 Market forecast data, 2013-2020 22. UNITED STATES 22.1 Top market opportunities 22.2 Sector structure and regulation Figure 22.1 Water sector structure Figure 22.1 Water sector structure Figure 22.2 Water sector funding organisations Figure 22.3 Regulations applicable to the water sector 22.3 Water resources Figure 22.4 Projected change in water stress by 2020 Figure 22.5 Water resources	532 534 535 535 535 536 536 536 539 539 539 539
Figure 21.11 Market forecast data, 2013-2020 22. UNITED STATES 22.1 Top market opportunities 22.2 Sector structure and regulation Figure 22.1 Water sector structure Figure 22.2 Water sector funding organisations Figure 22.3 Regulations applicable to the water sector 22.3 Water resources Figure 22.4 Projected change in water stress by 2020 Figure 22.5 Water resources Figure 22.6 Water withdrawals by sector, 2010-2030	532 534 535 535 536 536 536 539 539 539 539 539 540
Figure 21.11 Market forecast data, 2013-2020 22. UNITED STATES 22.1 Top market opportunities 22.2 Sector structure and regulation Figure 22.1 Water sector structure Figure 22.1 Water sector structure Figure 22.2 Water sector funding organisations Figure 22.2 Water sector funding organisations Figure 22.3 Regulations applicable to the water sector 22.3 Water resources Figure 22.4 Projected change in water stress by 2020 Figure 22.5 Water resources Figure 22.6 Water withdrawals by sector, 2010-2030 22.3.1 Desalination	532 534 535 535 536 536 536 539 539 539 539 539 540 540
Figure 21.11 Market forecast data, 2013-2020 22. UNITED STATES 22.1 Top market opportunities 22.2 Sector structure and regulation Figure 22.1 Water sector structure Figure 22.1 Water sector structure Figure 22.2 Water sector funding organisations Figure 22.2 Water sector funding organisations Figure 22.3 Regulations applicable to the water sector 22.3 Water resources Figure 22.4 Projected change in water stress by 2020 Figure 22.5 Water resources Figure 22.6 Water withdrawals by sector, 2010-2030 22.3.1 Desalination 22.3.2 Water reuse	532 534 535 535 536 536 536 539 539 539 539 539 540 540 541
Figure 21.11 Market forecast data, 2013-2020 22. UNITED STATES 22.1 Top market opportunities 22.2 Sector structure and regulation Figure 22.1 Water sector structure Figure 22.1 Water sector structure Figure 22.2 Water sector funding organisations Figure 22.2 Water sector funding organisations Figure 22.3 Regulations applicable to the water sector 22.3 Water resources Figure 22.4 Projected change in water stress by 2020 Figure 22.5 Water resources Figure 22.6 Water withdrawals by sector, 2010-2030 22.3.1 Desalination	532 534 535 535 536 536 536 539 539 539 539 539 539 539 540 540 540 541
Figure 21.11 Market forecast data, 2013-2020 22. UNITED STATES 22.1 Top market opportunities 22.2 Sector structure and regulation Figure 22.1 Water sector structure Figure 22.1 Water sector structure Figure 22.2 Water sector funding organisations Figure 22.2 Water sector funding organisations Figure 22.3 Regulations applicable to the water sector 22.3 Water resources Figure 22.4 Projected change in water stress by 2020 Figure 22.5 Water resources Figure 22.6 Water withdrawals by sector, 2010-2030 22.3.1 Desalination 22.3.2 Water reuse	532 534 535 535 536 536 536 539 539 539 539 539 540 540 541
Figure 21.11 Market forecast data, 2013-2020 22. UNITED STATES 22.1 Top market opportunities 22.2 Sector structure and regulation Figure 22.1 Water sector structure Figure 22.2 Water sector funding organisations Figure 22.3 Regulations applicable to the water sector 22.3 Water resources Figure 22.4 Projected change in water stress by 2020 Figure 22.5 Water resources Figure 22.6 Water withdrawals by sector, 2010-2030 22.3.1 Desalination 22.3.2 Water reuse 22.3.3 Water transfer	532 534 535 535 536 536 536 539 539 539 539 539 539 539 540 540 540 541
Figure 21.11 Market forecast data, 2013-2020 22. UNITED STATES 22.1 Top market opportunities 22.2 Sector structure and regulation Figure 22.1 Water sector structure Figure 22.2 Water sector funding organisations Figure 22.3 Regulations applicable to the water sector 22.3 Water resources Figure 22.4 Projected change in water stress by 2020 Figure 22.5 Water resources Figure 22.6 Water withdrawals by sector, 2010-2030 22.3.1 Desalination 22.3.2 Water reuse 22.3.3 Water transfer 22.3.4 Groundwater protection	532 534 535 535 535 536 536 536 539 539 539 539 539 539 539 539 540 540 541 541
Figure 21.11 Market forecast data, 2013-2020 22. UNITED STATES 22.1 Top market opportunities 22.2 Sector structure and regulation Figure 22.1 Water sector structure Figure 22.2 Water sector funding organisations Figure 22.3 Regulations applicable to the water sector 22.3 Water resources Figure 22.4 Projected change in water stress by 2020 Figure 22.5 Water resources Figure 22.6 Water withdrawals by sector, 2010-2030 22.3.1 Desalination 22.3.2 Water reuse 22.3.3 Water transfer 22.3.4 Groundwater protection 22.3.5 Reservoirs and storage	532 534 535 535 536 536 536 539 539 539 539 539 539 539 539 540 541 541 541 541 542
Figure 21.11 Market forecast data, 2013-2020 22. UNITED STATES 22.1 Top market opportunities 22.2 Sector structure and regulation Figure 22.1 Water sector structure Figure 22.2 Water sector funding organisations Figure 22.3 Regulations applicable to the water sector 22.3 Water resources Figure 22.4 Projected change in water stress by 2020 Figure 22.5 Water resources Figure 22.6 Water withdrawals by sector, 2010-2030 22.3.1 Desalination 22.3.2 Water transfer 22.3.4 Groundwater protection 22.3.5 Reservoirs and storage 22.3.6 Demand management 22.4 Utility sector	532 534 535 535 536 536 536 539 539 539 539 539 540 540 540 541 541 541 541 542 542 542
Figure 21.11 Market forecast data, 2013-2020 22. UNITED STATES 22.1 Top market opportunities 22.2 Sector structure and regulation Figure 22.1 Water sector structure Figure 22.2 Water sector funding organisations Figure 22.3 Regulations applicable to the water sector 22.3 Water resources Figure 22.4 Projected change in water stress by 2020 Figure 22.5 Water resources Figure 22.6 Water withdrawals by sector, 2010-2030 22.3.1 Desalination 22.3.2 Water reuse 22.3.3 Water transfer 22.3.4 Groundwater protection 22.3.5 Reservoirs and storage 22.3.6 Demand management 22.4.1 Utility sector 22.4.1 Utility sector strategies and investment planning	532 534 535 535 536 536 536 539 539 539 539 539 540 540 540 541 541 541 541 541 542 542 542 542
Figure 21.11 Market forecast data, 2013-2020 22. UNITED STATES 22.1 Top market opportunities 22.2 Sector structure and regulation Figure 22.1 Water sector structure Figure 22.2 Water sector funding organisations Figure 22.3 Regulations applicable to the water sector 22.3 Water resources Figure 22.4 Projected change in water stress by 2020 Figure 22.5 Water resources Figure 22.6 Water withdrawals by sector, 2010-2030 22.3.1 Desalination 22.3.2 Water reuse 22.3.3 Water transfer 22.3.4 Groundwater protection 22.3.5 Reservoirs and storage 22.3.6 Demand management 22.4.1 Utility sector 22.4.1.1 Water networks	532 534 535 535 536 536 536 539 539 539 539 540 540 540 541 541 541 541 541 542 542 542 542 542 542
Figure 21.11 Market forecast data, 2013-2020 22. UNITED STATES 22.1 Top market opportunities 22.2 Sector structure and regulation Figure 22.1 Water sector structure Figure 22.2 Water sector funding organisations Figure 22.3 Regulations applicable to the water sector 22.3 Water resources Figure 22.4 Projected change in water stress by 2020 Figure 22.5 Water resources Figure 22.6 Water withdrawals by sector, 2010-2030 22.3.1 Desalination 22.3.2 Water reuse 22.3.3 Water transfer 22.3.4 Groundwater protection 22.3.5 Reservoirs and storage 22.3.6 Demand management 22.4.1 Utility sector 22.4.1 Utility sector strategies and investment planning 22.4.1.2 Wastewater infrastructure	532 534 535 535 535 536 536 536 539 539 539 539 539 539 539 539 539 539
Figure 21.11 Market forecast data, 2013-2020 22. UNITED STATES 22.1 Top market opportunities 22.2 Sector structure and regulation Figure 22.1 Water sector structure Figure 22.2 Water sector funding organisations Figure 22.3 Regulations applicable to the water sector 22.3 Water resources Figure 22.4 Projected change in water stress by 2020 Figure 22.5 Water resources Figure 22.6 Water withdrawals by sector, 2010-2030 22.3.1 Desalination 22.3.2 Water reuse 22.3.3 Water transfer 22.3.4 Groundwater protection 22.3.5 Reservoirs and storage 22.3.4 Groundwater protection 22.3.5 Lemand management 22.4.1 Utility sector 22.4.1 Utility sector strategies and investment planning 22.4.1.2 Wastewater infrastructure 22.4.1.3 Stormwater management	532 534 535 535 535 536 536 539 539 539 539 539 539 539 540 540 541 541 541 541 541 541 542 542 542 542 542 542 543 543
Figure 21.11 Market forecast data, 2013-2020 22. UNITED STATES 22.1 Top market opportunities 22.2 Sector structure and regulation Figure 22.1 Water sector structure Figure 22.2 Water sector funding organisations Figure 22.3 Regulations applicable to the water sector 22.3 Water resources Figure 22.4 Projected change in water stress by 2020 Figure 22.5 Water resources Figure 22.6 Water withdrawals by sector, 2010-2030 22.3.1 Desalination 22.3.2 Water reuse 22.3.3 Water transfer 22.3.4 Groundwater protection 22.3.5 Reservoirs and storage 22.4.1 Utility sector strategies and investment planning 22.4.1.1 Water networks 22.4.1.2 Wastewater infrastructure 22.4.1.3 Stormwater management 22.4.2 Utility sector structure and performance	532 534 535 535 536 536 536 539 539 539 539 539 539 540 540 541 541 541 541 541 541 542 542 542 542 542 542 543 543 543
Figure 21.11 Market forecast data, 2013-2020 22. UNITED STATES 22.1 Top market opportunities 22.2 Sector structure and regulation Figure 22.1 Water sector structure Figure 22.2 Water sector funding organisations Figure 22.3 Regulations applicable to the water sector 22.3 Water resources Figure 22.4 Projected change in water stress by 2020 Figure 22.5 Water resources Figure 22.6 Water withdrawals by sector, 2010-2030 22.3.1 Desalination 22.3.2 Water reuse 22.3.3 Water transfer 22.3.4 Groundwater protection 22.3.5 Reservoirs and storage 22.3.6 Demand management 22.4.1 Utility sector 22.4.1 Utility sector strategies and investment planning 22.4.1.2 Wastewater infrastructure 22.4.1.3 Stormwater management 22.4.2.Utility sector structure and performance Figure 22.7 Utility market structure	532 534 535 535 536 536 536 539 539 539 539 539 540 540 540 541 541 541 541 541 541 542 542 542 542 542 542 543 543 543 543
Figure 21.11 Market forecast data, 2013-2020 22. UNITED STATES 22.1 Top market opportunities 22.2 Sector structure and regulation Figure 22.1 Water sector structure Figure 22.2 Water sector funding organisations Figure 22.3 Regulations applicable to the water sector 22.3 Water resources Figure 22.4 Projected change in water stress by 2020 Figure 22.5 Water resources Figure 22.6 Water withdrawals by sector, 2010-2030 22.3.1 Desalination 22.3.2 Water reuse 22.3.3 Water transfer 22.3.4 Groundwater protection 22.3.5 Reservoirs and storage 22.4.1 Utility sector 22.4.1 Utility sector strategies and investment planning 22.4.1.1 Water networks 22.4.1.2 Water management 22.4.1.2 Water management 22.4.1.2 Water and performance Figure 22.7 Utility market structure Figure 22.7 Utility market structure Figure 22.7 Utility market structure Figure 22.8 Water and wastewater utilities serving greater than 1 million people	532 534 535 535 536 536 536 539 539 539 539 540 540 540 540 541 541 541 541 541 542 542 542 542 542 542 542 543 543 543 543
Figure 21.11 Market forecast data, 2013-2020 22. UNITED STATES 22.1 Top market opportunities 22.2 Sector structure and regulation Figure 22.1 Water sector structure Figure 22.2 Water sector funding organisations Figure 22.3 Regulations applicable to the water sector 22.3 Water resources Figure 22.4 Projected change in water stress by 2020 Figure 22.5 Water resources Figure 22.6 Water withdrawals by sector, 2010-2030 22.3.1 Desalination 22.3.2 Water reuse 22.3.3 Water transfer 22.3.4 Groundwater protection 22.3.5 Reservoirs and storage 22.3.4 Utility sector 22.4.1 Utility sector strategies and investment planning 22.4.1 Utility sector structure 22.4.1.1 Water networks 22.4.1.2 Wastewater infrastructure 22.4.1.3 Stormwater management 22.4.2.Utility sector structure and performance Figure 22.8 Water and wastewater utilities serving greater than 1 million people Figure 22.9 Utility service performance	532 534 535 535 536 536 539 539 539 539 539 540 540 540 540 541 541 541 541 541 541 542 542 542 542 542 542 542 543 543 543 543 543 543
Figure 21.11 Market forecast data, 2013-2020 22. UNITED STATES 22.1 Top market opportunities 22.2 Sector structure and regulation Figure 22.1 Water sector structure Figure 22.2 Water sector funding organisations Figure 22.3 Regulations applicable to the water sector 22.3 Water resources Figure 22.4 Projected change in water stress by 2020 Figure 22.5 Water resources Figure 22.6 Water withdrawals by sector, 2010-2030 22.3.1 Desalination 22.3.2 Water reuse 22.3.3 Water transfer 22.3.4 Groundwater protection 22.3.5 Reservoirs and storage 22.4.1 Utility sector 22.4.1 Utility sector strategies and investment planning 22.4.1.1 Water networks 22.4.1.2 Water management 22.4.1.3 Stormwater management 22.4.2.4.11 Water metworks 22.4.1.2 Water and performance Figure 22.7 Utility market structure Figure 22.7 Utility market structure Figure 22.8 Water and wastewater utilities serving greater than 1 million people	532 534 535 535 536 536 536 539 539 539 539 540 540 540 540 541 541 541 541 541 542 542 542 542 542 542 542 543 543 543 543

22.4.3 Utility infrastructure	546
Figure 22.12 Major water treatment plants	546
Figure 22.13 Wastewater treatment plants by level of treatment	546
Figure 22.14 Major wastewater treatment plants	547
Figure 22.15 Major desalination plants	547
Figure 22.16 Major water reuse plants	548
22.4.4 Utility funding	548
Figure 22.17 Water and wastewater charges for a benchmark user in selected major cities, 2015	548
Figure 22.18 Sources of utility funding	549
Figure 22.19 Sources of debt used to fund utility investments	549
Figure 22.20 Survey of public spending on construction put in place, 2005–2015	550
22.4.4.1 Federal/state funding	550
22.4.4.2 Bond issuance	550
22.4.4.3 Tariffs	550
22.4.4 Developer contributions	551
22.4.5 Utility procurement	551
Figure 22.21 Procurement models used	551
Figure 22.22 Criteria for comparing bids on construction contracts	551
22.4.6 Private sector participation	552
Figure 22.23 Models of private sector participation	552
22.4.6.1 Investor-owned utilities	553
	553
22.4.6.2 Utility leases	
22.4.6.3 Contract operations	553
22.4.6.4 Privately financed projects	554
22.4.7 Current and future projects	554
Figure 22.24 Future utility investment projects	554
22.5 Industrial water	602
Figure 22.25 Industrial water withdrawals	602
Figure 22.26 Industrial water market significance	602
22.5.1 Upstream oil & gas	602
22.5.2 Refining & petrochemicals	603
22.5.3 Power	603
22.5.4 Mining	603
22.6 Market participants	604
Figure 22.27 Major companies active in the water sector	604
22.7 Market forecast	608
22.7.1 Future market directions	608
22.7.2 Notes on market forecast	608
Figure 22.28 Market forecast, 2013-2020	609
Figure 22.29 Market forecast breakdown, 2016	610
Figure 22.30 Market forecast data, 2013–2020	611
22.8 Data Sources	613
Figure 22.31 Sources of data used in this report	613
23. URUGUAY	614
23.1 Water availability and demand	614
Figure 23.1 Water resources	614
Figure 23.2 Sectoral water withdrawal	614
23.2 Utility sector	614
Figure 23.3 Utility service performance	614
Figure 23.4 Water and wastewater utilities serving greater than 300,000 people	614
23.2.1 Utility water	615
	615
Figure 23.5 Water supply indicators	
23.2.2 Utility wastewater	615
Figure 23.6 Wastewater indicators	615
23.2.3 Utility funding	615
Figure 23.7 Benchmark water and wastewater tariffs for selected major cities, 2015	615
Figure 23.8 Overseas development assistance for the water and sanitation sector, 2008-2014	616
23.3 Market forecast	617

Figure 23.9 Market forecast, 2013-2020	617
Figure 23.10 Market forecast breakdown, 2016	618
Figure 23.11 Market forecast data, 2013-2020	619
24. VENEZUELA	621
24.1 Water availability and demand	621
Figure 24.1 Water resources	621
Figure 24.2 Sectoral water withdrawal	621
24.2 Utility sector	621
Figure 24.3 Utility service performance	621
Figure 24.4 Water and wastewater utilities serving greater than 300,000 people	621
24.2.1 Utility water	622
Figure 24.5 Water supply indicators	622
24.2.2 Utility wastewater	622
Figure 24.6 Wastewater indicators	622
24.2.3 Utility funding	622
Figure 24.7 Benchmark water and wastewater tariffs for selected major cities, 2015	622
Figure 24.8 Overseas development assistance for the water and sanitation sector, 2008-2014	623
24.2.4 Private sector participation	623
Figure 24.9 Selected major projects involving private sector participation	623
24.3 Market forecast	624
Figure 24.10 Market forecast, 2013-2020	624
Figure 24.11 Market forecast breakdown, 2016	625
Figure 24.12 Market forecast data, 2013-2020	626

VOLUME 3: EUROPE

25. AUSTRIA	629
26. AZERBAIJAN	640
27. BELARUS	649
28. BELGIUM	660
29. BULGARIA	670
30. CROATIA	683
31. CYPRUS	695
32. CZECH REPUBLIC	702
33. DENMARK	715
34. ESTONIA	726
35. FINLAND	736
36. FRANCE	745
37. GERMANY	766
38. GREECE	786
39. HUNGARY	795
40. IRELAND	809
41. ITALY	822
42. KAZAKHSTAN	844
43. LATVIA	857

44. LITHUANIA	866
45. LUXEMBOURG	873
46. NETHERLANDS	882
47. NORWAY	895
48. POLAND	907
49. PORTUGAL	921
50. ROMANIA	933
51. RUSSIAN FEDERATION	945
52. SERBIA	978
53. SLOVAKIA	992
54. SLOVENIA	1003
55. SPAIN	1015
56. SWEDEN	1039
57. SWITZERLAND	1045
58. UKRAINE	1057
59. UNITED KINGDOM	1072
VOLUME 4: MIDDLE EAST AND AFRICA	
60. ALGERIA	1095
61. ANGOLA	1116
62. BAHRAIN	1125

•=-				

63. CAMEROON	1132
64. CÔTE D'IVOIRE	1139
65. EGYPT	1145
66. ETHIOPIA	1166
67. GHANA	1173
68. IRAN	1180
69. IRAQ	1209
70. ISRAEL	1220
71. JORDAN	1234
72. KENYA	1247
73. KUWAIT	1255

 74. LEBANON
 1266

 75. MOROCCO
 1275

 76. NAMIBIA
 1301

77. NIGERIA	1308
78. OMAN	1329
79. QATAR	1351
80. RWANDA	1368
81. SAUDI ARABIA	1379
82. SOUTH AFRICA	1406
83. TANZANIA	1432
84. TUNISIA	1442
85. TURKEY	1451
86. UGANDA	1464
87. UNITED ARAB EMIRATES	1471
VOLUME 5: ASIA PACIFIC	
88. AUSTRALIA	1493
89. BANGLADESH	1519
90. CHINA	1526
91. HONG KONG	1563
92. INDIA	1576
93. INDONESIA	1626
94. JAPAN	1654
95. MALAYSIA	1675
96. NEW ZEALAND	1696
97. PAKISTAN	1706
98. PHILIPPINES	1716
99. SINGAPORE	1739
100. SOUTH KOREA	1755
101. SRI LANKA	1769
102. TAIWAN	1780
103. THAILAND	1793
104. VIETNAM	1803
INTERVIEWEES	1829
REFERENCES	1832

GLOBAL WATER MARKET 2017

VOLUME 1: COMPANIES AND MARKETS PUBLICATION INFORMATION Ш **EXECUTIVE SUMMARY** VII **1. WATER MARKET OVERVIEW** 1 2. WATER AND WASTEWATER TREATMENT 78 **3. NETWORKS AND ENVIRONMENT** 214 **4. CHEMICALS & CONSUMABLES** 253 **VOLUME 2: THE AMERICAS 5. ARGENTINA** 265 6. BOLIVIA 274 7. BRAZIL 283 8. CANADA 318 9. CHILE 347 **10. COLOMBIA** 373 **11. COSTA RICA** 397 **12. DOMINICAN REPUBLIC** 406 **13. ECUADOR** 416 **14. EL SALVADOR** 423 **15. GUATEMALA** 434 **16. HONDURAS** 440 **17. MEXICO** 451 **18. PANAMA** 481 **19. PARAGUAY** 493 **20. PERU** 503 **21. TRINIDAD AND TOBAGO** 527 **22. UNITED STATES** 534 23. URUGUAY 614 24. VENEZUELA 621

VOLUME 3: EUROPE

PUBLICATION INFORMATION	П
Unit conversion factors used in this publication:	iii
Exchange rates used in this publication:	iii
Indicators of utility service coverage:	iv
Indicators of water service coverage	iv
Indicators of wastewater service coverage	iv
Icons used in this publication:	V
Icons representing market sectors	V
Icons representing technology categories	V
Icons representing technology applications	V
Icons representing sector structure responsibilities	V
Icons representing the scope of private sector participation (PSP) projects	V
Icons representing significance/prevalence	vi
25. AUSTRIA	629
25.1 Water availability and demand	629
Figure 25.1 Water resources	629
Figure 25.2 Sectoral water withdrawal	629
25.2 Utility sector	629
Figure 25.3 Utility service performance	629
Figure 25.4 Water and wastewater utilities serving greater than 300,000 people	629
25.2.1 Utility water	630
Figure 25.5 Water supply indicators	630
Figure 25.6 Number of people connected to water supply network	630
Figure 25.7 Percentage of people connected to water supply network	631
Figure 25.8 Number of water connections	631
Figure 25.9 Utility water supply capacity	632
Figure 25.10 Length of water distribution network	632
25.2.2 Utility wastewater	633
Figure 25.11 Wastewater indicators	633
Figure 25.12 Number of people connected to sewerage network	633
Figure 25.13 Percentage of people connected to sewerage network	634
Figure 25.14 Volume of wastewater produced	634
Figure 25.15 Wastewater treatment plants by level of treatment	634
25.2.3 Utility funding	635
Figure 25.16 Benchmark water and wastewater tariffs for selected major cities, 2015	635
25.2.4 Private sector participation	635
Figure 25.17 Selected major projects involving private sector participation	635
25.3 Market forecast	636
Figure 25.18 Market forecast, 2013-2020	636
Figure 25.19 Market forecast breakdown, 2016	637
Figure 25.20 Market forecast data, 2013-2020	638
26. AZERBAIJAN	640
26.1 Water availability and demand	640
Figure 26.1 Water resources	640
Figure 26.2 Sectoral water withdrawal	640
26.2 Utility sector	640
Figure 26.3 Utility service performance	640
Figure 26.4 Water and wastewater utilities serving greater than 300,000 people	640
26.2.1 Utility water	641
Figure 26.5 Water supply indicators	641
Figure 26.6 Percentage of people connected to water supply network	641
Figure 26.7 Utility water supply capacity	642
Figure 26.8 Non-revenue water	642
26.2.2 Utility wastewater	643
Figure 26.9 Wastewater indicators	643

Figure 26.10 Volume of wastewater produced Figure 26.11 Percentage of wastewater collected	643
· · ·	
26.2.3 Utility funding	644
Figure 26.12 Benchmark water and wastewater tariffs for selected major cities, 2015	644
Figure 26.13 Overseas development assistance for the water and sanitation sector, 2008–2014	644
26.3 Market forecast	645
Figure 26.14 Market forecast, 2013-2020	645
Figure 26.15 Market forecast breakdown, 2016	646
Figure 26.16 Market forecast data, 2013-2020	647
27. BELARUS	649
27.1 Water availability and demand	649
Figure 27.1 Water resources	649
Figure 27.2 Sectoral water withdrawal	649
27.2 Utility sector	649
Figure 27.3 Utility service performance	649
Figure 27.4 Water and wastewater utilities serving greater than 300,000 people	649
27.2.1 Utility water	650
Figure 27.5 Water supply indicators	650
Figure 27.6 Number of people connected to water supply network	650
Figure 27.7 Percentage of people connected to water supply network	651
Figure 27.8 Utility water supply capacity	651
Figure 27.9 Non-revenue water	652
27.2.2 Utility wastewater	652
Figure 27.10 Wastewater indicators	652
Figure 27.11 Number of people connected to sewerage network	653
Figure 27.12 Percentage of people connected to sewerage network	653
Figure 27.13 Volume of wastewater produced	654
Figure 27.14 Percentage of wastewater treated to secondary level	654
27.2.3 Utility funding	655
Figure 27.15 Benchmark water and wastewater tariffs for selected major cities, 2015	655
Figure 27.16 Overseas development assistance for the water and sanitation sector, 2008-2014	655
27.3 Market forecast	656
Figure 27.17 Market forecast, 2013-2020	656
Figure 27.18 Market forecast breakdown, 2016	657
Figure 27.19 Market forecast data, 2013–2020	658
28. BELGIUM	660
28.1 Water availability and demand	660
Figure 28.1 Water resources	660
Figure 28.2 Sectoral water withdrawal	660
28.2 Utility sector	660
Figure 28.3 Utility service performance	660
Figure 28.4 Water and wastewater utilities serving greater than 300,000 people	660
28.2.1 Utility water	661
Figure 28.5 Water supply indicators	661
Figure 28.6 Number of people connected to water supply network	661
Figure 28.7 Percentage of people connected to water supply network	662
Figure 28.8 Number of water connections	662
Figure 28.9 Utility water supply capacity	663
Figure 28.10 Non-revenue water	663
	664
· · · · · · · · · · · · · · · · · · ·	
Figure 28.11 Length of water distribution network	664
Figure 28.11 Length of water distribution network 28.2.2 Utility wastewater	664
Figure 28.11 Length of water distribution network 28.2.2 Utility wastewater Figure 28.12 Wastewater indicators	664
Figure 28.11 Length of water distribution network 28.2.2 Utility wastewater Figure 28.12 Wastewater indicators Figure 28.13 Wastewater treatment plants by level of treatment	664 664
Figure 28.11 Length of water distribution network 28.2.2 Utility wastewater Figure 28.12 Wastewater indicators Figure 28.13 Wastewater treatment plants by level of treatment 28.2.3 Utility funding	664 664 665
Figure 28.11 Length of water distribution network 28.2.2 Utility wastewater Figure 28.12 Wastewater indicators Figure 28.13 Wastewater treatment plants by level of treatment	664 664

28.3 Market forecast Figure 28.16 Market forecast, 2013-2020	666 666
Figure 28.17 Market forecast, 2013-2020 Figure 28.17 Market forecast breakdown, 2016	667
Figure 28.18 Market forecast data, 2013–2020	668
9. BULGARIA	670
29.1 Water availability and demand	670
Figure 29.1 Water resources	670
Figure 29.2 Sectoral water withdrawal	670
29.2 Utility sector	670
Figure 29.3 Utility service performance	670
Figure 29.4 Water and wastewater utilities serving greater than 300,000 people	670
29.2.1 Utility water	671
Figure 29.5 Water supply indicators	671
Figure 29.6 Number of people connected to water supply network	671
Figure 29.7 Percentage of people connected to water supply network	672
Figure 29.8 Utility water supply capacity	672
Figure 29.9 Non-revenue water	673
Figure 29.10 Length of water distribution network	673
29.2.2 Utility wastewater	674
Figure 29.11 Wastewater indicators	674
Figure 29.12 Number of people connected to sewerage network	674
Figure 29.13 Percentage of people connected to sewerage network	675
Figure 29.14 Volume of wastewater produced	675
Figure 29.15 Percentage of wastewater collected	676
Figure 29.16 Percentage of wastewater treated to secondary level	676
Figure 29.17 Percentage of wastewater treated to tertiary level	677
Figure 29.18 Length of sewerage network	677
Figure 29.19 Wastewater treatment plants by level of treatment	677
29.2.3 Utility funding	678
Figure 29.20 Benchmark water and wastewater tariffs for selected major cities, 2015	678
29.2.4 Private sector participation	678
Figure 29.21 Selected major projects involving private sector participation	678
29.3 Market forecast	679
Figure 29.22 Market forecast, 2013-2020	679
Figure 29.23 Market forecast breakdown, 2016	680
Figure 29.24 Market forecast data, 2013-2020	681
0. CROATIA	683
30.1 Water availability and demand	683
Figure 30.1 Water resources	683
Figure 30.2 Sectoral water withdrawal	683
30.2 Utility sector	683
Figure 30.3 Utility service performance	683
Figure 30.4 Water and wastewater utilities serving greater than 300,000 people	683
30.2.1 Utility water	684
Figure 30.5 Water supply indicators	684
Figure 30.6 Percentage of people connected to water supply network	684
Figure 30.7 Number of water connections	685
Figure 30.8 Utility water supply capacity	685
Figure 30.9 Non-revenue water	686
Figure 30.10 Length of water distribution network	686
30.2.2 Utility wastewater	687
Figure 30.11 Wastewater indicators	687
•	
Figure 30.12 Number of sewerage connections	687
Figure 30.13 Percentage of wastewater collected	688
Figure 30-14 Percentage of wastewater treated to secondary level	688
Figure 30.14 Percentage of wastewater treated to secondary level	
Figure 30.15 Percentage of wastewater treated to secondary level Figure 30.16 Length of sewerage network	689 689

Figure 30.17 Wastewater treatment plants by level of treatment	689
30.2.3 Utility funding	690
Figure 30.18 Benchmark water and wastewater tariffs for selected major cities, 2015	690
Figure 30.19 Overseas development assistance for the water and sanitation sector, 2008-2014	690
30.2.4 Private sector participation	690
Figure 30.20 Selected major projects involving private sector participation	690
30.3 Market forecast	691
Figure 30.21 Market forecast, 2013-2020	691
Figure 30.22 Market forecast breakdown, 2016	692
Figure 30.23 Market forecast data, 2013-2020	693
	40E
31. CYPRUS	695
31.1 Water availability and demand	695
Figure 31.1 Water resources	695
Figure 31.2 Sectoral water withdrawal	695
31.2 Utility sector	695
Figure 31.3 Utility service performance	695
Figure 31.4 Water and wastewater utilities serving greater than 300,000 people	695
31.2.1 Utility water	696
Figure 31.5 Water supply indicators	696
Figure 31.6 Utility water supply capacity	696
31.2.2 Utility wastewater	697
Figure 31.7 Wastewater indicators	697
Figure 31.8 Wastewater treatment plants by level of treatment	697
31.2.3 Private sector participation	697
Figure 31.9 Selected major projects involving private sector participation	697
31.3 Current and future projects	697
Figure 31.10 Projects tracked by GWI	697
31.4 Market forecast	698
Figure 31.11 Market forecast, 2013-2020	698
Figure 31.12 Market forecast breakdown, 2016	699
Figure 31.13 Market forecast data, 2013-2020	700
32. CZECH REPUBLIC	702
32.1 Water availability and demand	702
Figure 32.1 Water resources	702
Figure 32.2 Sectoral water withdrawal	702
32.2 Utility sector	702
Figure 32.3 Utility service performance	702
Figure 32.4 Water and wastewater utilities serving greater than 300,000 people	702
32.2.1 Utility water	703
Figure 32.5 Water supply indicators	703
Figure 32.6 Number of people connected to water supply network	703
Figure 32.7 Percentage of people connected to water supply network	704
Figure 32.8 Number of water connections	704
Figure 32.9 Utility water supply capacity	705
Figure 32.10 Meter coverage	705
Figure 32.11 Non-revenue water	706
Figure 32.12 Length of water distribution network	706
32.2.2 Utility wastewater	707
Figure 32.13 Wastewater indicators	707
Figure 32.14 Number of people connected to sewerage network	707
Figure 32.15 Percentage of people connected to sewerage network	708
Figure 32.16 Volume of wastewater produced	708
Figure 32.17 Percentage of wastewater collected	709
Figure 32.18 Length of sewerage network	709
Figure 32.19 Wastewater treatment plants by level of treatment	709
32.2.3 Utility funding	710
Figure 32.20 Benchmark water and wastewater tariffs for selected major cities, 2015	710

32.2.4 Private sector participation Figure 32.21 Selected major projects involving private sector participation	710 710
32.3 Market forecast	710
Figure 32.22 Market forecast, 2013–2020	711
Figure 32.22 Market forecast breakdown, 2016	711
Figure 32.23 Market forecast data, 2013–2020	712
33. DENMARK	715
33.1 Water availability and demand	715
Figure 33.1 Water resources	715
Figure 33.2 Sectoral water withdrawal	715
33.2 Utility sector	715
Figure 33.3 Utility service performance	715
Figure 33.4 Water and wastewater utilities serving greater than 300,000 people	715
33.2.1 Utility water	716
Figure 33.5 Water supply indicators	716
Figure 33.6 Number of people connected to water supply network	716
Figure 33.7 Utility water supply capacity	717
Figure 33.8 Length of water distribution network	717
33.2.2 Utility wastewater	718
Figure 33.9 Wastewater indicators	718
Figure 33.10 Number of people connected to sewerage network	718
Figure 33.11 Percentage of people connected to sewerage network	719
Figure 33.12 Volume of wastewater produced	719
Figure 33.13 Length of sewerage network	720
Figure 33.14 Wastewater treatment plants by level of treatment	720
33.2.3 Utility funding	720
Figure 33.15 Benchmark water and wastewater tariffs for selected major cities, 2015	720
33.3 Current and future projects	721
Figure 33.16 Projects tracked by GWI	721
33.4 Market forecast	722
Figure 33.17 Market forecast, 2013-2020 Figure 33.18 Market forecast breakdown, 2016	
Figure 33.19 Market forecast data, 2013–2020	723
Figure 53.19 Market forecast data, 2015–2020	724
34. ESTONIA	726
34.1 Water availability and demand	726
Figure 34.1 Water resources	726
Figure 34.2 Sectoral water withdrawal	726
34.2 Utility sector	726
Figure 34.3 Utility service performance	726
Figure 34.4 Water and wastewater utilities serving greater than 300,000 people	726
34.2.1 Utility water	727
Figure 34.5 Water supply indicators	727
Figure 34.6 Number of people connected to water supply network	727
Figure 34.7 Percentage of people connected to water supply network	728
Figure 34.8 Utility water supply capacity	728
34.2.2 Utility wastewater	729
Figure 34.9 Wastewater indicators	729
Figure 34.10 Number of people connected to sewerage network	729
Figure 34.11 Percentage of people connected to sewerage network	730
Figure 34.12 Volume of wastewater produced	730
Figure 34.13 Percentage of wastewater treated to secondary level	731
Figure 34.14 Percentage of wastewater treated to tertiary level	731
34.2.3 Utility funding	731
Figure 34.15 Benchmark water and wastewater tariffs for selected major cities, 2015	731
	700
34.3 Market forecast	732
	732 732 733

Figure 34.18 Market forecast data, 2013-2020	734
35. FINLAND	736
35.1 Water availability and demand	736
Figure 35.1 Water resources	736
Figure 35.2 Sectoral water withdrawal	736
35.2 Utility sector	736
Figure 35.3 Utility service performance	736
Figure 35.4 Water and wastewater utilities serving greater than 300,000 people	736
35.2.1 Utility water	737
Figure 35.5 Water supply indicators	737
Figure 35.6 Number of people connected to water supply network	737
Figure 35.7 Percentage of people connected to water supply network	738
35.2.2 Utility wastewater	738
Figure 35.8 Wastewater indicators	738
Figure 35.9 Number of people connected to sewerage network	739
Figure 35.10 Percentage of people connected to sewerage network	739
Figure 35.11 Wastewater treatment plants by level of treatment	739
35.2.3 Utility funding	740
Figure 35.12 Benchmark water and wastewater tariffs for selected major cities, 2015	740
35.3 Market forecast	741
Figure 35.13 Market forecast, 2013-2020	741
Figure 35.14 Market forecast breakdown, 2016	742
Figure 35.15 Market forecast data, 2013-2020	743
36. FRANCE	745
36.1 Top market opportunities	745
36.2 Sector structure and regulation	745
Figure 36.1 Water sector structure	745
Figure 36.2 Water sector funding organisations	746
Figure 36.3 Regulations applicable to the water sector	746
36.2.1 Water market consolidation at local level	748
36.2.2 Reducing specific pollution of water bodies	748
36.3 Water resources	749
Figure 36.4 Projected change in water stress by 2020	749
Figure 36.5 Water resources	749
Figure 36.6 Water withdrawals by sector, 2010-2030	749
36.3.1 Desalination	750
36.3.2 Water reuse	750
36.3.3 Reservoirs and storage	750
36.3.4 Demand management	750
36.4 Utility sector	750
36.4.1 Utility sector strategies and investment planning	750
36.4.1.1 Wastewater treatment	750
36.4.1.2 Wastewater polishing	751
36.4.1.3 Asset management and non-revenue water	751
36.4.1.4 Smart water	751
36.4.2 Utility sector structure and performance	751
Figure 36.7 Utility market structure	751
Figure 36.8 Water and wastewater utilities serving greater than 300,000 people	752
Figure 36.9 Utility service performance	753
Figure 36.10 Water supply indicators	753
Figure 36.11 Wastewater service indicators	753
36.4.3 Utility infrastructure	754
Figure 36.12 Major water treatment plants	754
Figure 36.13 Major wastewater treatment plants	754
36.4.4 Utility funding	755
Figure 36.14 Water and wastewater charges for a benchmark user in selected major cities, 2015	755
Figure 36.15 Sources of utility funding	755

Figure 36.16 Sources of debt used to fund utility investments	755
36.4.5 Utility procurement	756
Figure 36.17 Procurement models used	756
Figure 36.18 Criteria for comparing bids on construction contracts	756
36.4.6 Private sector participation	757
Figure 36.19 Models of private sector participation	757
36.4.7 Current and future projects	758
Figure 36.20 Future utility investment projects	758
36.5 Industrial water	758
Figure 36.21 Industrial water market significance	758
36.6 Market participants	758
Figure 36.22 Major companies active in the water sector	758
36.7 Market forecast	760
36.7.1 Future market directions	760
36.7.2 Notes on market forecast	760
Figure 36.23 Market forecast, 2013-2020	761
Figure 36.24 Market forecast breakdown, 2016	762
Figure 36.25 Market forecast data, 2013-2020	763
36.8 Data Sources	765
Figure 36.26 Sources of data used in this report	765
37. GERMANY	766
37.1 Top market opportunities	766
37.2 Sector structure and regulation	766
Figure 37.1 Water sector structure	766
Figure 37.2 Water sector funding organisations	767
Figure 37.3 Regulations applicable to the water sector	767
37.3 Water resources	768
Figure 37.4 Projected change in water stress by 2020	768
Figure 37.5 Water resources Figure 37.6 Water withdrawals by sector, 2010-2030	769
37.3.1 Desalination	769
37.3.1 Desaination 37.3.2 Water reuse	769
	769
37.3.3 Groundwater protection	769
37.3.4 Demand management	770
37.4 Utility sector	770
37.4.1 Utility sector strategies and investment planning	
37.4.1.1 Sludge treatment	770
37.4.1.2 Wastewater treatment and polishing	
37.4.1.3 Asset management	770
37.4.2 Utility sector structure and performance	771
Figure 37.7 Utility market structure	771
Figure 37.8 Water and wastewater utilities serving greater than 300,000 people	771
Figure 37.9 Utility service performance	772
Figure 37.10 Water supply indicators	772
Figure 37.11 Wastewater service indicators	773
37.4.3 Utility infrastructure	773
Figure 37.12 Major water treatment plants	773
Figure 37.13 Wastewater treatment plants by level of treatment	773
Figure 37.14 Major wastewater treatment plants	773
37.4.4 Utility funding	774
Figure 37.15 Water and wastewater charges for a benchmark user in selected major cities, 2015	774
Figure 37.16 Sources of utility funding	774
Figure 37.17 Sources of debt used to fund utility investments	774
37.4.4.1 Tariffs	774
37.4.4.2 Subsidies at state level	775
37.4.4.3 Debt financing	775
37.4.5 Utility procurement	775
Figure 37.18 Procurement models used	775

Figure 37.19 Criteria for comparing bids on construction contracts	775
37.4.6 Private sector participation	776
Figure 37.20 Models of private sector participation	776
37.5 Industrial water	777
Figure 37.21 Industrial water withdrawals	777
Figure 37.22 Industrial water market significance	777
37.6 Market participants	778
Figure 37.23 Major companies active in the water sector	778
37.7 Market forecast	780
37.7.1 Future market directions	780
37.7.2 Notes on market forecast	780
Figure 37.24 Market forecast, 2013-2020	781
Figure 37.25 Market forecast breakdown, 2016	782
Figure 37.26 Market forecast data, 2013–2020	783
37.8 Data Sources	785
Figure 37.27 Sources of data used in this report	785
Figure 37.27 Sources of data used in this report	/65
38. GREECE	786
38.1 Water availability and demand	786
Figure 38.1 Water resources	786
Figure 38.2 Sectoral water withdrawal	786
38.2 Utility sector	786
Figure 38.3 Utility service performance	786
Figure 38.4 Water and wastewater utilities serving greater than 300,000 people	786
38.2.1 Utility water	787
Figure 38.5 Water supply indicators	787
38.2.2 Utility wastewater	787
Figure 38.6 Wastewater indicators	787
Figure 38.7 Number of people connected to sewerage network	788
Figure 38.8 Percentage of people connected to sewerage network	788
Figure 38.9 Volume of wastewater produced	789
Figure 38.10 Wastewater treatment plants by level of treatment	789
38.2.3 Utility funding	789
Figure 38.11 Benchmark water and wastewater tariffs for selected major cities, 2015	789
38.2.4 Private sector participation	789
Figure 38.12 Selected major projects involving private sector participation	789
38.3 Current and future projects	790
Figure 38.13 Projects tracked by GWI	790
38.4 Market forecast	790
	791
Figure 38.14 Market forecast, 2013-2020	
Figure 38.15 Market forecast breakdown, 2016	792
Figure 38.16 Market forecast data, 2013-2020	793
39. HUNGARY	795
39.1 Water availability and demand	795
Figure 39.1 Water resources	795
Figure 39.2 Sectoral water withdrawal	795
39.2 Utility sector	795
Figure 39.3 Utility service performance	795
Figure 39.4 Water and wastewater utilities serving greater than 300,000 people	795
39.2.1 Utility water	796
Figure 39.5 Water supply indicators	796
Figure 39.6 Number of people connected to water supply network	796
Figure 39.7 Percentage of people connected to water supply network	797
Figure 39.8 Number of water connections	797
Figure 39.9 Utility water supply capacity	798
Figure 39.10 Length of water distribution network	798
39.2.2 Utility wastewater	799
Figure 39.11 Wastewater indicators	799
	111

Figure 20.12 Number of people competed to converge patriculu	799
Figure 39.12 Number of people connected to sewerage network Figure 39.13 Percentage of people connected to sewerage network	800
Figure 39.14 Number of sewerage connections	800
Figure 39.15 Volume of wastewater produced	801
Figure 39.16 Percentage of wastewater collected	801
Figure 39.17 Percentage of wastewater treated to secondary level	802
Figure 39.18 Percentage of wastewater treated to secondary level	802
Figure 39.19 Length of sewerage network	803
Figure 39.20 Wastewater treatment plants by level of treatment	803
39.2.3 Utility funding	803
Figure 39.21 Benchmark water and wastewater tariffs for selected major cities, 2015	803
39.2.4 Private sector participation	804
Figure 39.22 Selected major projects involving private sector participation	804
39.3 Market forecast	805
Figure 39.23 Market forecast, 2013–2020	805
Figure 39.24 Market forecast breakdown, 2016	806
Figure 39.25 Market forecast data, 2013-2020	807
40. IRELAND	809
40.1 Water availability and demand	809
Figure 40.1 Water resources	809
Figure 40.2 Sectoral water withdrawal	809
40.2 Utility sector	809
Figure 40.3 Utility service performance	809
Figure 40.4 Water and wastewater utilities serving greater than 300,000 people	809
40.2.1 Utility water	810
Figure 40.5 Water supply indicators	810
Figure 40.6 Percentage of people connected to water supply network	810
Figure 40.7 Utility water supply capacity	811
40.2.2 Utility wastewater	811
Figure 40.8 Wastewater indicators	811
Figure 40.9 Volume of wastewater produced	812
Figure 40.10 Percentage of wastewater collected	812
Figure 40.11 Percentage of wastewater treated to secondary level	813
Figure 40.12 Percentage of wastewater treated to tertiary level	813
Figure 40.13 Wastewater treatment plants by level of treatment	813
40.2.3 Utility funding	814
Figure 40.14 Benchmark water and wastewater tariffs for selected major cities, 2015	814
40.2.4 Private sector participation	814
Figure 40.15 Selected major projects involving private sector participation	814
40.3 Current and future projects	815
Figure 40.16 Projects tracked by GWI	815
40.4 Market forecast	818
Figure 40.17 Market forecast, 2013-2020	818
Figure 40.18 Market forecast breakdown, 2016	819
Figure 40.19 Market forecast data, 2013-2020	820
41. ITALY	822
41.1 Top market opportunities	822
41.2 Sector structure and regulation	822
Figure 41.1 Water sector structure	822
Figure 41.2 Water sector funding organisations	823
Figure 41.3 Regulations applicable to the water sector	824
41.3 Water resources	825
Figure 41.4 Projected change in water stress by 2020	825
Figure 41.5 Water resources	826
Figure 41.6 Water withdrawals by sector, 2010-2030	826
41.3.1 Desalination	826
41.3.2 Water reuse	826

41.3.3 Groundwater protection	827
41.3.4 Reservoirs and storage	827
41.3.5 Demand management	827
41.4 Utility sector	827
41.4.1 Utility sector strategies and investment planning	827
41.4.1.1 Water service extension	827
41.4.1.2 Asset management	827
41.4.1.3 Non-revenue water	827
41.4.1.4 Smart water	827
41.4.1.5 Wastewater networks	827
41.4.1.6 Wastewater treatment	827
41.4.1.7 Wastewater polishing	828
41.4.2 Utility sector structure and performance	828
Figure 41.7 Utility market structure	828
Figure 41.8 Water and wastewater utilities serving greater than 300,000 people	828
Figure 41.9 Utility service performance	829
Figure 41.10 Water supply indicators	830
Figure 41.11 Wastewater service indicators	830
41.4.3 Utility infrastructure	830
Figure 41.12 Major water treatment plants	830
Figure 41.13 Wastewater treatment plants by level of treatment	830
Figure 41.14 Major wastewater treatment plants	831
Figure 41.15 Major desalination plants	831
Figure 41.16 Major water reuse plants	831
41.4.4 Utility funding	832
Figure 41.17 Water and wastewater charges for a benchmark user in selected major cities, 2015	832
Figure 41.18 Sources of utility funding	832
Figure 41.19 Sources of debt used to fund utility investments	832
41.4.5 Utility procurement	833
Figure 41.20 Procurement models used	833
Figure 41.21 Criteria for comparing bids on construction contracts	833
41.4.6 Private sector participation	834
Figure 41.22 Models of private sector participation	834
41.4.7 Current and future projects	835
Figure 41.23 Future utility investment projects	835
41.5 Industrial water	835
Figure 41.24 Industrial water market significance	835
Figure 41.25 Industrial production by industrial sector, 2011	836
41.6 Market participants	836
Figure 41.26 Major companies active in the water sector	836
41.7 Market forecast	838
41.7.1 Future market directions	838
41.7.2 Notes on market forecast	838
Figure 41.27 Market forecast, 2013–2020	839
Figure 41.28 Market forecast breakdown, 2016	840
Figure 41.29 Market forecast data, 2013-2020	841
41.8 Data Sources	843
Figure 41.30 Sources of data used in this report	843
42. KAZAKHSTAN	844
42.1 Water availability and demand	844
	844
Figure 42.1 Water resources	844
Figure 42.2 Sectoral water withdrawal	
Figure 42.2 Sectoral water withdrawal 42.2 Utility sector	844
Figure 42.2 Sectoral water withdrawal 42.2 Utility sector Figure 42.3 Utility service performance	844
Figure 42.2 Sectoral water withdrawal 42.2 Utility sector Figure 42.3 Utility service performance Figure 42.4 Water and wastewater utilities serving greater than 300,000 people	844 844
Figure 42.2 Sectoral water withdrawal 42.2 Utility sector Figure 42.3 Utility service performance Figure 42.4 Water and wastewater utilities serving greater than 300,000 people 42.2.1 Utility water	844 844 845
Figure 42.2 Sectoral water withdrawal 42.2 Utility sector Figure 42.3 Utility service performance Figure 42.4 Water and wastewater utilities serving greater than 300,000 people	844 844

Figure 42.7 Percentage of people connected to water supply network	846
Figure 42.8 Utility water supply capacity	846
Figure 42.9 Non-revenue water	847
Figure 42.10 Length of water distribution network	847
42.2.2 Utility wastewater	848
Figure 42.11 Wastewater indicators	848
Figure 42.12 Number of people connected to sewerage network	848
Figure 42.13 Percentage of people connected to sewerage network	849
Figure 42.14 Volume of wastewater produced	849
Figure 42.15 Percentage of wastewater collected	850
Figure 42.16 Length of sewerage network	850
42.2.3 Utility funding	850
Figure 42.17 Benchmark water and wastewater tariffs for selected major cities, 2015	850
Figure 42.18 Overseas development assistance for the water and sanitation sector, 2008-2014	851
42.3 Current and future projects	851
Figure 42.19 Projects tracked by GWI	851
42.4 Market forecast	853
Figure 42.20 Market forecast, 2013-2020	853
Figure 42.21 Market forecast breakdown, 2016	854
Figure 42.22 Market forecast data, 2013-2020	855
43. LATVIA	857
43.1 Water availability and demand	857
Figure 43.1 Water resources	857
Figure 43.2 Sectoral water withdrawal	857
43.2 Utility sector	857
Figure 43.3 Utility service performance	857
Figure 43.4 Water and wastewater utilities serving greater than 300,000 people	857
43.2.1 Utility water	858
Figure 43.5 Water supply indicators	858
Figure 43.6 Number of people connected to water supply network	858
Figure 43.7 Percentage of people connected to water supply network	859
43.2.2 Utility wastewater	859
Figure 43.8 Wastewater indicators	859
Figure 43.9 Number of people connected to sewerage network	860
Figure 43.10 Percentage of people connected to sewerage network	860
Figure 43.11 Wastewater treatment plants by level of treatment	860
43.2.3 Utility funding	861
Figure 43.12 Benchmark water and wastewater tariffs for selected major cities, 2015	861
43.3 Market forecast	862
Figure 43.13 Market forecast, 2013-2020	862
Figure 43.14 Market forecast breakdown, 2016	863
Figure 43.15 Market forecast data, 2013–2020	864
44. LITHUANIA	866
44.1 Water availability and demand	866
Figure 44.1 Water resources	866
Figure 44.2 Sectoral water withdrawal	866
44.2 Utility sector	866
Figure 44.3 Utility service performance	866
Figure 44.4 Water and wastewater utilities serving greater than 300,000 people	866
44.2.1 Utility water	867
Figure 44.5 Water supply indicators	867
Figure 44.6 Utility water supply capacity	867
44.2.2 Utility wastewater	868
Figure 44.7 Wastewater indicators	868
Figure 44.8 Wastewater treatment plants by level of treatment	868
44.2.3 Utility funding	868
Figure 44.9 Benchmark water and wastewater tariffs for selected major cities, 2015	868

44.3 Market forecast Figure 44.10 Market forecast, 2013-2020	869 869
Figure 44.11 Market forecast breakdown, 2016	870
Figure 44.12 Market forecast data, 2013–2020	870
45. LUXEMBOURG	873
45.1 Water availability and demand	873
Figure 45.1 Water resources	873
Figure 45.2 Sectoral water withdrawal	873
45.2 Utility sector	873
Figure 45.3 Utility service performance	873
Figure 45.4 Water and wastewater utilities serving greater than 300,000 people	873
45.2.1 Utility water	874
Figure 45.5 Water supply indicators	874
Figure 45.6 Number of people connected to water supply network	874
Figure 45.7 Percentage of people connected to water supply network	875
Figure 45.8 Utility water supply capacity	875
45.2.2 Utility wastewater	876
Figure 45.9 Wastewater indicators	876
Figure 45.10 Percentage of people connected to sewerage network	876
Figure 45.11 Percentage of wastewater treated to secondary level	877
Figure 45.12 Wastewater treatment plants by level of treatment	877
45.2.3 Utility funding	877
Figure 45.13 Benchmark water and wastewater tariffs for selected major cities, 2015	877
45.3 Market forecast	878
Figure 45.14 Market forecast, 2013-2020	878
Figure 45.15 Market forecast breakdown, 2016	879
Figure 45.16 Market forecast data, 2013-2020	880
46. NETHERLANDS	882
46.1 Water availability and demand	882
Figure 46.1 Water resources	882
Figure 46.2 Sectoral water withdrawal	882
46.2 Utility sector	882
Figure 46.3 Utility service performance	882
Figure 46.4 Water and wastewater utilities serving greater than 300,000 people	883
46.2.1 Utility water	883
Figure 46.5 Water supply indicators	883
Figure 46.6 Number of people connected to water supply network	884
Figure 46.7 Number of water connections	884
Figure 46.8 Utility water supply capacity	885
Figure 46.9 Non-revenue water	885
Figure 46.10 Length of water distribution network	886
46.2.2 Utility wastewater	886
Figure 46.11 Wastewater indicators	886
Figure 46.12 Number of people connected to sewerage network	887
Figure 46.13 Percentage of people connected to sewerage network	887
	888
Figure 46.14 Volume of wastewater produced	888
Figure 46.14 Volume of wastewater produced Figure 46.15 Percentage of wastewater treated to secondary level	000
Figure 46.15 Percentage of wastewater treated to secondary level	
Figure 46.15 Percentage of wastewater treated to secondary level Figure 46.16 Percentage of wastewater treated to tertiary level	889
Figure 46.15 Percentage of wastewater treated to secondary level Figure 46.16 Percentage of wastewater treated to tertiary level Figure 46.17 Length of sewerage network	889 889
Figure 46.15 Percentage of wastewater treated to secondary levelFigure 46.16 Percentage of wastewater treated to tertiary levelFigure 46.17 Length of sewerage networkFigure 46.18 Wastewater treatment plants by level of treatment	889 889 889
Figure 46.15 Percentage of wastewater treated to secondary level Figure 46.16 Percentage of wastewater treated to tertiary level Figure 46.17 Length of sewerage network Figure 46.18 Wastewater treatment plants by level of treatment 46.2.3 Utility funding	889 889 889 889 890
Figure 46.15 Percentage of wastewater treated to secondary levelFigure 46.16 Percentage of wastewater treated to tertiary levelFigure 46.17 Length of sewerage networkFigure 46.18 Wastewater treatment plants by level of treatment46.2.3 Utility fundingFigure 46.19 Benchmark water and wastewater tariffs for selected major cities, 2015	889 889 889 890 890
Figure 46.15 Percentage of wastewater treated to secondary levelFigure 46.16 Percentage of wastewater treated to tertiary levelFigure 46.17 Length of sewerage networkFigure 46.18 Wastewater treatment plants by level of treatment46.2.3 Utility fundingFigure 46.19 Benchmark water and wastewater tariffs for selected major cities, 201546.2.4 Private sector participation	889 889 889 890 890 890
Figure 46.15 Percentage of wastewater treated to secondary level Figure 46.16 Percentage of wastewater treated to tertiary level Figure 46.17 Length of sewerage network Figure 46.18 Wastewater treatment plants by level of treatment 46.2.3 Utility funding Figure 46.19 Benchmark water and wastewater tariffs for selected major cities, 2015 46.2.4 Private sector participation Figure 46.20 Selected major projects involving private sector participation	889 889 889 890 890 890 890
Figure 46.15 Percentage of wastewater treated to secondary levelFigure 46.16 Percentage of wastewater treated to tertiary levelFigure 46.17 Length of sewerage networkFigure 46.18 Wastewater treatment plants by level of treatment46.2.3 Utility fundingFigure 46.19 Benchmark water and wastewater tariffs for selected major cities, 201546.2.4 Private sector participation	889 889 889 890 890 890

Figure 46.23 Market forecast data, 2013-2020	893
47. NORWAY	895
47.1 Water availability and demand	895
Figure 47.1 Water resources	895
Figure 47.2 Sectoral water withdrawal	895
47.2 Utility sector	895
Figure 47.3 Utility service performance	895
Figure 47.4 Water and wastewater utilities serving greater than 300,000 people	895
47.2.1 Utility water	896
Figure 47.5 Water supply indicators	896
Figure 47.6 Number of people connected to water supply network	896
Figure 47.7 Percentage of people connected to water supply network	897
Figure 47.8 Utility water supply capacity	897
Figure 47.9 Meter coverage	898
Figure 47.10 Non-revenue water	898
Figure 47.11 Length of water distribution network	899
47.2.2 Utility wastewater	899
Figure 47.12 Wastewater indicators	899
Figure 47.13 Number of people connected to sewerage network	900
Figure 47.14 Percentage of people connected to sewerage network	900
Figure 47.15 Volume of wastewater produced	901
Figure 47.16 Percentage of wastewater collected	901
Figure 47.17 Length of sewerage network	902
Figure 47.18 Wastewater treatment plants by level of treatment	902
47.2.3 Utility funding	902
Figure 47.19 Benchmark water and wastewater tariffs for selected major cities, 2015	902
47.2.4 Private sector participation	902
Figure 47.20 Selected major projects involving private sector participation	902
47.3 Market forecast	903
Figure 47.21 Market forecast, 2013-2020	903
Figure 47.22 Market forecast breakdown, 2016	904
Figure 47.23 Market forecast data, 2013-2020	905
48. POLAND	907
48.1 Water availability and demand	907
Figure 48.1 Water resources	907
Figure 48.2 Sectoral water withdrawal	907
48.2 Utility sector	907
Figure 48.3 Utility service performance	907
Figure 48.4 Water and wastewater utilities serving greater than 300,000 people	908
48.2.1 Utility water	908
Figure 48.5 Water supply indicators	908
Figure 48.6 Number of people connected to water supply network	909
Figure 48.7 Percentage of people connected to water supply network	909
Figure 48.8 Number of water connections	910
Figure 48.9 Utility water supply capacity	910
Figure 48.10 Non-revenue water	911
Figure 48.11 Length of water distribution network	911
48.2.2 Utility wastewater	912
	/12

912

912 913

913

914

914

915

915

915

48.2.3 Utility funding

Figure 48.12 Wastewater indicators

Figure 48.15 Number of sewerage connections

Figure 48.17 Percentage of wastewater collected

Figure 48.16 Volume of wastewater produced

Figure 48.18 Length of sewerage network

Figure 48.13 Number of people connected to sewerage network

Figure 48.19 Wastewater treatment plants by level of treatment

Figure 48.14 Percentage of people connected to sewerage network

Figure 48.20 Benchmark water and wastewater tariffs for selected major cities, 2015	915
48.2.4 Private sector participation	916
Figure 48.21 Selected major projects involving private sector participation	916
48.3 Current and future projects	916
Figure 48.22 Projects tracked by GWI	916
48.4 Market forecast	917
Figure 48.23 Market forecast, 2013-2020	917
Figure 48.24 Market forecast breakdown, 2016	918
Figure 48.25 Market forecast data, 2013-2020	919
49. PORTUGAL	921
49.1 Water availability and demand	921
Figure 49.1 Water resources	921
Figure 49.2 Sectoral water withdrawal	921
49.2 Utility sector	921
Figure 49.3 Utility service performance	921
Figure 49.4 Water and wastewater utilities serving greater than 300,000 people	921
49.2.1 Utility water	922
Figure 49.5 Water supply indicators	922
Figure 49.6 Number of people connected to water supply network	922
Figure 49.7 Percentage of people connected to water supply network	923
Figure 49.8 Utility water supply capacity	923
Figure 49.9 Length of water distribution network	924
49.2.2 Utility wastewater	924
Figure 49.10 Wastewater indicators	924
Figure 49.11 Number of people connected to sewerage network	925
Figure 49.12 Percentage of people connected to sewerage network	925
Figure 49.13 Volume of wastewater produced	926
Figure 49.14 Length of sewerage network	926
Figure 49.15 Wastewater treatment plants by level of treatment	926
49.2.3 Utility funding	927
Figure 49.16 Benchmark water and wastewater tariffs for selected major cities, 2015	927
49.2.4 Private sector participation	927
Figure 49.17 Selected major projects involving private sector participation	927
49.3 Market forecast	929
Figure 49.18 Market forecast, 2013-2020	929
Figure 49.19 Market forecast breakdown, 2016	930
Figure 49.20 Market forecast data, 2013-2020	931
50. ROMANIA	933
50.1 Water availability and demand	933
Figure 50.1 Water resources	933
Figure 50.2 Sectoral water withdrawal	933
50.2 Utility sector	933
Figure 50.3 Utility service performance	933
Figure 50.4 Water and wastewater utilities serving greater than 300,000 people	933
50.2.1 Utility water	934
Figure 50.5 Water supply indicators	934
Figure 50.6 Number of people connected to water supply network	934
Figure 50.7 Percentage of people connected to water supply network	935
Figure 50.8 Utility water supply capacity	935
Figure 50.9 Meter coverage	936
Figure 50.10 Length of water distribution network	936
50.2.2 Utility wastewater	937
Figure 50.11 Wastewater indicators	937
Figure 50.12 Number of people connected to sewerage network	937
Figure 50.13 Percentage of people connected to sewerage network	938
Figure 50.14 Volume of wastewater produced	938
Figure 50.15 Percentage of wastewater collected	939

Figure 50.16 Length of sewerage network	939
Figure 50.17 Wastewater treatment plants by level of treatment	939
50.2.3 Utility funding	940
Figure 50.18 Benchmark water and wastewater tariffs for selected major cities, 2015	940
50.2.4 Private sector participation	940
Figure 50.19 Selected major projects involving private sector participation	940
50.3 Market forecast	941
Figure 50.20 Market forecast, 2013-2020	941
Figure 50.21 Market forecast breakdown, 2016 Figure 50.22 Market forecast data, 2013-2020	942
51. RUSSIAN FEDERATION	945
51.1 Top market opportunities	945
51.2 Sector structure and regulation	945
Figure 51.1 Water sector structure	945
Figure 51.2 Water sector funding organisations	947
Figure 51.3 Regulations applicable to the water sector	948
51.2.1 Recent policy/regulatory initiatives 51.2.1.1 Federal Law No. 219-FZ of 21.07.2014	952 952
51.2.1.2 Federal Law No. 416-FZ of 07.12.2011	952
51.2.1.3 RF Government Decree No. 644 of 29.07.2013	953
51.2.1.4 Changes in tariff setting regulation	953
51.3 Water resources	953
Figure 51.4 Projected change in water stress by 2020	953
Figure 51.5 Water resources	953
Figure 51.6 Water withdrawals by sector, 2010-2030	954
51.3.1 Desalination	954
51.3.2 Water reuse	954
51.3.3 Groundwater protection	955
51.3.4 Reservoirs and storage	955
51.3.5 Demand management	955
51.4 Utility sector	956 956
51.4.1 Utility sector strategies and investment planning 51.4.1.1 Water service extension	956
51.4.1.2 Asset management	956
51.4.1.3 Non-revenue water	956
51.4.1.4 Wastewater networks	956
51.4.1.5 Wastewater treatment	956
51.4.1.6 Wastewater polishing	957
51.4.2 Utility sector structure and performance	957
Figure 51.7 Utility market structure	957
Figure 51.8 Water and wastewater utilities serving greater than 300,000 people	957
Figure 51.9 Utility service performance	959
Figure 51.10 Water supply indicators	959
Figure 51.11 Wastewater service indicators	959
51.4.3 Utility infrastructure	960
Figure 51.12 Major water treatment plants	960
Figure 51.13 Wastewater treatment plants by level of treatment	960
Figure 51.14 Major wastewater treatment plants Figure 51.15 Major water reuse plants	960 961
51.4.4 Utility funding	961
Figure 51.16 Water and wastewater charges for a benchmark user in selected major cities, 2015	961
Figure 51.17 Sources of utility funding	961
Figure 51.18 Sources of debt used to fund utility investments	961
51.4.5 Utility procurement	962
Figure 51.19 Procurement models used	962
Figure 51.20 Criteria for comparing bids on construction contracts	962
51.4.6 Private sector participation	963
Figure 51.21 Models of private sector participation	963

51.4.7 Current and future projects	964
Figure 51.22 Future utility investment projects	964
51.5 Industrial water	965
Figure 51.23 Industrial water withdrawals	965
Figure 51.24 Industrial water market significance	965
51.5.1 Oil & gas	965
51.6 Market participants	966
Figure 51.25 Major companies active in the water sector	966
51.7 Market forecast	972
51.7.1 Future market directions	972
51.7.2 Notes on market forecast	972
Figure 51.26 Market forecast, 2013-2020	973
Figure 51.27 Market forecast breakdown, 2016	974
Figure 51.28 Market forecast data, 2013-2020	975
51.8 Data Sources	977
Figure 51.29 Sources of data used in this report	977
52. SERBIA	978
	978
52.1 Water availability and demand	978
Figure 52.1 Water resources Figure 52.2 Sectoral water withdrawal	978
·	978
52.2 Utility sector	
Figure 52.3 Utility service performance	978
Figure 52.4 Water and wastewater utilities serving greater than 300,000 people	978
52.2.1 Utility water	979 979
Figure 52.5 Water supply indicators	979
Figure 52.6 Number of people connected to water supply network	
Figure 52.7 Percentage of people connected to water supply network	980
Figure 52.8 Number of water connections	980 981
Figure 52.9 Utility water supply capacity	981
Figure 52.10 Non-revenue water Figure 52.11 Length of water distribution network	981
52.2.2 Utility wastewater	982
Figure 52.12 Wastewater indicators	982
	983
Figure 52.13 Number of people connected to sewerage network Figure 52.14 Percentage of people connected to sewerage network	983
Figure 52.14 Percentage of people connected to severage network Figure 52.15 Number of severage connections	983
Figure 52.15 Volume of wastewater produced	984
Figure 52.17 Percentage of wastewater collected	985
Figure 52.18 Percentage of wastewater treated to secondary level	985
Figure 52.19 Percentage of wastewater treated to secondary level	986
Figure 52.20 Length of sewerage network	986
	986
Figure 52.21 Wastewater treatment plants by level of treatment 52.2.3 Utility funding	987
Figure 52.22 Benchmark water and wastewater tariffs for selected major cities, 2015	987
Figure 52.22 Dencimark water and wastewater tarms for selected major cities, 2013 Figure 52.23 Overseas development assistance for the water and sanitation sector, 2008-2014	987
	987
52.2.4 Private sector participation Figure 52.24 Selected major projects involving private sector participation	987
52.3 Market forecast	988
Figure 52.25 Market forecast, 2013–2020	988
Figure 52.25 Market forecast breakdown, 2016	989
Figure 52.27 Market forecast data, 2013-2020	990
53. SLOVAKIA	992
53.1 Water availability and demand	992
Figure 53.1 Water resources	992
Figure 53.2 Sectoral water withdrawal	992
53.2 Utility sector	992
Figure 53.3 Utility service performance	992

Figure 53.4 Water and wastewater utilities serving greater than 300,000 people	992
53.2.1 Utility water	993
Figure 53.5 Water supply indicators	993
Figure 53.6 Number of people connected to water supply network	993
Figure 53.7 Percentage of people connected to water supply network	994
Figure 53.8 Utility water supply capacity	994
Figure 53.9 Non-revenue water	995
Figure 53.10 Length of water distribution network	995
53.2.2 Utility wastewater	996
Figure 53.11 Wastewater indicators	996
Figure 53.12 Number of people connected to sewerage network	996
Figure 53.13 Percentage of people connected to sewerage network	997
Figure 53.14 Volume of wastewater produced	997
Figure 53.15 Length of sewerage network	998
Figure 53.16 Wastewater treatment plants by level of treatment	998
53.2.3 Utility funding	998
Figure 53.17 Benchmark water and wastewater tariffs for selected major cities, 2015	998
53.2.4 Private sector participation	998
Figure 53.18 Selected major projects involving private sector participation	998
53.3 Market forecast	999
Figure 53.19 Market forecast, 2013–2020	999
Figure 53.20 Market forecast breakdown, 2016	1000
Figure 53.21 Market forecast data, 2013-2020	1001
54. SLOVENIA	1003
54.1 Water availability and demand	1003
Figure 54.1 Water resources	1003
Figure 54.2 Sectoral water withdrawal	1003
54.2 Utility sector	1003
Figure 54.3 Utility service performance	1003
Figure 54.4 Water and wastewater utilities serving greater than 300,000 people	1003
54.2.1 Utility water	1004
Figure 54.5 Water supply indicators	1004
Figure 54.6 Number of water connections	1004
Figure 54.7 Utility water supply capacity	1005
Figure 54.8 Non-revenue water	1005
Figure 54.9 Length of water distribution network	1006
54.2.2 Utility wastewater	1006
Figure 54.10 Wastewater indicators	1006
Figure 54.11 Number of sewerage connections	1007
Figure 54.12 Volume of wastewater produced	1007
Figure 54.13 Percentage of wastewater collected	1007
Figure 54.14 Percentage of wastewater treated to secondary level	1008
Figure 54.15 Percentage of wastewater treated to secondary level	1009
Figure 54.16 Length of sewerage network	1007
Figure 54.17 Wastewater treatment plants by level of treatment	1007
54.2.3 Utility funding	1007
Figure 54.18 Benchmark water and wastewater tariffs for selected major cities, 2015	1010
54.2.4 Private sector participation	1010
Figure 54.19 Selected major projects involving private sector participation	1010
54.3 Market forecast	1010
Figure 54.20 Market forecast, 2013–2020	1011
Figure 54.20 Market forecast, 2013-2020 Figure 54.21 Market forecast breakdown, 2016	1011
Figure 54.21 Market forecast breakdown, 2016 Figure 54.22 Market forecast data, 2013–2020	1012
55. SPAIN	1015
55.1 Top market opportunities	1015
55.2 Sector structure and regulation	1015
Figure 55.1 Water sector structure	1015

Figure 55.2 Water sector funding organisations	1016
Figure 55.3 Regulations applicable to the water sector	1016
55.3 Water resources	1017
Figure 55.4 Projected change in water stress by 2020	1017
Figure 55.5 Water resources	1017
Figure 55.6 Water withdrawals by sector, 2010–2030	1018
55.3.1 Desalination	1018
55.3.2 Water reuse	1018
55.3.3 Groundwater protection	1019
55.3.4 Reservoirs and storage	1019
55.3.5 Demand management	1019
55.3.6 Water transfer	1019
55.4 Utility sector	1020
55.4.1 Utility sector strategies and investment planning	1020
55.4.1.1 Water service extension	1020
55.4.1.2 Asset management	1020
55.4.1.3 Non-revenue water	1020
55.4.1.4 Smart water	1020
55.4.1.5 Wastewater networks	1020
55.4.1.6 Wastewater treatment	1020
55.4.2 Utility sector structure and performance	1020
Figure 55.7 Utility market structure	1021
Figure 55.8 Water and wastewater utilities serving greater than 300,000 people	1021
Figure 55.9 Utility service performance	1021
	1022
Figure 55.10 Water supply indicators	1023
Figure 55.11 Wastewater service indicators	1023
55.4.3 Utility infrastructure	
Figure 55.12 Major water treatment plants	1024
Figure 55.13 Major wastewater treatment plants	1024
Figure 55.14 Major desalination plants	1025
Figure 55.15 Major water reuse plants	1025
55.4.4 Utility funding	1025
Figure 55.16 Water and wastewater charges for a benchmark user in selected major cities, 2015	1025
Figure 55.17 Sources of utility funding	1026
Figure 55.18 Sources of debt used to fund utility investments	1026
55.4.5 Utility procurement	1026
Figure 55.19 Procurement models used	1026
Figure 55.20 Criteria for comparing bids on construction contracts	1027
55.4.6 Private sector participation	1027
Figure 55.21 Models of private sector participation	1027
55.4.7 Current and future projects	1028
Figure 55.22 Future utility investment projects	1028
55.5 Industrial water	1032
Figure 55.23 Industrial water withdrawals	1032
Figure 55.24 Industrial water market significance	1032
55.6 Market participants	1033
Figure 55.25 Major companies active in the water sector	1033
55.7 Market forecast	1034
55.7.1 Future market directions	1034
55.7.2 Notes on market forecast	1034
Figure 55.26 Market forecast, 2013-2020	1035
Figure 55.27 Market forecast breakdown, 2016	1036
Figure 55.28 Market forecast data, 2013-2020	1037
56. SWEDEN	1039
56.1 Water availability and demand	1039
	1039
· · ·	1007
Figure 56.1 Water resources Figure 56.2 Sectoral water withdrawal	1039

Figure 56.3 Utility service performance	1039
Figure 56.4 Water and wastewater utilities serving greater than 300,000 people	1039
56.2.1 Utility water	1040
Figure 56.5 Water supply indicators	1040
56.2.2 Utility wastewater	1040
Figure 56.6 Wastewater indicators	1040
Figure 56.7 Wastewater treatment plants by level of treatment	1040
56.2.3 Utility funding	1040
Figure 56.8 Benchmark water and wastewater tariffs for selected major cities, 2015	1040
56.3 Market forecast	1041
Figure 56.9 Market forecast, 2013-2020	1041
Figure 56.10 Market forecast breakdown, 2016	1042
Figure 56.11 Market forecast data, 2013-2020	1043
57. SWITZERLAND	1045
57.1 Water availability and demand	1045
Figure 57.1 Water resources	1045
Figure 57.2 Sectoral water withdrawal	1045
57.2 Utility sector	1045
Figure 57.3 Utility service performance	1045
Figure 57.4 Water and wastewater utilities serving greater than 300,000 people	1045
57.2.1 Utility water	1046
Figure 57.5 Water supply indicators	1046
Figure 57.6 Number of people connected to water supply network	1046
Figure 57.7 Percentage of people connected to water supply network	1047
Figure 57.8 Number of water connections	1047
Figure 57.9 Utility water supply capacity	1048
Figure 57.10 Meter coverage Figure 57.11 Non-revenue water	1048 1049
Figure 57.12 Length of water distribution network	1049
57.2.2 Utility wastewater	1047
Figure 57.13 Wastewater indicators	1050
Figure 57.14 Number of people connected to sewerage network	1050
Figure 57.15 Percentage of people connected to sewerage network	1051
Figure 57.16 Volume of wastewater produced	1051
Figure 57.17 Length of sewerage network	1052
Figure 57.18 Wastewater treatment plants by level of treatment	1052
57.2.3 Utility funding	1052
Figure 57.19 Benchmark water and wastewater tariffs for selected major cities, 2015	1052
57.3 Market forecast	1053
Figure 57.20 Market forecast, 2013-2020	1053
Figure 57.21 Market forecast breakdown, 2016	1054
Figure 57.22 Market forecast data, 2013-2020	1055
58. UKRAINE	1057
58.1 Water availability and demand	1057
Figure 58.1 Water resources	1057
Figure 58.2 Sectoral water withdrawal	1057
58.2 Utility sector	1057
Figure 58.3 Utility service performance	1057
Figure 58.4 Water and wastewater utilities serving greater than 300,000 people	1058
58.2.1 Utility water	1058
Figure 58.5 Water supply indicators	1058
Figure 58.6 Number of people connected to water supply network	1059
Figure 58.7 Percentage of people connected to water supply network	1059
Figure 58.8 Number of water connections	1060
Figure 58.9 Utility water supply capacity	1060
Figure 58.10 Meter coverage	1061
Figure 58.11 Non-revenue water	1061

Figure 58.12 Length of water distribution network	1062
58.2.2 Utility wastewater	1062
Figure 58.13 Wastewater indicators	1062
Figure 58.14 Number of people connected to sewerage network	1063
Figure 58.15 Percentage of people connected to sewerage network	1063
Figure 58.16 Volume of wastewater produced	1064
Figure 58.17 Percentage of wastewater collected	1064
Figure 58.18 Percentage of wastewater treated to secondary level	1065
Figure 58.19 Percentage of wastewater treated to tertiary level	1065
Figure 58.20 Length of sewerage network	1066
58.2.3 Utility funding	1066
Figure 58.21 Benchmark water and wastewater tariffs for selected major cities, 2015	1066
Figure 58.22 Overseas development assistance for the water and sanitation sector, 2008-2014	1067
58.3 Market forecast	1068
Figure 58.23 Market forecast, 2013–2020	1068
Figure 58.24 Market forecast breakdown, 2016	1069
Figure 58.25 Market forecast data, 2013-2020	1070
59. UNITED KINGDOM	1072
59.1 Top market opportunities	1072
59.2 Sector structure and regulation	1073
Figure 59.1 Water sector structure	1073
Figure 59.2 Regulations applicable to the water sector	1074
59.2.1 New regulatory environment in England and Wales	1074
59.2.2 Market reform	1075
59.2.2.1 Household competition	1075
59.2.3 Increasing resilience	1075
59.2.4 Water abstraction	1075
59.2.5 Other issues	1076
59.2.5.1 Sector consolidation	1076
59.2.5.2 Priority substances	1076
59.3 Water resources	1076
Figure 59.3 Projected change in water stress by 2020	1076
Figure 59.4 Water resources	1077
Figure 59.5 Water withdrawals by sector, 2010-2030	1077
59.3.1 Desalination	1077
59.3.2 Water reuse	1077
59.3.3 Water transfer	1078
59.3.4 Groundwater protection	1078
59.3.5 Reservoirs and storage	1078
59.3.6 Demand management	1078
59.4 Utility sector	1078
59.4.1 Utility sector strategies and investment planning	1078
59.4.1.1 Asset management	1078
59.4.1.2 Wastewater treatment and polishing	1078
59.4.1.3 Smart water/non-revenue water	1079
59.4.2 Utility sector structure and performance	1079
Figure 59.6 Utility market structure	1079
Figure 59.7 Water and wastewater utilities serving greater than 300,000 people	1077
Figure 59.8 Utility service performance	1077
Figure 59.9 Water supply indicators	1077
Figure 59.10 Wastewater service indicators	1080
59.4.3 Utility infrastructure	1080
	1080
Figure 59.11 Major water treatment plants	1080
Figure 59.12 Wastewater treatment plants by level of treatment	
Figure 59.13 Major wastewater treatment plants	1081
Figure 59.14 Major desalination plants	1081
Figure 59.15 Major water reuse plants	1081
59.4.4 Utility funding	1081

Figure 59.16 Water and wastewater charges for a benchmark user in selected major cities, 2015	1081
Figure 59.17 Sources of utility funding	1082
Figure 59.18 Sources of debt used to fund utility investments	1082
59.4.5 Utility procurement	1083
Figure 59.19 Procurement models used	1083
Figure 59.20 Criteria for comparing bids on construction contracts	1083
59.4.6 Private sector participation	1083
Figure 59.21 Models of private sector participation	1083
59.4.7 Current and future projects	1084
Figure 59.22 Future utility investment projects	1084
59.5 Industrial water	1085
Figure 59.23 Industrial water market significance	1085
59.5.1 Offshore oil & gas	1085
59.5.2 Food & beverage	1085
59.6 Market participants	1086
Figure 59.24 Major companies active in the water sector	1086
59.7 Market forecast	1088
59.7.1 Future market directions	1088
59.7.2 Notes on market forecast	1088
Figure 59.25 Market forecast, 2013-2020	1089
Figure 59.26 Market forecast breakdown, 2016	1090
Figure 59.27 Market forecast data, 2013-2020	1091
59.8 Data Sources	1093
Figure 59.28 Sources of data used in this report	1093

VOLUME 4: MIDDLE EAST AND AFRICA

60. ALGERIA	1095
61. ANGOLA	1116
62. BAHRAIN	1125
63. CAMEROON	1132
64. CÔTE D'IVOIRE	1139
65. EGYPT	1145
66. ETHIOPIA	1166
67. GHANA	1173
68. IRAN	1180
69. IRAQ	1209
70. ISRAEL	1220
71. JORDAN	1234
72. KENYA	1247
73. KUWAIT	1255
74. LEBANON	1266
75. MOROCCO	1275
76. NAMIBIA	1301
77. NIGERIA	1308
78. OMAN	1329

79. QATAR	1351
80. RWANDA	1368
81. SAUDI ARABIA	1379
82. SOUTH AFRICA	1406
83. TANZANIA	1432
84. TUNISIA	1442
85. TURKEY	1451
86. UGANDA	1464
87. UNITED ARAB EMIRATES	1471
VOLUME 5: ASIA PACIFIC	
88. AUSTRALIA	1493
89. BANGLADESH	1519
90. CHINA	1526
91. HONG KONG	1563
92. INDIA	1576
93. INDONESIA	1626
94. JAPAN	1654
95. MALAYSIA	1675
96. NEW ZEALAND	1696
97. PAKISTAN	1706
98. PHILIPPINES	1716
99. SINGAPORE	1739
100. SOUTH KOREA	1755
101. SRI LANKA	1769
102. TAIWAN	1780
103. THAILAND	1793
104. VIETNAM	1803
INTERVIEWEES	1829
REFERENCES	1832

GLOBAL WATER MARKET 2017

VOLUME 1: COMPANIES AND MARKETS	
PUBLICATION INFORMATION	II
EXECUTIVE SUMMARY	VII
1. WATER MARKET OVERVIEW	1
2. WATER AND WASTEWATER TREATMENT	78
3. NETWORKS AND ENVIRONMENT	214
4. CHEMICALS & CONSUMABLES	253
VOLUME 2: THE AMERICAS	
5. ARGENTINA	265
6. BOLIVIA	274
7. BRAZIL	283
8. CANADA	318
9. CHILE	347
10. COLOMBIA	373
11. COSTA RICA	397
12. DOMINICAN REPUBLIC	406
13. ECUADOR	416
14. EL SALVADOR	423
15. GUATEMALA	434
16. HONDURAS	440
17. MEXICO	451
18. PANAMA	481
19. PARAGUAY	493
20. PERU	503
21. TRINIDAD AND TOBAGO	527
22. UNITED STATES	534
23. URUGUAY	614
24. VENEZUELA	621
VOLUME 3: EUROPE	
25. AUSTRIA	629
26. AZERBAIJAN	640
27. BELARUS	649

28. BELGIUM	660
29. BULGARIA	670
30. CROATIA	683
31. CYPRUS	695
32. CZECH REPUBLIC	702
33. DENMARK	715
34. ESTONIA	726
35. FINLAND	736
36. FRANCE	745
37. GERMANY	766
38. GREECE	786
39. HUNGARY	795
40. IRELAND	809
41. ITALY	822
42. KAZAKHSTAN	844
43. LATVIA	857
44. LITHUANIA	866
45. LUXEMBOURG	873
46. NETHERLANDS	882
47. NORWAY	895
48. POLAND	907
49. PORTUGAL	921
50. ROMANIA	933
51. RUSSIAN FEDERATION	945
52. SERBIA	978
53. SLOVAKIA	992
54. SLOVENIA	1003
55. SPAIN	1015
56. SWEDEN	1039
57. SWITZERLAND	1045
58. UKRAINE	1057
59. UNITED KINGDOM	1072

VOLUME 4: MIDDLE EAST AND AFRICA

PUBLICATION INFORMATION	Ш
Unit conversion factors used in this publication:	iii
Exchange rates used in this publication:	iii
Indicators of utility service coverage:	iv
Indicators of water service coverage	iv
Indicators of wastewater service coverage	iv
Icons used in this publication:	V
Icons representing market sectors	V
Icons representing technology categories	V
Icons representing technology applications	V
Icons representing sector structure responsibilities	V
Icons representing the scope of private sector participation (PSP) projects	V
Icons representing significance/prevalence	vi
60. ALGERIA	1095
60.1 Top market opportunities	1095
60.2 Sector structure and regulation	1075
Figure 60.1 Water sector structure	1075
Figure 60.2 Water sector funding organisations	1075
Figure 60.3 Regulations applicable to the water sector	1076
60.3 Water resources	1078
Figure 60.4 Projected change in water stress by 2020	1078
Figure 60.5 Water resources	1078
Figure 60.6 Water withdrawals by sector, 2010–2030	1078
60.3.1 Desalination	1077
60.3.2 Water reuse	1077
60.3.3 Water transfer	1100
60.3.4 Groundwater protection	1100
60.3.5 Reservoirs and storage	1100
60.3.6 Demand management	1100
60.4 Utility sector	1100
60.4.1 Utility sector strategies and investment planning	1100
60.4.1.1 Water service extension	1100
60.4.1.2 Asset management	1101
60.4.1.3 Non-revenue water	1101
60.4.1.4 Smart water	1101
60.4.1.5 Wastewater networks	1101
60.4.1.6 Wastewater treatment	1101
60.4.1.7 Wastewater polishing	1101
60.4.2 Utility sector structure and performance	1101
Figure 60.7 Utility market structure	1102
Figure 60.8 Water and wastewater utilities serving greater than 300,000 people	1102
Figure 60.9 Utility service performance	1102
Figure 60.10 Water supply indicators	1102
Figure 60.11 Wastewater service indicators	1103
60.4.3 Utility infrastructure	1103
Figure 60.12 Major water treatment plants	1103
Figure 60.12 Major water treatment plants by level of treatment	1103
	1104
Figure 60.14 Major wastewater treatment plants Figure 60.15 Major desalination plants	1104
60.4.4 Utility funding	1105
Figure 60.16 Water and wastewater charges for a benchmark user in selected major cities, 2015	1105
Figure 60.17 Sources of debt used to fund utility investments	1105
Figure 60.18 Sources of debt used to fund utility investments	1105
Figure 60.19 Overseas development assistance for the water and sanitation sector, 2008-2014	1105
60.4.4.1 Tariffs	1106

60.4.4.2 Public investment spending	1106
60.4.5 Utility procurement	1106
Figure 60.20 Procurement models used	1106
Figure 60.21 Criteria for comparing bids on construction contracts	1106
60.4.5.1 DBOs and DBs	1106
60.4.5.2 Private finance	1107
60.4.6 Private sector participation	1107
Figure 60.22 Models of private sector participation	1107
60.4.7 Current and future projects	1108
Figure 60.23 Future utility investment projects	1108
60.5 Industrial water	1109
Figure 60.24 Industrial water market significance	1109
60.6 Market participants	1110
Figure 60.25 Major companies active in the water sector	1110
60.7 Market forecast	1111
60.7.1 Future market directions	1111
60.7.2 Notes on market forecast	1111
Figure 60.26 Market forecast, 2013–2020	1112
Figure 60.27 Market forecast breakdown, 2016	1113
Figure 60.28 Market forecast data, 2013-2020	1114
61. ANGOLA	1116
61.1 Water availability and demand	1116
Figure 61.1 Water resources	1116
Figure 61.2 Sectoral water withdrawal	1116
61.2 Utility sector	1116
Figure 61.3 Utility service performance	1116
Figure 61.4 Water and wastewater utilities serving greater than 300,000 people	1116
61.2.1 Utility water	1117
Figure 61.5 Water supply indicators	1117
Figure 61.6 Number of people connected to water supply network	1117
Figure 61.7 Percentage of people connected to water supply network	1118
Figure 61.8 Number of water connections	1118
Figure 61.9 Utility water supply capacity	1119
Figure 61.10 Non-revenue water	1119
61.2.2 Utility wastewater	1120
Figure 61.11 Wastewater indicators	1120
61.2.3 Utility funding	1120
Figure 61.12 Benchmark water and wastewater tariffs for selected major cities, 2015	1120
Figure 61.13 Overseas development assistance for the water and sanitation sector, 2008-2014	1120
61.3 Market forecast	1121
Figure 61.14 Market forecast, 2013-2020	1121
Figure 61.15 Market forecast breakdown, 2016	1122
Figure 61.16 Market forecast data, 2013-2020	1123
62. BAHRAIN	1125
62.1 Water availability and demand	1125
Figure 62.1 Water resources	1125
Figure 62.2 Sectoral water withdrawal	1125
62.2 Utility sector	1125
Figure 62.3 Utility service performance	1125
Figure 62.4 Water and wastewater utilities serving greater than 300,000 people	1125
62.2.1 Utility water	1126
Figure 62.5 Water supply indicators	1126
Figure 62.6 Utility water supply capacity	1126
62.2.2 Utility wastewater	1126
Figure 62.7 Wastewater indicators	1126
67.7.7.4. Hility tunding	1127
62.2.3 Utility funding	
Figure 62.8 Benchmark water and wastewater tariffs for selected major cities, 2015 62.2.4 Private sector participation	1127

Figure 62.9 Selected major projects involving private sector participation	1127
62.3 Current and future projects	1127
Figure 62.10 Projects tracked by GWI	1127
62.4 Market forecast	1128
Figure 62.11 Market forecast, 2013-2020	1128
Figure 62.12 Market forecast breakdown, 2016	1129
Figure 62.13 Market forecast data, 2013–2020	1130
63. CAMEROON	1132
63.1 Water availability and demand	1132
Figure 63.1 Water resources	1132
Figure 63.2 Sectoral water withdrawal	1132
63.2 Utility sector	1132
Figure 63.3 Utility service performance	1132
Figure 63.4 Water and wastewater utilities serving greater than 300,000 people	1132
63.2.1 Utility water	1133
Figure 63.5 Water supply indicators	1133
63.2.2 Utility wastewater	1133
Figure 63.6 Wastewater indicators	1133
•	1133
63.2.3 Utility funding	
Figure 63.7 Benchmark water and wastewater tariffs for selected major cities, 2015	1133
Figure 63.8 Overseas development assistance for the water and sanitation sector, 2008-2014	1134
63.3 Market forecast	1135
Figure 63.9 Market forecast, 2013–2020	1135
Figure 63.10 Market forecast breakdown, 2016	1136
Figure 63.11 Market forecast data, 2013-2020	1137
64. CÔTE D'IVOIRE	1139
64.1 Water availability and demand	1139
Figure 64.1 Water resources	1139
Figure 64.2 Sectoral water withdrawal	1139
64.2 Utility sector	1139
Figure 64.3 Utility service performance	1139
64.2.1 Utility water	1139
Figure 64.4 Water supply indicators	1139
64.2.2 Utility wastewater	1140
Figure 64.5 Wastewater indicators	1140
64.2.3 Utility funding	1140
Figure 64.6 Benchmark water and wastewater tariffs for selected major cities, 2015	1140
Figure 64.7 Overseas development assistance for the water and sanitation sector, 2008-2014	1140
64.3 Market forecast	1140
Figure 64.8 Market forecast, 2013-2020	1141
•	
Figure 64.9 Market forecast breakdown, 2016	1142
Figure 64.10 Market forecast data, 2013-2020	1143
65. EGYPT	1145
65.1 Top market opportunities	1145
65.2 Sector structure and regulation	1145
Figure 65.1 Water sector structure	1145
Figure 65.2 Water sector funding organisations	1146
Figure 65.3 Regulations applicable to the water sector	1146
65.3 Water resources	1147
Figure 65.4 Projected change in water stress by 2020	1147
Figure 65.5 Water resources	1147
Figure 65.6 Water withdrawals by sector, 2010–2030	1148
65.3.1 Desalination	1148
65.3.2 Water reuse	1148
65.3.3 Water transfer	1140
65.3.4 Groundwater protection	1149
65.3.5 Demand management	1149

65.4 Utility sector	1149
65.4.1 Utility sector strategies and investment planning	1149
65.4.1.1 Water service expansion	1149
65.4.1.2 Wastewater networks	1149
65.4.1.3 Non-revenue and smart water	1150
65.4.2 Utility sector structure and performance	1150
Figure 65.7 Utility market structure	1150
Figure 65.8 Water and wastewater utilities serving greater than 300,000 people	1150
Figure 65.9 Utility service performance	1150
Figure 65.10 Water supply indicators	1151
Figure 65.11 Wastewater service indicators	1151
65.4.3 Utility infrastructure	1151
Figure 65.12 Major water treatment plants	1151
Figure 65.13 Major wastewater treatment plants	1152
Figure 65.14 Major desalination plants	1152
65.4.4 Utility funding	1152
Figure 65.15 Water and wastewater charges for a benchmark user in selected major cities, 2015	1152
Figure 65.16 Sources of utility funding	1152
Figure 65.17 Sources of debt used to fund utility investments	1153
Figure 65.18 Overseas development assistance for the water and sanitation sector, 2008-2014	1153
65.4.4.1 Tariffs	1153
65.4.4.2 Government funding	1153
65.4.4.3 International funding	1154
65.4.4.4 Private finance	1154
65.4.5 Utility procurement	1154
Figure 65.19 Procurement models used	1154
Figure 65.20 Criteria for comparing bids on construction contracts	1154
65.4.6 Private sector participation	1155
Figure 65.21 Models of private sector participation	1155
65.4.7 Current and future projects	1156
Figure 65.22 Future utility investment projects	1156
65.5 Industrial water	1157
Figure 65.23 Industrial water market significance	1157
65.6 Market participants	1158
Figure 65.24 Major companies active in the water sector	1158
65.7 Market forecast	1161
65.7.1 Future market directions	1161
65.7.2 Notes on market forecast	1161
Figure 65.25 Market forecast, 2013-2020	1162
Figure 65.26 Market forecast breakdown, 2016	1163
Figure 65.27 Market forecast data, 2013-2020	1164
66. ETHIOPIA	1166
66.1 Water availability and demand	1166
Figure 66.1 Water resources	1166
Figure 66.2 Sectoral water withdrawal	1166
66.2 Utility sector	1166
Figure 66.3 Utility service performance	1166
Figure 66.4 Water and wastewater utilities serving greater than 300,000 people	1166
66.2.1 Utility water	1167
Figure 66.5 Water supply indicators	1167
66.2.2 Utility wastewater	1167
Figure 66.6 Wastewater indicators	1167
66.2.3 Utility funding	1167
Figure 66.7 Benchmark water and wastewater tariffs for selected major cities, 2015	1167
Figure 66.8 Overseas development assistance for the water and sanitation sector, 2008-2014	1168
66.3 Market forecast	1168
	1169
Figure 66.9 Market forecast, 2013-2020 Figure 66.10 Market forecast breakdown, 2016	1169
FIGULE OD. I O IVIALKET IDLECAST DIEAKUOWIL, 2010	1170

Figure 66.11 Market forecast data, 2013-2020	1171
67. GHANA	1173
67.1 Water availability and demand	1173
Figure 67.1 Water resources	1173
Figure 67.2 Sectoral water withdrawal	1173
67.2 Utility sector	1173
Figure 67.3 Utility service performance	1173
Figure 67.4 Water and wastewater utilities serving greater than 300,000 people	1173
67.2.1 Utility water	1174
Figure 67.5 Water supply indicators	1174
67.2.2 Utility wastewater	1174
Figure 67.6 Wastewater indicators	1174
67.2.3 Utility funding	1174
Figure 67.7 Benchmark water and wastewater tariffs for selected major cities, 2015	1174
Figure 67.8 Overseas development assistance for the water and sanitation sector, 2008-2014	1175
67.2.4 Private sector participation	1175
Figure 67.9 Selected major projects involving private sector participation	1175
67.3 Current and future projects	1175
Figure 67.10 Projects tracked by GWI	1175
67.4 Market forecast	1176
Figure 67.11 Market forecast, 2013-2020	1176
Figure 67.12 Market forecast breakdown, 2016	1177
Figure 67.13 Market forecast data, 2013-2020	1178
68. IRAN	1180
68.1 Top market opportunities	1180
68.2 Sector structure and regulation	1180
Figure 68.1 Water sector structure	1180
Figure 68.2 Water sector funding organisations	1181
Figure 68.3 Regulations applicable to the water sector	1181
68.3 Water resources	1182
Figure 68.4 Projected change in water stress by 2020	1182
Figure 68.5 Water resources	1182
Figure 68.6 Water withdrawals by sector, 2010-2030	1183
68.3.1 Desalination	1183
68.3.2 Water reuse	1183
68.3.3 Water transfer	1184
68.3.4 Groundwater protection	1184
68.3.5 Reservoirs and storage	1184
68.3.6 Demand management	1184
68.4 Utility sector	1185
68.4.1 Utility sector strategies and investment planning	1185
Figure 68.7 Government funding, 2016–2021	1185
68.4.1.1 Wastewater treatment and networks	1185
68.4.1.2 Non-revenue water	1185
68.4.2 Utility sector structure and performance	1186
Figure 68.8 Utility market structure	1186
Figure 68.9 Water and wastewater utilities serving greater than 300,000 people	1186
Figure 68.10 Utility service performance	1187
Figure 68.11 Water supply indicators	1187
Figure 68.12 Wastewater service indicators	1188
68.4.3 Utility infrastructure	1188
Figure 68.13 Major water treatment plants	1188
Figure 68.14 Major wastewater treatment plants	1188
Figure 68.15 Major desalination plants	1188
Figure 68.16 Major water reuse plants	1189
68.4.4 Utility funding	1189

Figure 68.19 Sources of debt used to fund utility investments Figure 68.20 Overseas development assistance for the water and sanitation sector, 2008-2014 68.4.4.1 Government funding 68.4.4.2 National Development Fund 68.4.4.3 International aid 68.4.4.4 Private finance 68.4.4.4 Private finance 68.4.5 Utility procurement 68.4.6 Private sector participation Figure 68.21 Procurement models used Figure 68.23 Models of private sector participation 68.4.6.1 Build-own-operate (BOO) and build-own-transfer (BOT) contracts 68.4.6.2 Buyback contracts 68.4.7 Current and future projects Figure 68.25 Industrial water Figure 68.25 Industrial water market significance 68.6 Market participants Figure 68.26 Major companies active in the water sector 68.7 Market forecast 68.7.1 Future market directions 68.7.2 Notes on market forecast, 2013-2020 Figure 68.29 Market forecast data, 2013-2020 Figure 68.29 Market forecast data, 2013-2020 68.8 Data Sources Figure 68.30 Sources of data used in this report 69.1 RAQ 69.1 Water availability and demand Figure 69.2 Sectoral water withdrawal </th <th>1189 1190 1190 1190 1191 1191 1191 1191</th>	1189 1190 1190 1190 1191 1191 1191 1191
68.4.4.1 Government funding 68.4.4.2 National Development Fund 68.4.4.3 International aid 68.4.4.4 Private finance 68.4.5 Utility procurement Figure 68.21 Procurement models used Figure 68.22 Criteria for comparing bids on construction contracts 68.4.6 Private sector participation Figure 68.23 Models of private sector participation 68.4.6.1 Build-own-operate (BOO) and build-own-transfer (BOT) contracts 68.4.6.2 Buyback contracts 68.4.7 Current and future projects Figure 68.25 Industrial water Figure 68.25 Industrial water Figure 68.25 Industrial water market significance 68.6 Market participants Figure 68.25 Industrial water market sector 68.7 Market forecast 68.7.1 Future market directions 68.7.2 Notes on market forecast Figure 68.26 Market forecast Figure 68.27 Market forecast breakdown, 2016 Figure 68.28 Market forecast breakdown, 2016 Figure 68.30 Sources of data used in this report 69.1 RAQ 69.1 Water availability and demand Figure 69.1 Water resources Figure 69.2 Sectoral water withdrawal <td>1190 1190 1191 1191 1191 1192 1192 1192</td>	1190 1190 1191 1191 1191 1192 1192 1192
68.4.4.2 National Development Fund 68.4.3.1 International aid 68.4.4.3 Private finance 68.4.5 Utility procurement Figure 68.21 Procurement models used Figure 68.22 Criteria for comparing bids on construction contracts 68.4.6 Private sector participation Figure 68.23 Models of private sector participation 68.4.6.1 Build-own-operate (BOO) and build-own-transfer (BOT) contracts 68.4.6.2 Buyback contracts 68.5 Industrial water Figure 68.24 Future utility investment projects Figure 68.25 Industrial water market significance 68.6 Market participants Figure 68.26 Major companies active in the water sector 68.7.1 Future market directions 68.7.2 Notes on market forecast 68.7.2 Notes on market forecast 2013-2020 Figure 68.27 Market forecast 2013-2020 Figure 68.29 Market forecast data, 2013-2020 68.8 Data Sources Figure 68.30 Sources of data used in this report 69.1 IRAQ 69.1 Water availability and demand Figure 69.1 Water resources	1190 1191 1191 1191 1192 1192 1192 1192
68.4.4.3 International aid 68.4.4.4 Private finance 68.4.5.4 Utility procurement Figure 68.21 Procurement models used Figure 68.22 Criteria for comparing bids on construction contracts 68.4.6.4 Private sector participation Figure 68.23 Models of private sector participation 68.4.6.1 Build-own-operate (BOO) and build-own-transfer (BOT) contracts 68.4.6.2 Buyback contracts 68.4.7 Current and future projects Figure 68.25 Industrial water market significance 68.5 Industrial water Figure 68.26 Major companies active in the water sector 68.7 Market forecast 68.7.1 Future market directions 68.7.2 Notes on market forecast Figure 68.27 Market forecast 68.7.2 Notes on market forecast breakdown, 2016 Figure 68.29 Market forecast data, 2013-2020 68.8 Data Sources Figure 68.30 Sources of data used in this report 69.1 IWater availability and demand Figure 69.1 Water resources Figure 69.2 Sectoral water withdrawal	1191 1191 1191 1192 1192 1192 1192 1193 1193
68.4.4.4 Private finance 68.4.5 Utility procurement Figure 68.21 Procurement models used Figure 68.22 Criteria for comparing bids on construction contracts 68.4.6 Private sector participation Figure 68.23 Models of private sector participation 68.4.6.1 Build-own-operate (BOO) and build-own-transfer (BOT) contracts 68.4.6.2 Buyback contracts 68.4.6.2 Buyback contracts 68.4.6.2 Buyback contracts 68.4.7 Current and future projects Figure 68.24 Future utility investment projects 68.5 Industrial water Figure 68.25 Industrial water market significance 68.7 Market participants Figure 68.26 Major companies active in the water sector 68.7 Market forecast 68.7.2 Notes on market forecast Figure 68.29 Market forecast breakdown, 2016 Figure 68.29 Market forecast data, 2013-2020 68.8 Data Sources Figure 68.30 Sources of data used in this report 69.1 Water availability and demand Figure 69.2 Sectoral water withdrawal	1191 1191 1192 1192 1192 1192 1193 1193
68.4.5 Utility procurement Figure 68.21 Procurement models used Figure 68.22 Criteria for comparing bids on construction contracts 68.4.6 Private sector participation Figure 68.23 Models of private sector participation 68.4.6.1 Build-own-operate (BOO) and build-own-transfer (BOT) contracts 68.4.6.2 Buyback contracts 68.4.7 Current and future projects Figure 68.24 Future utility investment projects 68.5 Industrial water Figure 68.25 Industrial water market significance 68.6 Market participants Figure 68.26 Major companies active in the water sector 68.7 Market forecast 68.7.1 Future market directions 68.7.2 Notes on market forecast Figure 68.27 Market forecast, 2013-2020 Figure 68.29 Market forecast data, 2013-2020 Figure 68.30 Sources of data used in this report 69. IRAQ 69. IRAQ 69.1 Water availability and demand Figure 69.1 Water resources Figure 69.2 Sectoral water withdrawal	1191 1192 1192 1192 1192 1192 1193 1193
Figure 68.21 Procurement models used Figure 68.22 Criteria for comparing bids on construction contracts 68.4.6 Private sector participation Figure 68.23 Models of private sector participation 68.4.6.1 Build-own-operate (BOO) and build-own-transfer (BOT) contracts 68.4.6.2 Buyback contracts 68.4.6.7 Current and future projects Figure 68.24 Future utility investment projects 68.5 Industrial water Figure 68.25 Industrial water market significance 68.6 Market participants Figure 68.26 Major companies active in the water sector 68.7.1 Future market directions 68.7.2 Notes on market forecast Figure 68.27 Market forecast breakdown, 2016 Figure 68.29 Market forecast breakdown, 2016 Figure 68.29 Market forecast data, 2013-2020 68.8 Data Sources Figure 68.30 Sources of data used in this report 69.1 RAQ 69.1 Water availability and demand Figure 69.1 Water resources Figure 69.2 Sectoral water withdrawal	1191 1192 1192 1192 1192 1193 1193 1193
Figure 68.22 Criteria for comparing bids on construction contracts 68.4.6 Private sector participation Figure 68.23 Models of private sector participation 68.4.6.1 Build-own-operate (BOO) and build-own-transfer (BOT) contracts 68.4.6.2 Buyback contracts 68.4.6.7 Current and future projects Figure 68.24 Future utility investment projects 68.5 Industrial water Figure 68.25 Industrial water market significance 68.6 Market participants Figure 68.26 Major companies active in the water sector 68.7.1 Future market directions 68.7.2 Notes on market forecast Figure 68.29 Market forecast Figure 68.29 Market forecast breakdown, 2016 Figure 68.29 Market forecast data, 2013-2020 68.8 Data Sources Figure 68.30 Sources of data used in this report 69.1 IRAO 69.1 Water availability and demand Figure 69.1 Water resources Figure 69.2 Sectoral water withdrawal	1192 1192 1192 1192 1193 1193 1193 1193
68.4.6 Private sector participation Figure 68.23 Models of private sector participation 68.4.6.1 Build-own-operate (BOO) and build-own-transfer (BOT) contracts 68.4.6.2 Buyback contracts 68.4.6.2 Buyback contracts 68.4.7 Current and future projects Figure 68.24 Future utility investment projects 68.5 Industrial water Figure 68.25 Industrial water market significance 68.6 Market participants Figure 68.26 Major companies active in the water sector 68.7.1 Future market directions 68.7.2 Notes on market forecast 7.2 Notes on market forecast Figure 68.27 Market forecast breakdown, 2016 Figure 68.29 Market forecast breakdown, 2016 Figure 68.29 Market forecast data, 2013-2020 68.8 Data Sources Figure 68.30 Sources of data used in this report 69.1 RAQ 69.1 Water availability and demand Figure 69.2 Sectoral water withdrawal	1192 1192 1192 1193 1193 1193 1200 1200 1201
Figure 68.23 Models of private sector participation 68.4.6.1 Build-own-operate (BOO) and build-own-transfer (BOT) contracts 68.4.6.2 Buyback contracts 68.4.6.2 Buyback contracts 68.4.7 Current and future projects Figure 68.24 Future utility investment projects 68.5 Industrial water Figure 68.25 Industrial water market significance 68.6 Market participants Figure 68.26 Major companies active in the water sector 68.7.1 Future market directions 68.7.2 Notes on market forecast Figure 68.29 Market forecast Figure 68.29 Market forecast Figure 68.29 Market forecast 68.7.2 Notes on market forecast 2013-2020 Figure 68.29 Market forecast breakdown, 2016 Figure 68.29 Market forecast data, 2013-2020 68.8 Data Sources Figure 68.30 Sources of data used in this report 69.1 IRAO 69.1 Water availability and demand Figure 69.1 Water resources Figure 69.2 Sectoral water withdrawal	1192 1193 1193 1193 1193 1200 1200 1201
68.4.6.1 Build-own-operate (BOO) and build-own-transfer (BOT) contracts 68.4.6.2 Buyback contracts 68.4.7 Current and future projects Figure 68.24 Future utility investment projects 68.5 Industrial water Figure 68.25 Industrial water market significance 68.6 Market participants Figure 68.26 Major companies active in the water sector 68.7 Market forecast 68.7.1 Future market directions 68.7.2 Notes on market forecast Figure 68.29 Market forecast breakdown, 2016 Figure 68.29 Market forecast data, 2013-2020 68.8 Data Sources Figure 68.30 Sources of data used in this report 69.1 RAO 69.1 Water availability and demand Figure 69.1 Water resources Figure 69.1 Sectoral water withdrawal	1192 1193 1193 1193 1200 1200 1201
68.4.6.2 Buyback contracts 68.4.7 Current and future projects Figure 68.24 Future utility investment projects 68.5 Industrial water Figure 68.25 Industrial water market significance 68.6 Market participants Figure 68.26 Major companies active in the water sector 68.7 Market forecast 68.7.1 Future market directions 68.7.2 Notes on market forecast Figure 68.28 Market forecast breakdown, 2016 Figure 68.29 Market forecast breakdown, 2016 Figure 68.29 Market forecast data, 2013-2020 68.8 Data Sources Figure 68.30 Sources of data used in this report 69.1 RAQ 69.1 Water availability and demand Figure 69.1 Water resources Figure 69.2 Sectoral water withdrawal	1193 1193 1193 1200 1200 1201
68.4.7 Current and future projects Figure 68.24 Future utility investment projects 68.5 Industrial water Figure 68.25 Industrial water market significance 68.6 Market participants Figure 68.26 Major companies active in the water sector 68.7 Market forecast 68.7.1 Future market directions 68.7.2 Notes on market forecast Figure 68.27 Market forecast, 2013-2020 Figure 68.28 Market forecast breakdown, 2016 Figure 68.29 Market forecast data, 2013-2020 68.8 Data Sources Figure 68.30 Sources of data used in this report 69.1 RAQ 69.1 Water availability and demand Figure 69.1 Water resources Figure 69.2 Sectoral water withdrawal	1193 1193 1200 1200 1201
Figure 68.24 Future utility investment projects 68.5 Industrial water Figure 68.25 Industrial water market significance 68.6 Market participants Figure 68.26 Major companies active in the water sector 68.7 Market forecast 68.7.1 Future market directions 68.7.2 Notes on market forecast Figure 68.27 Market forecast Figure 68.28 Market forecast, 2013-2020 Figure 68.29 Market forecast breakdown, 2016 Figure 68.29 Market forecast data, 2013-2020 68.8 Data Sources Figure 68.30 Sources of data used in this report 69.1 IRAQ 69.1 Water availability and demand Figure 69.2 Sectoral water withdrawal	1193 1200 1200 1201
68.5 Industrial water Figure 68.25 Industrial water market significance 68.6 Market participants Figure 68.26 Major companies active in the water sector 68.7 Market forecast 68.7.1 Future market directions 68.7.2 Notes on market forecast Figure 68.27 Market forecast, 2013-2020 Figure 68.28 Market forecast breakdown, 2016 Figure 68.29 Market forecast breakdown, 2016 Figure 68.30 Sources of data used in this report 69. IRAO 69.1 Water availability and demand Figure 69.2 Sectoral water withdrawal	1200 1200 1201
Figure 68.25 Industrial water market significance 68.6 Market participants Figure 68.26 Major companies active in the water sector 68.7 Market forecast 68.7.1 Future market directions 68.7.2 Notes on market forecast Figure 68.27 Market forecast, 2013-2020 Figure 68.28 Market forecast breakdown, 2016 Figure 68.29 Market forecast breakdown, 2016 Figure 68.29 Market forecast data, 2013-2020 68.8 Data Sources Figure 68.30 Sources of data used in this report 69. IRAO 69.1 Water availability and demand Figure 69.1 Water resources Figure 69.2 Sectoral water withdrawal	1200 1201
68.6 Market participants Figure 68.26 Major companies active in the water sector 68.7 Market forecast 68.7.1 Future market directions 68.7.2 Notes on market forecast Figure 68.27 Market forecast, 2013-2020 Figure 68.28 Market forecast breakdown, 2016 Figure 68.29 Market forecast data, 2013-2020 68.8 Data Sources Figure 68.30 Sources of data used in this report 69. IRAO 69.1 Water availability and demand Figure 69.1 Water resources Figure 69.2 Sectoral water withdrawal	1201
Figure 68.26 Major companies active in the water sector 68.7 Market forecast 68.7.1 Future market directions 68.7.2 Notes on market forecast Figure 68.27 Market forecast Figure 68.27 Market forecast, 2013-2020 Figure 68.28 Market forecast breakdown, 2016 Figure 68.29 Market forecast breakdown, 2016 Figure 68.29 Market forecast data, 2013-2020 68.8 Data Sources Figure 68.30 Sources of data used in this report 69. IRAO 69.1 Water availability and demand Figure 69.1 Water resources Figure 69.2 Sectoral water withdrawal	
68.7 Market forecast 68.7.1 Future market directions 68.7.2 Notes on market forecast Figure 68.27 Market forecast, 2013-2020 Figure 68.28 Market forecast breakdown, 2016 Figure 68.29 Market forecast data, 2013-2020 68.8 Data Sources Figure 68.30 Sources of data used in this report 69. IRAO 69.1 Water availability and demand Figure 69.1 Water resources Figure 69.2 Sectoral water withdrawal	
68.7.1 Future market directions 68.7.2 Notes on market forecast Figure 68.27 Market forecast, 2013-2020 Figure 68.28 Market forecast breakdown, 2016 Figure 68.29 Market forecast data, 2013-2020 68.8 Data Sources Figure 68.30 Sources of data used in this report 69. IRAO 69.1 Water availability and demand Figure 69.1 Water resources Figure 69.2 Sectoral water withdrawal	1204
68.7.2 Notes on market forecast Figure 68.27 Market forecast, 2013-2020 Figure 68.28 Market forecast breakdown, 2016 Figure 68.29 Market forecast data, 2013-2020 68.8 Data Sources Figure 68.30 Sources of data used in this report 69. IRAO 69.1 Water availability and demand Figure 69.1 Water resources Figure 69.2 Sectoral water withdrawal	1201
Figure 68.27 Market forecast, 2013-2020 Figure 68.28 Market forecast breakdown, 2016 Figure 68.29 Market forecast data, 2013-2020 68.8 Data Sources Figure 68.30 Sources of data used in this report 69. IRAO 69.1 Water availability and demand Figure 69.1 Water resources Figure 69.2 Sectoral water withdrawal	1201
Figure 68.28 Market forecast breakdown, 2016 Figure 68.29 Market forecast data, 2013-2020 68.8 Data Sources Figure 68.30 Sources of data used in this report 69. IRAO 69.1 Water availability and demand Figure 69.1 Water resources Figure 69.2 Sectoral water withdrawal	1201
Figure 68.29 Market forecast data, 2013-2020 68.8 Data Sources Figure 68.30 Sources of data used in this report 69. IRAQ 69.1 Water availability and demand Figure 69.1 Water resources Figure 69.2 Sectoral water withdrawal	1206
68.8 Data Sources Figure 68.30 Sources of data used in this report 69. IRAQ 69.1 Water availability and demand Figure 69.1 Water resources Figure 69.2 Sectoral water withdrawal	1207
Figure 68.30 Sources of data used in this report 69. IRAO 69.1 Water availability and demand Figure 69.1 Water resources Figure 69.2 Sectoral water withdrawal	1208
69. IRAO 69.1 Water availability and demand Figure 69.1 Water resources Figure 69.2 Sectoral water withdrawal	1208
69.1 Water availability and demand Figure 69.1 Water resources Figure 69.2 Sectoral water withdrawal	1209
Figure 69.1 Water resources Figure 69.2 Sectoral water withdrawal	1209
Figure 69.2 Sectoral water withdrawal	1209
	1209
	1209
69.2 Utility sector Figure 69.3 Utility service performance	1209
69.2.1 Utility water	1209
Figure 69.4 Water supply indicators	1209
Figure 69.5 Number of people connected to water supply network	1209
	1210
Figure 69.6 Percentage of people connected to water supply network	
Figure 69.7 Utility water supply capacity	1211
Figure 69.8 Non-revenue water	1211
69.2.2 Utility wastewater	1212
Figure 69.9 Wastewater indicators	1212
Figure 69.10 Number of people connected to sewerage network	1212
Figure 69.11 Percentage of people connected to sewerage network	1213
Figure 69.12 Volume of wastewater produced	1213
Figure 69.13 Percentage of wastewater treated to secondary level	1214
Figure 69.14 Wastewater treatment plants by level of treatment	1214
69.2.3 Utility funding	1214
Figure 69.15 Overseas development assistance for the water and sanitation sector, 2008-2014	1214
69.2.4 Private sector participation	1215
Figure 69.16 Selected major projects involving private sector participation	1215
69.3 Market forecast	1216
Figure 69.17 Market forecast, 2013-2020	1216
Figure 69.18 Market forecast breakdown, 2016	1217
Figure 69.19 Market forecast data, 2013-2020	1218
70. ISRAEL	
70.1 Water availability and demand	1220 1220

Figure 70.1 Water resources	1220
Figure 70.2 Sectoral water withdrawal	1220
70.2 Utility sector	1220 1220
Figure 70.3 Utility service performance Figure 70.4 Water and wastewater utilities serving greater than 300,000 people	1220
70.2.1 Utility water	1220
Figure 70.5 Water supply indicators	1221
Figure 70.6 Number of people connected to water supply network	1221
Figure 70.7 Percentage of people connected to water supply network	1221
Figure 70.8 Number of water connections	1222
Figure 70.9 Utility water supply capacity	1222
Figure 70.10 Non-revenue water	1223
70.2.2 Utility wastewater	1224
Figure 70.11 Wastewater indicators	1224
Figure 70.12 Number of people connected to sewerage network	1224
Figure 70.13 Percentage of people connected to sewerage network	1225
Figure 70.14 Volume of wastewater produced	1225
Figure 70.15 Percentage of wastewater collected	1226
Figure 70.16 Percentage of wastewater treated to secondary level	1226
Figure 70.17 Percentage of wastewater treated to tertiary level	1227
Figure 70.18 Wastewater treatment plants by level of treatment	1227
70.2.3 Utility funding	1227
Figure 70.19 Benchmark water and wastewater tariffs for selected major cities, 2015	1227
70.2.4 Private sector participation	1228
Figure 70.20 Selected major projects involving private sector participation	1228
70.3 Current and future projects	1228
Figure 70.21 Projects tracked by GWI	1228
70.4 Market forecast	1230
Figure 70.22 Market forecast, 2013–2020	1230
Figure 70.23 Market forecast breakdown, 2016	1231
Figure 70.24 Market forecast data, 2013–2020	1232
71. JORDAN	1234
71.1 Water availability and demand	1234
Figure 71.1 Water resources	1234
Figure 71.2 Sectoral water withdrawal	1234
71.2 Utility sector	1234
Figure 71.3 Utility service performance	1234
Figure 71.4 Water and wastewater utilities serving greater than 300,000 people	1234
71.2.1 Utility water	1235
Figure 71.5 Water supply indicators	1235
Figure 71.6 Number of people connected to water supply network	1235
Figure 71.7 Percentage of people connected to water supply network	1236
Figure 71.8 Number of water connections	1236
Figure 71.9 Utility water supply capacity	1237
Figure 71.10 Non-revenue water	1237
71.2.2 Utility wastewater	1238
Figure 71.11 Wastewater indicators	1238
Figure 71.12 Number of people connected to sewerage network	1238
Figure 71.13 Percentage of people connected to sewerage network	1239
Figure 71.14 Number of sewerage connections	1239
Figure 71.15 Volume of wastewater produced	1240
	1240
Figure 71.16 Percentage of wastewater treated to secondary level	1240
Figure 71.16 Percentage of wastewater treated to secondary level Figure 71.17 Wastewater treatment plants by level of treatment	
Figure 71.16 Percentage of wastewater treated to secondary level Figure 71.17 Wastewater treatment plants by level of treatment 71.2.3 Utility funding	
Figure 71.16 Percentage of wastewater treated to secondary level Figure 71.17 Wastewater treatment plants by level of treatment 71.2.3 Utility funding Figure 71.18 Benchmark water and wastewater tariffs for selected major cities, 2015	1241 1241
Figure 71.16 Percentage of wastewater treated to secondary levelFigure 71.17 Wastewater treatment plants by level of treatment71.2.3 Utility fundingFigure 71.18 Benchmark water and wastewater tariffs for selected major cities, 2015Figure 71.19 Overseas development assistance for the water and sanitation sector, 2008-2014	1241 1241
Figure 71.16 Percentage of wastewater treated to secondary level Figure 71.17 Wastewater treatment plants by level of treatment 71.2.3 Utility funding Figure 71.18 Benchmark water and wastewater tariffs for selected major cities, 2015	1241

71.3 Current and future projects	1242
Figure 71.21 Projects tracked by GWI	1242
71.4 Market forecast	1243
Figure 71.22 Market forecast, 2013-2020	1243
Figure 71.23 Market forecast breakdown, 2016	1244 1245
Figure 71.24 Market forecast data, 2013-2020	1245
72. KENYA	1247
72.1 Water availability and demand	1247
Figure 72.1 Water resources	1247
Figure 72.2 Sectoral water withdrawal	1247
72.2 Utility sector	1247
Figure 72.3 Utility service performance	1247
Figure 72.4 Water and wastewater utilities serving greater than 300,000 people	1247
72.2.1 Utility water	1248
Figure 72.5 Water supply indicators	1248
Figure 72.6 Non-revenue water	1248
72.2.2 Utility wastewater	1249
Figure 72.7 Wastewater indicators	1249
72.2.3 Utility funding	1249
Figure 72.8 Benchmark water and wastewater tariffs for selected major cities, 2015	1249
Figure 72.9 Overseas development assistance for the water and sanitation sector, 2008-2014	1249
72.3 Current and future projects	1250
Figure 72.10 Projects tracked by GWI	1250
72.4 Market forecast	1251
Figure 72.11 Market forecast, 2013–2020	1251
Figure 72.12 Market forecast breakdown, 2016	1252
Figure 72.13 Market forecast data, 2013-2020	1253
73. KUWAIT	1255
73.1 Water availability and demand	1255
Figure 73.1 Water resources	1255
Figure 73.2 Sectoral water withdrawal	1255
73.2 Utility sector	1255
Figure 73.3 Utility service performance	1255
73.2.1 Utility water	1255
Figure 73.4 Water supply indicators	1255
Figure 73.5 Number of people connected to water supply network	1256
Figure 73.6 Percentage of people connected to water supply network	1256
Figure 73.7 Utility water supply capacity	1257
Figure 73.8 Non-revenue water	1257
73.2.2 Utility wastewater	1258
Figure 73.9 Wastewater indicators	1258
Figure 73.10 Number of people connected to sewerage network	1258
Figure 73.11 Percentage of people connected to sewerage network	1259
Figure 73.12 Percentage of wastewater treated to secondary level	1259
Figure 73.13 Percentage of wastewater treated to tertiary level	1260
Figure 73.14 Wastewater treatment plants by level of treatment	1260
73.2.3 Private sector participation	1260
Figure 73.15 Selected major projects involving private sector participation	1260
73.3 Current and future projects	1261
Figure 73.16 Projects tracked by GWI	1261
73.4 Market forecast	1262
Figure 73.17 Market forecast, 2013-2020	1262
Figure 73.18 Market forecast breakdown, 2016	1263
Figure 73.19 Market forecast data, 2013-2020	1264
74. LEBANON	1266
74.1 Water availability and demand	1266
	1200

Figure 74.1 Water resources	1266
Figure 74.2 Sectoral water withdrawal	1266
74.2 Utility sector	1266
Figure 74.3 Utility service performance	1266
Figure 74.4 Water and wastewater utilities serving greater than 300,000 people	1266
74.2.1 Utility water	1267
Figure 74.5 Water supply indicators	1267
Figure 74.6 Percentage of people connected to water supply network	1267
74.2.2 Utility wastewater	1268
Figure 74.7 Wastewater indicators	1268
Figure 74.8 Percentage of people connected to sewerage network	1268
Figure 74.9 Volume of wastewater produced	1269
74.2.3 Utility funding	1269
Figure 74.10 Benchmark water and wastewater tariffs for selected major cities, 2015	1269
Figure 74.11 Overseas development assistance for the water and sanitation sector, 2008-2014	1269
74.3 Current and future projects	1270
Figure 74.12 Projects tracked by GWI	1270
74.4 Market forecast	1271
Figure 74.13 Market forecast, 2013-2020	1271
Figure 74.14 Market forecast breakdown, 2016	1272
Figure 74.15 Market forecast data, 2013-2020	1273
75. MOROCCO	1275
75.1 Top market opportunities	1275
75.2 Sector structure and regulation	1275
Figure 75.1 Water sector structure	1275
Figure 75.2 Regulations applicable to the water sector	1276
75.2.1 ONEE	1277
Figure 75.3 Selected financial indicators for ONEE in 2013	1277
Figure 75.4 ONEE's contrat-programme 2014-2017 restructuring measures	1278
75.2.2 Regulatory initiatives	1278
75.3 Water resources	1279
Figure 75.5 Projected change in water stress by 2020	1279
Figure 75.6 Water resources	1279
Figure 75.7 Water withdrawals by sector, 2010-2030	1279
Figure 75.8 Breakdown of PNE costs	1280
75.3.1 Desalination	1280
Figure 75.9 Desalination capacity by sector by 2030	1280
75.3.2 Water reuse	1280
Figure 75.10 Reuse volumes by sector by 2030	1281
Figure 75.11 PNREU cost breakdown by capex type	1281
75.3.3 Water transfer	1281
75.3.4 Groundwater protection	1281
75.3.5 Reservoirs and storage	1281
75.3.6 Demand management	1282
75.4 Utility sector	1282
75.4.1 Utility sector strategies and investment planning	1282
75.4.1.1 Water service extension	1282
75.4.1.2 Non-revenue water	1282
75.4.1.3 Smart water	1282
75.4.1.4 Asset management	1282
75.4.1.5 Wastewater treatment	1282
Figure 75.12 Key indicators for PNA	1283
75.4.1.6 Wastewater network	1283
75.4.1.7 Wastewater polishing	1283
75.4.2 Utility sector structure and performance	1283
Figure 75.13 Utility market structure	1283
Figure 75.14 Water and wastewater utilities serving greater than 300,000 people	1283
Figure 75.15 Utility service performance	1284

Figure 75.16 Water supply indicators	1284
Figure 75.17 Wastewater service indicators	1285
75.4.3 Utility infrastructure	1285
Figure 75.18 Major water treatment plants	1285
Figure 75.19 Wastewater treatment plants by level of treatment	1285
Figure 75.20 Major wastewater treatment plants	1286
Figure 75.21 Major desalination plants	1286
75.4.4 Utility funding	1286 1286
Figure 75.22 Water and wastewater charges for a benchmark user in selected major cities, 2015	1286
Figure 75.23 Sources of utility funding Figure 75.24 Sources of debt used to fund utility investments	1280
Figure 75.25 Overseas development assistance for the water and sanitation sector, 2008-2014	1287
75.4.4.1 Tariffs	1287
75.4.4.2 ONEE funding	1287
75.4.4.3 Private finance	1287
75.4.5 Utility procurement	1288
Figure 75.26 Procurement models used	1288
Figure 75.27 Criteria for comparing bids on construction contracts	1289
75.4.6 Private sector participation	1289
Figure 75.28 Models of private sector participation	1289
75.4.6.1 Concessions	1289
Figure 75.29 Structure of Morocco's four private water, wastewater and electricity concessions	1207
75.4.6.2 O&M contracts	1290
75.4.7 Current and future projects	1290
Figure 75.30 Future utility investment projects	1290
75.5 Industrial water	1290
Figure 75.31 Industrial water market significance	1293
75.6 Market participants	1293
Figure 75.32 Major companies active in the water sector	1294
75.7 Market forecast	1294
75.7 Market forecast 75.7.1 Future market directions	1295
75.7.2 Notes on market forecast	1295
Figure 75.33 Market forecast, 2013-2020	1295
Figure 75.34 Market forecast breakdown, 2016	1270
Figure 75.35 Market forecast data, 2013–2020	1277
75.8 Data Sources	1300
Figure 75.36 Sources of data used in this report	1300
	1500
76. NAMIBIA	1301
76.1 Water availability and demand	1301
Figure 76.1 Water resources	1301
Figure 76.2 Sectoral water withdrawal	1301
76.2 Utility sector	1301
	1301
Figure 76.3 Utility service performance	1301
	1301
76.2.1 Utility water Figure 76.4 Water supply indicators	1302
76.2.1 Utility water	1302
76.2.1 Utility water Figure 76.4 Water supply indicators 76.2.2 Utility wastewater	
76.2.1 Utility water Figure 76.4 Water supply indicators 76.2.2 Utility wastewater Figure 76.5 Wastewater indicators	1302 1302 1302
76.2.1 Utility water Figure 76.4 Water supply indicators 76.2.2 Utility wastewater Figure 76.5 Wastewater indicators 76.2.3 Utility funding	1302 1302
76.2.1 Utility water Figure 76.4 Water supply indicators 76.2.2 Utility wastewater Figure 76.5 Wastewater indicators	1302 1302 1302
76.2.1 Utility water Figure 76.4 Water supply indicators 76.2.2 Utility wastewater Figure 76.5 Wastewater indicators 76.2.3 Utility funding Figure 76.6 Benchmark water and wastewater tariffs for selected major cities, 2015 Figure 76.7 Overseas development assistance for the water and sanitation sector, 2008-2014	1302 1302 1302
76.2.1 Utility water Figure 76.4 Water supply indicators 76.2.2 Utility wastewater Figure 76.5 Wastewater indicators 76.2.3 Utility funding Figure 76.6 Benchmark water and wastewater tariffs for selected major cities, 2015 Figure 76.7 Overseas development assistance for the water and sanitation sector, 2008-2014 76.2.4 Private sector participation	1302 1302 1302 1302 1302 1303
76.2.1 Utility water Figure 76.4 Water supply indicators 76.2.2 Utility wastewater Figure 76.5 Wastewater indicators 76.2.3 Utility funding Figure 76.6 Benchmark water and wastewater tariffs for selected major cities, 2015 Figure 76.7 Overseas development assistance for the water and sanitation sector, 2008-2014 76.2.4 Private sector participation Figure 76.8 Selected major projects involving private sector participation	1302 1302 1302 1302 1303 1303
76.2.1 Utility water Figure 76.4 Water supply indicators 76.2.2 Utility wastewater Figure 76.5 Wastewater indicators 76.2.3 Utility funding Figure 76.6 Benchmark water and wastewater tariffs for selected major cities, 2015 Figure 76.7 Overseas development assistance for the water and sanitation sector, 2008-2014 76.2.4 Private sector participation Figure 76.8 Selected major projects involving private sector participation 76.3 Current and future projects	1302 1302 1302 1302 1303 1303 1303
76.2.1 Utility water Figure 76.4 Water supply indicators 76.2.2 Utility wastewater Figure 76.5 Wastewater indicators 76.2.3 Utility funding Figure 76.6 Benchmark water and wastewater tariffs for selected major cities, 2015 Figure 76.7 Overseas development assistance for the water and sanitation sector, 2008-2014 76.2.4 Private sector participation Figure 76.8 Selected major projects involving private sector participation 76.3 Current and future projects Figure 76.9 Projects tracked by GWI	1302 1302 1302 1302 1303 1303 1303 1303
76.2.1 Utility water Figure 76.4 Water supply indicators 76.2.2 Utility wastewater Figure 76.5 Wastewater indicators 76.2.3 Utility funding Figure 76.6 Benchmark water and wastewater tariffs for selected major cities, 2015 Figure 76.7 Overseas development assistance for the water and sanitation sector, 2008-2014 76.2.4 Private sector participation Figure 76.8 Selected major projects involving private sector participation 76.3 Current and future projects Figure 76.9 Projects tracked by GWI 76.4 Market forecast	1302 1302 1302 1303 1303 1303 1303 1303
76.2.1 Utility water Figure 76.4 Water supply indicators 76.2.2 Utility wastewater Figure 76.5 Wastewater indicators 76.2.3 Utility funding Figure 76.6 Benchmark water and wastewater tariffs for selected major cities, 2015 Figure 76.7 Overseas development assistance for the water and sanitation sector, 2008-2014 76.2.4 Private sector participation Figure 76.8 Selected major projects involving private sector participation 76.3 Current and future projects Figure 76.9 Projects tracked by GWI	1302 1302 1302 1302 1303 1303 1303 1303

77. NIGERIA

77. NIGERIA	1308
77.1 Top market opportunities	1308
77.2 Sector structure and regulation	1308
Figure 77.1 Water sector structure	1308
Figure 77.2 Regulations applicable to the water sector	1309
77.3 Water resources	1311
Figure 77.3 Projected change in water stress by 2020	1311
Figure 77.4 Water resources	1311
Figure 77.5 Water withdrawals by sector, 2010-2030	1311
77.3.1 Desalination	1312
77.3.2 Water reuse	1312
77.3.3 Water transfer	1312
77.3.4 Groundwater protection	1312
77.3.5 Reservoirs and storage	1312
77.3.6 Demand management	1312
77.4 Utility sector	1313
77.4.1 Utility sector strategies and investment planning	1313
77.4.1.1 Water treatment plants and networks	1313
77.4.1.2 Non-revenue water	1313
77.4.1.3 Wastewater treatment and networks	1313
77.4.2 Utility sector structure and performance	1313
Figure 77.6 Utility market structure	1313
Figure 77.7 Water and wastewater utilities serving greater than 300,000 people	1313
Figure 77.8 Utility service performance	1314
Figure 77.9 Water supply indicators	1314
Figure 77.10 Wastewater service indicators	1315
77.4.3 Utility infrastructure	1315
Figure 77.11 Major water treatment plants	1315
Figure 77.12 Major wastewater treatment plants	1315
77.4.4 Utility funding	1316
Figure 77.13 Water and wastewater charges for a benchmark user in selected major cities, 2015	1316
Figure 77.14 Sources of utility funding	1316
Figure 77.15 Sources of debt used to fund utility investments	1316
Figure 77.16 Overseas development assistance for the water and sanitation sector, 2008-2014	1317
77.4.4.1 Water tariffs	1317
77.4.4.2 Government budgetary allocations	1317
77.4.4.3 International grants/loans	1317
77.4.5 Utility procurement	1318
Figure 77.17 Procurement models used	1318
Figure 77.18 Criteria for comparing bids on construction contracts	1318
	1318
77.4.6 Private sector participation	1319
Figure 77.19 Models of private sector participation	1319
77.4.7 Current and future projects	
Figure 77.20 Future utility investment projects	1319
77.5 Industrial water	1321
Figure 77.21 Industrial water market significance	1321
77.6 Market participants	1322
Figure 77.22 Major companies active in the water sector	1322
77.7 Market forecast	1324
77.7.1 Future market directions	1324
77.7.2 Notes on market forecast	1324
Figure 77.23 Market forecast, 2013–2020	1325
Figure 77.24 Market forecast breakdown, 2016	1326
Figure 77.25 Market forecast data, 2013-2020	1327
78. OMAN	1329
78.1 Top market opportunities	1329
78.2 Sector structure and regulation	1329
	1329

Figure 78.2 Water sector funding organisations	1330
Figure 78.3 Regulations applicable to the water sector	1331
78.2.1 Water Resources Master Plan	1332
78.3 Water resources	1332
Figure 78.4 Projected change in water stress by 2020	1332
Figure 78.5 Water resources	1332
Figure 78.6 Water withdrawals by sector, 2010-2030	1333
78.3.1 Desalination	1333
78.3.2 Water reuse	1333
78.3.3 Water transfer	1334
78.3.4 Groundwater protection	1334
78.3.5 Reservoirs and storage	1334
78.3.6 Demand management	1334
78.4 Utility sector	1334
78.4.1 Utility sector strategies and investment planning	1334
78.4.1.1 Water service extension	1334
78.4.1.2 Wastewater infrastructure	1334
78.4.1.3 Non-revenue water and smart water	1335
78.4.2 Utility sector structure and performance	1335
Figure 78.7 Utility market structure	1335
Figure 78.8 Water and wastewater utilities serving greater than 300,000 people	1335
Figure 78.9 Utility service performance	1335
Figure 78.10 Water supply indicators	1335
Figure 78.11 Wastewater service indicators	1336
78.4.3 Utility infrastructure	1336
Figure 78.12 Major desalination plants	1336
Figure 78.13 Major water reuse plants	1336
78.4.4 Utility funding	1337
Figure 78.14 Water and wastewater charges for a benchmark user in selected major cities, 2015	1337
Figure 78.15 Sources of utility funding	1337
Figure 78.16 Sources of debt used to fund utility investments	1337
Figure 78.17 Overseas development assistance for the water and sanitation sector, 2008-2014	1337
78.4.4.1 Government funding	1338
78.4.4.2 Private finance	1338
78.4.4.3 International aid	1338
78.4.5 Utility procurement	1338
Figure 78.18 Procurement models used	1338
Figure 78.19 Criteria for comparing bids on construction contracts	1339
78.4.6 Private sector participation	1339
Figure 78.20 Models of private sector participation	1339
78.4.6.1 Privately financed projects	1340
78.4.6.2 Management contracts	1340
78.4.7 Current and future projects	1340
Figure 78.21 Future utility investment projects	1340
78.5 Industrial water	1342
Figure 78.22 Industrial water market significance	1342
78.6 Market participants	1343
Figure 78.23 Major companies active in the water sector	1343
78.7 Market forecast	1346
78.7.1 Future market directions 78.7.2 Notes on market forecast	1346 1346
Figure 78.24 Market forecast, 2013-2020	1347 1348
Figure 78.25 Market forecast breakdown, 2016	
Figure 78.26 Market forecast data, 2013-2020	1349
79. QATAR	1351
79.1 Top market opportunities	1351
79.2 Sector structure and regulation Figure 79.1 Water sector structure	1351

Figure 79.2 Water sector funding organisations	1352
Figure 79.3 Regulations applicable to the water sector	1352
79.3 Water resources	1353
Figure 79.4 Projected change in water stress by 2020	1353
Figure 79.5 Water resources	1353
Figure 79.6 Water withdrawals by sector, 2010-2030	1353
79.3.1 Desalination	1354
79.3.2 Water reuse	1354
79.3.3 Groundwater protection	1354
79.3.4 Reservoirs and storage	1354
79.3.5 Demand management	1354
79.4 Utility sector	1354
•	
79.4.1 Utility sector strategies and investment planning	1355
79.4.1.1 Wastewater networks	1355
79.4.1.2 Non-revenue water	1355
79.4.2 Utility sector structure and performance	1355
Figure 79.7 Utility market structure	1355
Figure 79.8 Water and wastewater utilities serving greater than 300,000 people	1355
Figure 79.9 Utility service performance	1356
Figure 79.10 Water supply indicators	1356
Figure 79.11 Wastewater service indicators	1356
79.4.3 Utility infrastructure	1357
Figure 79.12 Major desalination plants	1357
Figure 79.13 Major water reuse plants	1357
79.4.4 Utility funding	1357
Figure 79.14 Water and wastewater charges for a benchmark user in selected major cities, 2015	1357
Figure 79.15 Sources of utility funding	1357
Figure 79.16 Sources of debt used to fund utility investments	1358
79.4.5 Utility procurement	1358
Figure 79.17 Procurement models used	1358
Figure 79.18 Criteria for comparing bids on construction contracts	1359
79.4.6 Private sector participation	1359
Figure 79.19 Models of private sector participation	1359
79.4.7 Current and future projects	1360
Figure 79.20 Future utility investment projects	1360
79.5 Industrial water	1361
Figure 79.21 Industrial water market significance	1361
79.6 Market participants	1361
Figure 79.22 Major companies active in the water sector	1361
79.7 Market forecast	1363
79.7.1 Future market directions	1363
79.7.2 Notes on market forecast	1363
Figure 79.23 Market forecast, 2013-2020	1364
Figure 79.24 Market forecast breakdown, 2016	1365
Figure 79.25 Market forecast data, 2013-2020	1366
80. RWANDA	1368
80.1 Water availability and demand	1368
Figure 80.1 Water resources	1368
Figure 80.2 Sectoral water withdrawal	1368
80.2 Utility sector	1368
Figure 80.3 Utility service performance	1368
80.2.1 Utility water	1368
Figure 80.4 Water supply indicators	1368
Figure 80.5 Number of people connected to water supply network	1369
Figure 80.6 Percentage of people connected to water supply network	1369
Figure 80.7 Number of water connections	1370
Figure 80.8 Utility water supply capacity	1370
Figure 80.9 Non-revenue water	1371

80.2.2 Utility wastewater	1371 1371
Figure 80.10 Wastewater indicators	
Figure 80.11 Number of people connected to sewerage network	1372
Figure 80.12 Percentage of people connected to sewerage network	1372
Figure 80.13 Number of sewerage connections	1373
80.2.3 Utility funding	1373
Figure 80.14 Benchmark water and wastewater tariffs for selected major cities, 2015	1373
Figure 80.15 Overseas development assistance for the water and sanitation sector, 2008-2014	1373
80.3 Current and future projects	1374
Figure 80.16 Projects tracked by GWI	1374
80.4 Market forecast	1375
Figure 80.17 Market forecast, 2013–2020	1375
Figure 80.18 Market forecast breakdown, 2016	1376
Figure 80.19 Market forecast data, 2013-2020	1377
81. SAUDI ARABIA	1379
81.1 Top market opportunities	1379
81.2 Sector structure and regulation	1379
Figure 81.1 Water sector structure	1379
Figure 81.2 Regulations applicable to the water sector	1380
Figure 81.3 National Water Strategy targets, 2015–2040	1381
81.2.1 10th National Development Plan	1381
81.3 Water resources	1382
Figure 81.4 Projected change in water stress by 2020	1382
Figure 81.5 Water resources	1382
Figure 81.6 Water withdrawals by sector, 2010–2030	1382
81.3.1 Desalination	1382
81.3.2 Water reuse	1383
81.3.3 Water transfer	1383
	1383
81.3.4 Groundwater protection	
81.3.5 Reservoirs and storage	1383
81.3.6 Demand management	1384
81.4 Utility sector	1384
81.4.1 Utility sector strategies and investment planning	1384
81.4.1.1 Asset management	1384
81.4.1.2 Service extension	1384
81.4.1.3 Wastewater treatment	1384
81.4.2 Utility sector structure and performance	1385
Figure 81.7 Utility market structure	1385
Figure 81.8 Water and wastewater utilities serving greater than 300,000 people	1385
Figure 81.9 Utility service performance	1385
Figure 81.10 Water supply indicators	1385
Figure 81.11 Wastewater service indicators	1386
81.4.3 Utility infrastructure	1386
Figure 81.12 Major wastewater treatment plants	1386
Figure 81.13 Major desalination plants	1386
Figure 81.14 Major water reuse plants	1387
81.4.4 Utility funding	1387
Figure 81.15 Water and wastewater charges for a benchmark user in selected major cities, 2015	1387
Figure 81.16 Sources of utility funding	1387
Figure 81.17 Sources of debt used to fund utility investments	1387
81.4.4.1 Tariffs	1388
81.4.4.2 Treated sewage effluent	1388
81.4.4.3 Private finance	1388
81.4.5 Utility procurement	1389
Figure 81.18 Procurement models used	1389
Figure 81.19 Criteria for comparing bids on construction contracts	1389
81.4.6 Private sector participation	1390
Figure 81.20 Models of private sector participation	1390

81.4.6.1 NWC	1390
81.4.6.2 Industrial parks	1390
Figure 81.21 Water and wastewater treatment plant BOTs in Modon's industrial parks	1391
81.4.7 Current and future projects	1391
Figure 81.22 Future utility investment projects	1391
81.5 Industrial water	1396
Figure 81.23 Industrial water market significance	1396
81.5.1 Upstream oil & gas	1396
81.6 Market participants	1397
Figure 81.24 Major companies active in the water sector	1397
81.7 Market forecast	1400
81.7.1 Future market directions	1400
81.7.2 Notes on market forecast	1400
Figure 81.25 Market forecast, 2013-2020	1401
Figure 81.26 Market forecast breakdown, 2016	1402
Figure 81.27 Market forecast data, 2013-2020	1403
81.8 Data Sources	1405
Figure 81.28 Sources of data used in this report	1405
· ·	
82. SOUTH AFRICA	1406
82.1 Top market opportunities	1406
82.2 Sector structure and regulation	1406
Figure 82.1 Water sector structure	1406
Figure 82.2 Water sector funding organisations	1408
Figure 82.3 Regulations applicable to the water sector	1408
82.3 Water resources	1411
Figure 82.4 Projected change in water stress by 2020	1411
Figure 82.5 Water resources	1411
Figure 82.6 Water withdrawals by sector, 2010-2030	1411
82.3.1 Desalination	1412
82.3.2 Water reuse	1412
82.3.3 Water transfer	1412
82.3.4 Groundwater protection	1412
82.3.5 Reservoirs and storage	1412
82.3.6 Demand management	1412
82.4 Utility sector	1413
82.4.1 Utility sector strategies and investment planning	1413
82.4.2 Water and wastewater treatment	1413
82.4.2.1 Non-revenue water	1413
82.4.2.2 Smart water	1413
82.4.3 Utility sector structure and performance	1413
Figure 82.7 Utility market structure	1413
Figure 82.8 Water and wastewater utilities serving greater than 300,000 people	1414
Figure 82.9 Utility service performance	1414
Figure 82.10 Water supply indicators	1415
Figure 82.11 Wastewater service indicators	1415
82.4.4 Utility infrastructure	1415
Figure 82.12 Major water treatment plants	1415
Figure 82.13 Wastewater treatment plants by level of treatment	1416
Figure 82.14 Major wastewater treatment plants	1416
Figure 82.15 Major desalination plants	1416
Figure 82.16 Major water reuse plants	1417
82.4.5 Utility funding	1417
Figure 82.17 Water and wastewater charges for a benchmark user in selected major cities, 2015	1417
Figure 82.18 Sources of utility funding	1417
Figure 82.19 Sources of debt used to fund utility investments	1417
Figure 82.20 Overseas development assistance for the water and sanitation sector, 2008–2014	1418
	1410
82.4.6 Utility procurement	1418

Figure 82.22 Criteria for comparing bids on construction contracts	1419
82.4.7 Private sector participation	1419
Figure 82.23 Models of private sector participation	1419
82.4.8 Current and future projects	1420
Figure 82.24 Future utility investment projects	1420
82.5 Industrial water	1421
Figure 82.25 Industrial water withdrawals	1421
Figure 82.26 Industrial water market significance	1422
82.5.1 Mining	1422
82.5.2 Other industries	1422
82.6 Market participants	1422
Figure 82.27 Major companies active in the water sector	1422
82.7 Market forecast	1426
82.7.1 Future market directions	1426
82.7.2 Notes on market forecast	1426
Figure 82.28 Market forecast, 2013-2020	1427
Figure 82.29 Market forecast breakdown, 2016	1428
Figure 82.30 Market forecast data, 2013-2020	1429
82.8 Data Sources	1431
Figure 82.31 Sources of data used in this report	1431
B3. TANZANIA	1432
83.1 Water availability and demand	1432
Figure 83.1 Water resources	1432
Figure 83.2 Sectoral water withdrawal	1432
83.2 Utility sector	1432
Figure 83.3 Utility service performance	1432
Figure 83.4 Water and wastewater utilities serving greater than 300,000 people	1432
83.2.1 Utility water	1433
Figure 83.5 Water supply indicators	1433
Figure 83.6 Number of water connections	1433
Figure 83.7 Meter coverage	1434
Figure 83.8 Non-revenue water	1434
Figure 83.9 Length of water distribution network	1435
83.2.2 Utility wastewater	1435
Figure 83.10 Wastewater indicators	1435
Figure 83.11 Length of sewerage network	1436
Figure 83.11 Length of sewerage network 83.2.3 Utility funding	1436

Figure 83.12 Benchmark water and wastewater tariffs for selected major cities, 20151436Figure 83.13 Overseas development assistance for the water and sanitation sector, 2008-2014143783.3 Current and future projects1437Figure 83.14 Projects tracked by GWI143783.4 Market forecast1438Figure 83.15 Market forecast, 2013-20201438Figure 83.16 Market forecast breakdown, 20161439

Figure 83.17 Market forecast data, 2013-2020 1440 84. TUNISIA 1442 84.1 Water availability and demand 1442

84.1 Water availability and demand	1442
Figure 84.1 Water resources	1442
Figure 84.2 Sectoral water withdrawal	1442
84.2 Utility sector	1442
Figure 84.3 Utility service performance	1442
Figure 84.4 Water and wastewater utilities serving greater than 300,000 people	1442
84.2.1 Utility water	1443
Figure 84.5 Water supply indicators	1443
84.2.2 Utility wastewater	1443
Figure 84.6 Wastewater indicators	1443
84.2.3 Utility funding	1443

Figure 84.7 Benchmark water and wastewater tariffs for selected major cities, 2015 Figure 84.8 Overseas development assistance for the water and sanitation sector, 2008-2014	1443 1444
84.3 Current and future projects	1444
Figure 84.9 Projects tracked by GWI	1444
84.4 Market forecast	1444
Figure 84.10 Market forecast, 2013-2020	1447
Figure 84.11 Market forecast breakdown, 2016	1448
Figure 84.12 Market forecast data, 2013-2020	1449
85. TURKEY	1451
85.1 Water availability and demand	1451
Figure 85.1 Water resources	1451
Figure 85.2 Sectoral water withdrawal	1451
85.2 Utility sector	1451
Figure 85.3 Utility service performance	1451
Figure 85.4 Water and wastewater utilities serving greater than 300,000 people	1452
85.2.1 Utility water	1453
Figure 85.5 Water supply indicators	1453
Figure 85.6 Number of people connected to water supply network	1453
Figure 85.7 Percentage of people connected to water supply network	1454
Figure 85.8 Number of water connections	1454
Figure 85.9 Utility water supply capacity	1455
85.2.2 Utility wastewater	1455
Figure 85.10 Wastewater indicators	1455
Figure 85.11 Number of people connected to sewerage network	1456
Figure 85.12 Percentage of people connected to sewerage network	1456
Figure 85.13 Volume of wastewater produced	1457
Figure 85.14 Percentage of wastewater collected	1457
Figure 85.15 Percentage of wastewater treated to secondary level	1458
Figure 85.16 Percentage of wastewater treated to tertiary level	1458
Figure 85.17 Wastewater treatment plants by level of treatment	1458
85.2.3 Utility funding	1459
Figure 85.18 Benchmark water and wastewater tariffs for selected major cities, 2015	1459
Figure 85.19 Overseas development assistance for the water and sanitation sector, 2008-2014	1459
85.2.4 Private sector participation	1459
Figure 85.20 Selected major projects involving private sector participation	1459
85.3 Market forecast	1460
Figure 85.21 Market forecast, 2013-2020	1460
Figure 85.22 Market forecast breakdown, 2016	1461
Figure 85.23 Market forecast data, 2013-2020	1462
86. UGANDA	1464
86.1 Water availability and demand	1464
Figure 86.1 Water resources	1464
Figure 86.2 Sectoral water withdrawal	1464
86.2 Utility sector	1464
Figure 86.3 Utility service performance	1464
86.2.1 Utility water	1464
	1464
Figure 86.4 Water supply indicators	
86.2.2 Utility wastewater	1465
Figure 86.5 Wastewater indicators	1465
86.2.3 Utility funding	1465
Figure 86.6 Benchmark water and wastewater tariffs for selected major cities, 2015	1465
Figure 86.7 Overseas development assistance for the water and sanitation sector, 2008-2014	1465
86.2.4 Private sector participation	1466
Figure 86.8 Selected major projects involving private sector participation	1466
86.3 Current and future projects	1466
	1466
Figure 86.9 Projects tracked by GWI	1400

Figure 86.10 Market forecast, 2013-2020 Figure 86.11 Market forecast breakdown, 2016	<u> </u>
Figure 86.12 Market forecast data, 2013–2020	1469
87. UNITED ARAB EMIRATES	1471
	1471
87.1 Top market opportunities 87.2 Sector structure and regulation	1471
Figure 87.1 Water sector structure	1471
Figure 87.2 Water sector funding organisations	1471
Figure 87.3 Regulations applicable to the water sector	1473
87.3 Water resources	1474
Figure 87.4 Projected change in water stress by 2020	1474
Figure 87.5 Water resources	1475
Figure 87.6 Water withdrawals by sector, 2010–2030	1475
87.3.1 Desalination	1475
87.3.2 Water reuse	1475
87.3.3 Water transfer	1476
87.3.4 Groundwater protection	1476
87.3.5 Reservoirs and storage	1476
87.3.6 Demand management	1476
87.4 Utility sector	1476
87.4.1 Utility sector strategies and investment planning	1476
87.4.1.1 Water service extension	1476
87.4.1.2 Non-revenue water	1476
87.4.1.3 Smart water	1476
87.4.1.4 Wastewater networks	1476
87.4.1.5 Wastewater treatment	1477
87.4.2 Utility sector structure and performance	1477
Figure 87.7 Utility market structure	1477
Figure 87.8 Water and wastewater utilities serving greater than 300,000 people	1477
Figure 87.9 Utility service performance	1477
Figure 87.10 Water supply indicators	1478
Figure 87.11 Wastewater service indicators	1478
87.4.3 Utility infrastructure	1478
Figure 87.12 Wastewater treatment plants by level of treatment	1478
Figure 87.13 Major wastewater treatment plants	1479
Figure 87.14 Major desalination plants	1479
87.4.4 Utility funding	1480
Figure 87.15 Water and wastewater charges for a benchmark user in selected major cities, 2015	1480
Figure 87.16 Sources of utility funding	1480
Figure 87.17 Sources of debt used to fund utility investments	1480
87.4.5 Utility procurement	1481
Figure 87.18 Procurement models used	1481
Figure 87.19 Criteria for comparing bids on construction contracts	1481
87.4.6 Private sector participation	1482
Figure 87.20 Models of private sector participation	1482
87.4.7 Current and future projects	1483
Figure 87.21 Future utility investment projects	1483
87.5 Industrial water	1484
Figure 87.22 Industrial water market significance	1484
87.6 Market participants	1484 1484
Figure 87.23 Major companies active in the water sector 87.7 Market forecast	1484
87.7.1 Future market directions	1487
87.7.2 Notes on market forecast	1487
Figure 87.24 Market forecast, 2013–2020	1487
Figure 87.25 Market forecast breakdown, 2016	1489
Figure 87.26 Market forecast data, 2013-2020	1409

VOLUME 5: ASIA PACIFIC

88. AUSTRALIA	1493
89. BANGLADESH	1519
90. CHINA	1526
91. HONG KONG	1563
92. INDIA	1576
93. INDONESIA	1626
94. JAPAN	1654
95. MALAYSIA	1675
96. NEW ZEALAND	1696
97. PAKISTAN	1706
98. PHILIPPINES	1716
99. SINGAPORE	1739
100. SOUTH KOREA	1755
101. SRI LANKA	1769
102. TAIWAN	1780
103. THAILAND	1793
104. VIETNAM	1803
INTERVIEWEES	1829
REFERENCES	1832

GLOBAL WATER MARKET 2017

VOLUME 1: COMPANIES AND MARKETS	
PUBLICATION INFORMATION	II
EXECUTIVE SUMMARY	VII
1. WATER MARKET OVERVIEW	1
2. WATER AND WASTEWATER TREATMENT	78
3. NETWORKS AND ENVIRONMENT	214
4. CHEMICALS & CONSUMABLES	253
VOLUME 2: THE AMERICAS	
5. ARGENTINA	265
6. BOLIVIA	274
7. BRAZIL	283
8. CANADA	318
9. CHILE	347
10. COLOMBIA	373
11. COSTA RICA	397
12. DOMINICAN REPUBLIC	406
13. ECUADOR	416
14. EL SALVADOR	423
15. GUATEMALA	434
16. HONDURAS	440
17. MEXICO	451
18. PANAMA	481
19. PARAGUAY	493
20. PERU	503
21. TRINIDAD AND TOBAGO	527
22. UNITED STATES	534
23. URUGUAY	614
24. VENEZUELA	621
VOLUME 3: EUROPE	
25. AUSTRIA	629
26. AZERBAIJAN	640
27. BELARUS	649

28. BELGIUM	660
29. BULGARIA	670
30. CROATIA	683
31. CYPRUS	695
32. CZECH REPUBLIC	702
33. DENMARK	715
34. ESTONIA	726
35. FINLAND	736
36. FRANCE	745
37. GERMANY	766
38. GREECE	786
39. HUNGARY	795
40. IRELAND	809
41. ITALY	822
42. KAZAKHSTAN	844
43. LATVIA	857
44. LITHUANIA	866
45. LUXEMBOURG	873
46. NETHERLANDS	882
47. NORWAY	895
48. POLAND	907
49. PORTUGAL	921
50. ROMANIA	933
51. RUSSIAN FEDERATION	945
52. SERBIA	978
53. SLOVAKIA	992
54. SLOVENIA	1003
55. SPAIN	1015
56. SWEDEN	1039
57. SWITZERLAND	1045
58. UKRAINE	1057
59. UNITED KINGDOM	1072

VOLUME 4: MIDDLE EAST AND AFRICA

60. ALGERIA	1095
61. ANGOLA	1116
62. BAHRAIN	1125
63. CAMEROON	1132
64. CÔTE D'IVOIRE	1139
65. EGYPT	1145
66. ETHIOPIA	1166
67. GHANA	1173
68. IRAN	1180
69. IRAQ	1209
70. ISRAEL	1220
71. JORDAN	1234
72. KENYA	1247
73. KUWAIT	1255
74. LEBANON	1266
75. MOROCCO	1275
76. NAMIBIA	1301
77. NIGERIA	1308
78. OMAN	1329
79. QATAR	1351
80. RWANDA	1368
81. SAUDI ARABIA	1379
82. SOUTH AFRICA	1406
83. TANZANIA	1432
84. TUNISIA	1442
85. TURKEY	1451
86. UGANDA	1464
87. UNITED ARAB EMIRATES	1471

VOLUME 5: ASIA PACIFIC

PUBLICATION INFORMATION	
Unit conversion factors used in this publication:	iii
Exchange rates used in this publication:	iii
Indicators of utility service coverage:	iv
Indicators of water service coverage	iv
Indicators of wastewater service coverage	iv
Icons used in this publication:	V
Icons representing market sectors	V
Icons representing technology categories	V
Icons representing technology applications	V
Icons representing sector structure responsibilities	V
Icons representing the scope of private sector participation (PSP) projects	V
Icons representing significance/prevalence	vi
88. AUSTRALIA	1493
88.1 Top market opportunities	1493
88.2 Sector structure and regulation	1493
Figure 88.1 Water sector structure	1493
Figure 88.2 Regulations applicable to the water sector	1495
88.3 Water resources	1497
Figure 88.3 Projected change in water stress by 2020	1497
Figure 88.4 Water resources	1497
Figure 88.5 Water withdrawals by sector, 2010–2030	1498
88.3.1 Desalination	1498
88.3.2 Water reuse	1498
88.3.3 Groundwater protection	1499
88.3.4 Reservoirs and storage	1499
88.3.5 Demand management	1499
88.4 Utility sector	1499
88.4.1 Utility sector strategies and investment planning	1499
88.4.1.1 Water service extension	1499
88.4.1.2 Asset management	1499
88.4.1.3 Smart water	1500
88.4.1.4 Non-revenue water	1500
88.4.1.5 Wastewater networks	1500
88.4.1.6 Wastewater treatment and polishing	1500
88.4.2 Utility sector structure and performance	1501
Figure 88.6 Utility market structure	1501
Figure 88.7 Water and wastewater utilities serving greater than 300,000 people	1501
Figure 88.8 Utility service performance	1501
Figure 88.9 Water supply indicators	1502
Figure 88.10 Wastewater service indicators	1502
88.4.3 Utility infrastructure	1502
Figure 88.11 Major water treatment plants	1502
Figure 88.12 Major wastewater treatment plants	1503
Figure 88.13 Major desalination plants	1503
Figure 88.14 Major water reuse plants	1503
88.4.4 Utility funding	1504
Figure 88.15 Water and wastewater charges for a benchmark user in selected major cities, 2015	1504
Figure 88.16 Sources of utility funding	1504
Figure 88.17 Sources of debt used to fund utility investments	1504
88.4.5 Utility procurement	1505
Figure 88.18 Procurement models used	1505
Figure 88.19 Criteria for comparing bids on construction contracts	1505
88.4.6 Private sector participation	1506
Figure 88.20 Models of private sector participation	1506
88.4.7 Current and future projects	1506

Figure 88.21 Future utility investment projects	1506
88.5 Industrial water	1510
Figure 88.22 Industrial water withdrawals	1510
Figure 88.23 Industrial water market significance	1510
88.5.1 Coal seam gas	1510
88.5.2 Mining	1511
88.6 Market participants	1511
Figure 88.24 Major companies active in the water sector	1511
88.7 Market forecast	1514
88.7.1 Future market directions	1514
88.7.2 Notes on market forecast	1514
Figure 88.25 Market forecast, 2013-2020	1515
Figure 88.26 Market forecast breakdown, 2016	1516
Figure 88.27 Market forecast data, 2013-2020	1517
88.8 Data Sources	1518
Figure 88.28 Sources of data used in this report	1518
89. BANGLADESH	1519
89.1 Water availability and demand	1519
Figure 89.1 Water resources	1519
Figure 89.2 Sectoral water withdrawal	1519
89.2 Utility sector	1519
Figure 89.3 Utility service performance	1519
Figure 89.4 Water and wastewater utilities serving greater than 300,000 people	1519
	1519
89.2.1 Utility water	
Figure 89.5 Water supply indicators	1520
89.2.2 Utility wastewater	1520
Figure 89.6 Wastewater indicators	1520
89.2.3 Utility funding	1520
Figure 89.7 Benchmark water and wastewater tariffs for selected major cities, 2015	1520
Figure 89.8 Overseas development assistance for the water and sanitation sector, 2008-2014	1521
89.3 Current and future projects	1521
Figure 89.9 Projects tracked by GWI	1521
89.4 Market forecast	1522
Figure 89.10 Market forecast, 2013-2020	1522
Figure 89.11 Market forecast breakdown, 2016	1523
Figure 89.12 Market forecast data, 2013-2020	1524
90. CHINA	1526
90.1 Top market opportunities	1526
90.2 Sector structure and regulation	1527
Figure 90.1 Water sector structure	1527
Figure 90.2 Water sector funding organisations	1528
Figure 90.3 Regulations applicable to the water sector	1528
90.2.1 New Discharge Standards	1530
Figure 90.4 New municipal WWTPs discharge standards	1530
Figure 90.5 New municipal sludge management standards	1530
90.2.2 Industrial Standards	1531
Figure 90.6 Execution date of individual discharge standards for selected industries	1531
Figure 90.7 Comparison of old and new discharge standards for selected industries	1531
	1532
Figure 90.8 Comparison of old and new standards for the refining and petrochemical industry 90.2.3 Water Pollution Action Plan	1532
	1532
Figure 90.9 Targets for municipal sector outlined in Water Pollution Action Plan	
90.3 Water resources	1533
Figure 90.10 Projected change in water stress by 2020	1533
Figure 90.11 Water resources	1533
Figure 90.12 Water withdrawals by sector, 2010-2030	1534
90.3.1 Desalination	1534
90.3.2 Water reuse	1534

90.3.4 Groundwater protection 90.3.5 Reservoirs and storage 90.3.5 Demand management 90.4 Utility sector 90.4.1 Utility sector strategies and investment planning 90.4.1.1 Wastewater treatment 90.4.1.2 Sludge management 90.4.1.2 Sludge management 90.4.1.2 Sludge management 90.4.1.2 Vility sector structure and performance Figure 90.13 Utility market structure Figure 90.13 Utility market structure Figure 90.14 Water and wastewater utilities serving greater than 1,000,000 people Figure 90.15 Utility service performance Figure 90.16 Water supply indicators 90.4.3 Utility infrastructure Figure 90.17 Wastewater service indicators 90.4.3 Utility infrastructure Figure 90.17 Wastewater treatment plants Figure 90.20 Major water treatment plants Figure 90.21 Major desalination plants Figure 90.21 Major water reuse plants 90.4.4 Utility funding Figure 90.23 Water and wastewater charges for a benchmark user in selected major cities, 2015 Figure 90.23 Water and wastewater charges for a benchmark user in selected major cities, 2015 Figure 90.24 Sources of utility funding Figure 90.25 Sources of debt used to fund utility investmen	1535 1535 1535 1535 1535 1536 1536 1536
90.3.6 Demand management 90.4.1 Utility sector 90.4.1 Utility sector strategies and investment planning 90.4.1.1 Wastewater treatment 90.4.1.2 Sludge management 90.4.1.3 Non-revenue water 90.4.1.4 Water treatment 90.4.1.4 Water treatment 90.4.1.4 Water treatment 90.4.2 Utility sector structure and performance Figure 90.13 Utility market structure Figure 90.15 Utility service performance Figure 90.16 Water supply indicators Figure 90.17 Wastewater service indicators 90.4.3 Utility infrastructure Figure 90.17 Wastewater treatment plants Figure 90.18 Major water treatment plants Figure 90.20 Major wastewater treatment plants Figure 90.21 Major desalination plants Figure 90.22 Major water reuse plants 90.4.4 Utility funding Figure 90.23 Water and wastewater charges for a benchmark user in selected major cities, 2015 Figure 90.23 Water and wastewater charges for a benchmark user in selected major cities, 2015 Figure 90.24 Sources of tility funding Figure 90.25 Sources of debt used to fund utility investments Figure 90.27 An example of a local government initiated water PPP funds 90.4.5 Utility procurement <td>1535 1535 1535 1536 1536 1536 1536 1536</td>	1535 1535 1535 1536 1536 1536 1536 1536
90.4 Utility sector 90.4.1 Utility sector strategies and investment planning 90.4.1.1 Wastewater treatment 90.4.1.2 Sludge management 90.4.1.3 Non-revenue water 90.4.1.4 Water treatment 90.4.1.4 Water treatment 90.4.1.4 Water treatment 90.4.1.4 Water treatment 90.4.2 Utility sector structure and performance Figure 90.13 Utility market structure Figure 90.14 Water and wastewater utilities serving greater than 1,000,000 people Figure 90.15 Utility service performance Figure 90.16 Water supply indicators Figure 90.17 Wastewater service indicators 90.4.3 Utility infrastructure Figure 90.19 Wastewater treatment plants Figure 90.21 Major waster water treatment plants Figure 90.22 Major wastewater treatment plants Figure 90.22 Major wastewater treatment plants Figure 90.22 Major wastewater charges for a benchmark user in selected major cities, 2015 Figure 90.23 Water and wastewater charges for a benchmark user in selected major cities, 2015 Figure 90.24 Sources of utility funding Figure 90.25 Sources of debt used to fund utility investments Figure 90.26 Noerseas development assistance for the water and sanitation sector, 2008-2014 Figure 90.29 Rocurement	1535 1535 1536 1536 1536 1536 1536 1537 1538 1537 1538 1539 1540 1540 1540 1540 1540 1541 1541 1541
90.4.1 Utility sector strategies and investment planning 90.4.1.1 Wastewater treatment 90.4.1.2 Sludge management 90.4.1.3 Non-revenue water 90.4.1.4 Water treatment 90.4.2 Utility sector structure and performance Figure 90.13 Utility market structure Figure 90.14 Water and wastewater utilities serving greater than 1,000,000 people Figure 90.15 Utility service performance Figure 90.15 Utility service performance Figure 90.16 Water supply indicators Figure 90.17 Wastewater service indicators 90.4.3 Utility infrastructure Figure 90.18 Major water treatment plants Figure 90.19 Wastewater treatment plants Figure 90.20 Major wastewater treatment plants Figure 90.21 Major desalination plants Figure 90.22 Major water reuse plants 90.4.4 Utility funding Figure 90.23 Water and wastewater charges for a benchmark user in selected major cities, 2015 Figure 90.25 Sources of utility funding Figure 90.26 Overseas development assistance for the water and sanitation sector, 2008-2014 Figure 90.27 An example of a local government initiated water PPP funds 90.4.5 Utility procurement Figure 90.29 Procurement models used Figure 90.29 Criteria for comparing bids on con	1535 1536 1536 1536 1536 1536 1537 1538 1537 1538 1539 1539 1540 1540 1540 1540 1541 1541 1541 1541
90.4.1.1 Wastewater treatment 90.4.1.2 Sludge management 90.4.1.3 Non-revenue water 90.4.1.4 Water treatment 90.4.1.4 Water and wastewater utilities serving greater than 1,000,000 people Figure 90.15 Utility service performance Figure 90.16 Water supply indicators Figure 90.17 Wastewater service indicators 90.4.3 Utility infrastructure Figure 90.18 Major water treatment plants Figure 90.19 Wastewater service indicators 90.4.3 Utility infrastructure Figure 90.19 Wastewater treatment plants by level of treatment Figure 90.20 Major water treatment plants Figure 90.21 Major desalination plants Figure 90.22 Major water reuse plants 90.4.4 Utility funding Figure 90.25 Sources of utility funding Figure 90.25 Overseas development assistance for the water and sanitation sector, 2008-2014 Figure 90.26 Overseas development initiated water PPP funds 90.4.5 Utility procurement Figure 90.28 Procurement models used Figure 90.29 Criteria for comparing bids on construction contracts Figure 90.30 Exa	1535 1536 1536 1536 1536 1537 1538 1539 1539 1539 1540 1540 1540 1540 1541 1541 1541 1541
90.4.1.2 Sludge management 90.4.1.3 Non-revenue water 90.4.1.4 Water treatment 90.4.2 Utility sector structure and performance Figure 90.13 Utility market structure Figure 90.14 Water and wastewater utilities serving greater than 1,000,000 people Figure 90.15 Utility service performance Figure 90.15 Utility service performance Figure 90.15 Water supply indicators 90.4.3 Utility infrastructure Figure 90.18 Major water service indicators 90.4.3 Utility infrastructure Figure 90.19 Wastewater treatment plants Figure 90.19 Major watewater treatment plants Figure 90.20 Major wastewater treatment plants Figure 90.21 Major desalination plants Figure 90.22 Major water reuse plants 90.4.4 Utility funding Figure 90.25 Sources of debt used to fund utility investments Figure 90.26 Overseas development assistance for the water and sanitation sector, 2008-2014 Figure 90.27 An example of a local government initiated water PPP funds 90.4.5 Utility procurement Figure 90.29 Criteria for comparing bids on construction contracts Figure 90.29 Criteria for comparing bids on construction contracts Figure 90.30 Examples of the new form of PPP projects in China 90.4.6 Priv	1536 1536 1536 1536 1537 1538 1539 1539 1540 1540 1540 1540 1540 1541 1541 1541
90.4.1.3 Non-revenue water 90.4.1.4 Water treatment 90.4.2 Utility sector structure and performance Figure 90.13 Utility market structure Figure 90.13 Utility service performance Figure 90.15 Utility service performance Figure 90.16 Water supply indicators Figure 90.17 Wastewater service indicators 90.4.3 Utility infrastructure Figure 90.18 Major water treatment plants Figure 90.20 Major wastewater treatment plants Figure 90.21 Major desalination plants Figure 90.22 Major water reuse plants 90.4.4 Utility funding Figure 90.23 Water and wastewater charges for a benchmark user in selected major cities, 2015 Figure 90.24 Sources of utility funding Figure 90.25 Sources of debt used to fund utility investments Figure 90.26 Overseas development assistance for the water and sanitation sector, 2008-2014 Figure 90.27 An example of a local government initiated water PPP funds 90.4.5 Utility procurement Figure 90.28 Procurement models used Figure 90.29 Criteria for comparing bids on construction contracts Figure 90.30 Examples of the new form of PPP projects in China 90.4.6 Private sector participation	1536 1536 1536 1537 1538 1539 1539 1540 1540 1540 1540 1541 1541 1541 1541
90.4.1.4 Water treatment 90.4.2 Utility sector structure and performance Figure 90.13 Utility market structure Figure 90.14 Water and wastewater utilities serving greater than 1,000,000 people Figure 90.15 Utility service performance Figure 90.15 Utility service performance Figure 90.16 Water supply indicators Figure 90.17 Wastewater service indicators 90.4.3 Utility infrastructure Figure 90.19 Wastewater treatment plants Figure 90.20 Major wastewater treatment plants Figure 90.21 Major desalination plants Figure 90.22 Major water releve plants 90.4.4 Utility funding Figure 90.23 Water and wastewater charges for a benchmark user in selected major cities, 2015 Figure 90.24 Sources of utility funding Figure 90.25 Sources of debt used to fund utility investments Figure 90.27 An example of a local government initiated water PPP funds 90.4.5 Utility procurement Figure 90.28 Procurement models used Figure 90.29 Criteria for comparing bids on construction contracts Figure 90.30 Examples of the new form of PPP projects in China 90.4.6 Private sector participation	1536 1536 1537 1538 1539 1539 1540 1540 1540 1540 1540 1541 1541 1541
90.4.2 Utility sector structure and performance Figure 90.13 Utility market structure Figure 90.14 Water and wastewater utilities serving greater than 1,000,000 people Figure 90.15 Utility service performance Figure 90.16 Water supply indicators Figure 90.17 Wastewater service indicators 90.4.3 Utility infrastructure Figure 90.18 Major water treatment plants Figure 90.19 Wastewater treatment plants Figure 90.20 Major water treatment plants Figure 90.21 Major desalination plants Figure 90.22 Major water reuse plants 90.4.4 Utility funding Figure 90.23 Water and wastewater charges for a benchmark user in selected major cities, 2015 Figure 90.24 Sources of utility funding Figure 90.25 Sources of debt used to fund utility investments Figure 90.27 An example of a local government initiated water PPP funds 90.4.5 Utility procurement Figure 90.28 Procurement models used Figure 90.29 Criteria for comparing bids on construction contracts Figure 90.30 Examples of the new form of PPP projects in China 90.4.6 Private sector participation	1536 1537 1538 1539 1539 1540 1540 1540 1540 1541 1541 1541 1541
Figure 90.13 Utility market structure Figure 90.14 Water and wastewater utilities serving greater than 1,000,000 people Figure 90.15 Utility service performance Figure 90.16 Water supply indicators Figure 90.17 Wastewater service indicators 90.4.3 Utility infrastructure Figure 90.18 Major water treatment plants Figure 90.19 Wastewater treatment plants Figure 90.20 Major water treatment plants by level of treatment Figure 90.21 Major desalination plants Figure 90.22 Major water reuse plants 90.4.4 Utility funding Figure 90.23 Water and wastewater charges for a benchmark user in selected major cities, 2015 Figure 90.23 Sources of debt used to fund utility investments Figure 90.26 Overseas development assistance for the water and sanitation sector, 2008-2014 Figure 90.27 An example of a local government initiated water PPP funds 90.4.5 Utility procurement Figure 90.28 Procurement models used Figure 90.29 Criteria for comparing bids on construction contracts Figure 90.30 Examples of the new form of PPP projects in China 90.4.6 Private sector participation	1536 1537 1538 1539 1539 1540 1540 1540 1540 1541 1541 1541 1541
Figure 90.14 Water and wastewater utilities serving greater than 1,000,000 people Figure 90.15 Utility service performance Figure 90.16 Water supply indicators Figure 90.17 Wastewater service indicators 90.4.3 Utility infrastructure Figure 90.18 Major water treatment plants Figure 90.19 Wastewater treatment plants by level of treatment Figure 90.20 Major wastewater treatment plants Figure 90.21 Major desalination plants Figure 90.22 Major water reuse plants 90.4.4 Utility funding Figure 90.23 Water and wastewater charges for a benchmark user in selected major cities, 2015 Figure 90.25 Sources of debt used to fund utility investments Figure 90.26 Overseas development assistance for the water and sanitation sector, 2008-2014 Figure 90.27 An example of a local government initiated water PPP funds 90.4.5 Utility procurement Figure 90.29 Criteria for comparing bids on construction contracts Figure 90.30 Examples of the new form of PPP projects in China 90.4.6 Private sector participation	1537 1538 1539 1540 1540 1540 1540 1541 1541 1541 1541
Figure 90.15 Utility service performance Figure 90.16 Water supply indicators Figure 90.17 Wastewater service indicators 90.4.3 Utility infrastructure Figure 90.18 Major water treatment plants Figure 90.19 Wastewater treatment plants by level of treatment Figure 90.20 Major wastewater treatment plants Figure 90.21 Major desalination plants Figure 90.22 Major water reuse plants 90.4.4 Utility funding Figure 90.23 Water and wastewater charges for a benchmark user in selected major cities, 2015 Figure 90.24 Sources of utility funding Figure 90.25 Sources of debt used to fund utility investments Figure 90.26 Overseas development assistance for the water and sanitation sector, 2008-2014 Figure 90.27 An example of a local government initiated water PPP funds 90.4.5 Utility procurement Figure 90.28 Procurement models used Figure 90.29 Criteria for comparing bids on construction contracts Figure 90.30 Examples of the new form of PPP projects in China 90.4.6 Private sector participation	1538 1539 1539 1540 1540 1540 1541 1541 1541 1541 1542 1542 1542 1542
Figure 90.16 Water supply indicatorsFigure 90.17 Wastewater service indicators90.4.3 Utility infrastructureFigure 90.18 Major water treatment plantsFigure 90.19 Wastewater treatment plants by level of treatmentFigure 90.20 Major wastewater treatment plantsFigure 90.21 Major desalination plantsFigure 90.22 Major water reuse plants90.4.4 Utility fundingFigure 90.23 Water and wastewater charges for a benchmark user in selected major cities, 2015Figure 90.24 Sources of utility fundingFigure 90.25 Sources of debt used to fund utility investmentsFigure 90.26 Overseas development assistance for the water and sanitation sector, 2008-2014Figure 90.27 An example of a local government initiated water PPP funds90.4.5 Utility procurementFigure 90.29 Criteria for comparing bids on construction contractsFigure 90.30 Examples of the new form of PPP projects in China90.4.6 Private sector participation	1539 1539 1540 1540 1540 1541 1541 1541 1541 1541
Figure 90.17 Wastewater service indicators 90.4.3 Utility infrastructure Figure 90.18 Major water treatment plants Figure 90.19 Wastewater treatment plants by level of treatment Figure 90.20 Major wastewater treatment plants Figure 90.21 Major desalination plants Figure 90.22 Major water reuse plants 90.4.4 Utility funding Figure 90.23 Water and wastewater charges for a benchmark user in selected major cities, 2015 Figure 90.23 Water and wastewater charges for a benchmark user in selected major cities, 2015 Figure 90.24 Sources of utility funding Figure 90.25 Sources of debt used to fund utility investments Figure 90.26 Overseas development assistance for the water and sanitation sector, 2008-2014 Figure 90.27 An example of a local government initiated water PPP funds 90.4.5 Utility procurement Figure 90.28 Procurement models used Figure 90.29 Criteria for comparing bids on construction contracts Figure 90.30 Examples of the new form of PPP projects in China 90.4.6 Private sector participation	1539 1540 1540 1540 1541 1541 1541 1541 1541
90.4.3 Utility infrastructure Figure 90.18 Major water treatment plants Figure 90.19 Wastewater treatment plants by level of treatment Figure 90.20 Major wastewater treatment plants Figure 90.21 Major desalination plants Figure 90.22 Major water reuse plants 90.4.4 Utility funding Figure 90.23 Water and wastewater charges for a benchmark user in selected major cities, 2015 Figure 90.24 Sources of utility funding Figure 90.25 Sources of debt used to fund utility investments Figure 90.26 Overseas development assistance for the water and sanitation sector, 2008-2014 Figure 90.27 An example of a local government initiated water PPP funds 90.4.5 Utility procurement Figure 90.28 Procurement models used Figure 90.29 Criteria for comparing bids on construction contracts Figure 90.30 Examples of the new form of PPP projects in China 90.4.6 Private sector participation	1540 1540 1540 1541 1541 1541 1541 1542 1542 1542 1542
Figure 90.18 Major water treatment plantsFigure 90.19 Wastewater treatment plants by level of treatmentFigure 90.20 Major wastewater treatment plantsFigure 90.21 Major desalination plantsFigure 90.22 Major water reuse plants90.4.4 Utility fundingFigure 90.23 Water and wastewater charges for a benchmark user in selected major cities, 2015Figure 90.24 Sources of utility fundingFigure 90.25 Sources of debt used to fund utility investmentsFigure 90.26 Overseas development assistance for the water and sanitation sector, 2008-2014Figure 90.27 An example of a local government initiated water PPP funds90.4.5 Utility procurementFigure 90.28 Procurement models usedFigure 90.29 Criteria for comparing bids on construction contractsFigure 90.30 Examples of the new form of PPP projects in China90.4.6 Private sector participation	1540 1540 1541 1541 1541 1541 1541 1542 1542 1542
Figure 90.19 Wastewater treatment plants by level of treatmentFigure 90.20 Major wastewater treatment plantsFigure 90.21 Major desalination plantsFigure 90.22 Major water reuse plants90.4.4 Utility fundingFigure 90.23 Water and wastewater charges for a benchmark user in selected major cities, 2015Figure 90.24 Sources of utility fundingFigure 90.25 Sources of debt used to fund utility investmentsFigure 90.26 Overseas development assistance for the water and sanitation sector, 2008-2014Figure 90.27 An example of a local government initiated water PPP funds90.4.5 Utility procurementFigure 90.28 Procurement models usedFigure 90.29 Criteria for comparing bids on construction contractsFigure 90.30 Examples of the new form of PPP projects in China90.4.6 Private sector participation	1540 1541 1541 1541 1541 1541 1542 1542 1542
Figure 90.20 Major wastewater treatment plantsFigure 90.21 Major desalination plantsFigure 90.22 Major water reuse plants90.4.4 Utility fundingFigure 90.23 Water and wastewater charges for a benchmark user in selected major cities, 2015Figure 90.24 Sources of utility fundingFigure 90.25 Sources of debt used to fund utility investmentsFigure 90.26 Overseas development assistance for the water and sanitation sector, 2008-2014Figure 90.27 An example of a local government initiated water PPP funds90.4.5 Utility procurementFigure 90.28 Procurement models usedFigure 90.29 Criteria for comparing bids on construction contractsFigure 90.30 Examples of the new form of PPP projects in China90.4.6 Private sector participation	1540 1541 1541 1541 1541 1542 1542 1542 1542
Figure 90.21 Major desalination plantsFigure 90.22 Major water reuse plants90.4.4 Utility fundingFigure 90.23 Water and wastewater charges for a benchmark user in selected major cities, 2015Figure 90.24 Sources of utility fundingFigure 90.25 Sources of debt used to fund utility investmentsFigure 90.26 Overseas development assistance for the water and sanitation sector, 2008-2014Figure 90.27 An example of a local government initiated water PPP funds90.4.5 Utility procurementFigure 90.28 Procurement models usedFigure 90.29 Criteria for comparing bids on construction contractsFigure 90.30 Examples of the new form of PPP projects in China90.4.6 Private sector participation	1541 1541 1541 1541 1542 1542 1542 1542
Figure 90.22 Major water reuse plants90.4.4 Utility fundingFigure 90.23 Water and wastewater charges for a benchmark user in selected major cities, 2015Figure 90.24 Sources of utility fundingFigure 90.25 Sources of debt used to fund utility investmentsFigure 90.26 Overseas development assistance for the water and sanitation sector, 2008-2014Figure 90.27 An example of a local government initiated water PPP funds90.4.5 Utility procurementFigure 90.28 Procurement models usedFigure 90.29 Criteria for comparing bids on construction contractsFigure 90.30 Examples of the new form of PPP projects in China90.4.6 Private sector participation	1541 1541 1542 1542 1542 1542 1543
90.4.4 Utility funding Figure 90.23 Water and wastewater charges for a benchmark user in selected major cities, 2015 Figure 90.24 Sources of utility funding Figure 90.25 Sources of debt used to fund utility investments Figure 90.26 Overseas development assistance for the water and sanitation sector, 2008-2014 Figure 90.27 An example of a local government initiated water PPP funds 90.4.5 Utility procurement Figure 90.28 Procurement models used Figure 90.29 Criteria for comparing bids on construction contracts Figure 90.30 Examples of the new form of PPP projects in China 90.4.6 Private sector participation	1541 1541 1542 1542 1542 1543
Figure 90.23 Water and wastewater charges for a benchmark user in selected major cities, 2015Figure 90.24 Sources of utility fundingFigure 90.25 Sources of debt used to fund utility investmentsFigure 90.26 Overseas development assistance for the water and sanitation sector, 2008-2014Figure 90.26 Overseas development assistance for the water and sanitation sector, 2008-2014Figure 90.27 An example of a local government initiated water PPP funds90.4.5 Utility procurementFigure 90.28 Procurement models usedFigure 90.29 Criteria for comparing bids on construction contractsFigure 90.30 Examples of the new form of PPP projects in China90.4.6 Private sector participation	1541 1542 1542 1542 1543
Figure 90.24 Sources of utility funding Figure 90.25 Sources of debt used to fund utility investments Figure 90.26 Overseas development assistance for the water and sanitation sector, 2008-2014 Figure 90.27 An example of a local government initiated water PPP funds 90.4.5 Utility procurement Figure 90.28 Procurement models used Figure 90.29 Criteria for comparing bids on construction contracts Figure 90.30 Examples of the new form of PPP projects in China 90.4.6 Private sector participation	1542 1542 1542 1543
Figure 90.25 Sources of debt used to fund utility investmentsFigure 90.26 Overseas development assistance for the water and sanitation sector, 2008-2014Figure 90.27 An example of a local government initiated water PPP funds90.4.5 Utility procurementFigure 90.28 Procurement models usedFigure 90.29 Criteria for comparing bids on construction contractsFigure 90.30 Examples of the new form of PPP projects in China90.4.6 Private sector participation	1542 1542 1543
Figure 90.26 Overseas development assistance for the water and sanitation sector, 2008-2014Figure 90.27 An example of a local government initiated water PPP funds90.4.5 Utility procurementFigure 90.28 Procurement models usedFigure 90.29 Criteria for comparing bids on construction contractsFigure 90.30 Examples of the new form of PPP projects in China90.4.6 Private sector participation	1542 1543
Figure 90.27 An example of a local government initiated water PPP funds 90.4.5 Utility procurement Figure 90.28 Procurement models used Figure 90.29 Criteria for comparing bids on construction contracts Figure 90.30 Examples of the new form of PPP projects in China 90.4.6 Private sector participation	1543
90.4.5 Utility procurement Figure 90.28 Procurement models used Figure 90.29 Criteria for comparing bids on construction contracts Figure 90.30 Examples of the new form of PPP projects in China 90.4.6 Private sector participation	
Figure 90.28 Procurement models used Figure 90.29 Criteria for comparing bids on construction contracts Figure 90.30 Examples of the new form of PPP projects in China 90.4.6 Private sector participation	1544
Figure 90.29 Criteria for comparing bids on construction contracts Figure 90.30 Examples of the new form of PPP projects in China 90.4.6 Private sector participation	
Figure 90.30 Examples of the new form of PPP projects in China 90.4.6 Private sector participation	1544
90.4.6 Private sector participation	1544
	1545
	1546
Figure 90.31 Models of private sector participation	1546
Figure 90.32 China's new PPP initiative since 2014	1547
90.4.7 Current and future projects	1547
Figure 90.33 Future utility investment projects	1547
90.5 Industrial water	1551
Figure 90.34 Industrial water market significance	1551
90.5.1 Coal-to-chemicals	1551
Figure 90.35 Pipeline of CTX projects in China	1552
Figure 90.36 Minimum capacity requirements for CTX projects	1552
Figure 90.37 Regulations on freshwater withdrawal and wastewater discharge for CTX projects	1552
90.5.2 Refining and petrochemicals	1552
90.5.3 Industrial Parks	1553
90.5.4 Power	1553
90.5.5 Microelectronics	1553
90.5.6 Pharmaceuticals	1554
90.6 Market participants	1554
Figure 90.38 Major companies active in the water sector	1554
90.7 Market forecast	1558
90.7.1 Future market directions	1558
90.7.2 Notes on market forecast	1558
Figure 90.39 Market forecast, 2013-2020	1559
Figure 90.40 Market forecast breakdown, 2016	1560
Figure 90.41 Market forecast data, 2013-2020	1561
90.8 Data Sources	1562
Figure 90.42 Sources of data used in this report	1562
	1002

91. HONG KONG

91. HONG KONG	1563
91.1 Water availability and demand	1563
Figure 91.1 Water resources	1563
Figure 91.2 Sectoral water withdrawal	1563
91.2 Utility sector	1563
Figure 91.3 Utility service performance	1563
91.2.1 Utility water	1564
Figure 91.4 Water supply indicators	1564
Figure 91.5 Number of people connected to water supply network	1564
Figure 91.6 Percentage of people connected to water supply network	1565
Figure 91.7 Number of water connections	1565
Figure 91.8 Utility water supply capacity	1566
Figure 91.9 Length of water distribution network	1566
91.2.2 Utility wastewater	1567
Figure 91.10 Wastewater indicators	1567
Figure 91.11 Number of people connected to sewerage network	1567
Figure 91.12 Percentage of people connected to sewerage network	1568
Figure 91.13 Number of sewerage connections	1568
Figure 91.14 Percentage of wastewater treated to secondary level	1569
Figure 91.15 Percentage of wastewater treated to tertiary level	1569
Figure 91.16 Length of sewerage network	1570
91.2.3 Utility funding	1570
Figure 91.17 Benchmark water and wastewater tariffs for selected major cities, 2015	1570
91.2.4 Private sector participation	1570
Figure 91.18 Selected major projects involving private sector participation	1570
91.3 Current and future projects	1570
Figure 91.19 Projects tracked by GWI	1571
91.4 Market forecast	1572
Figure 91.20 Market forecast, 2013–2020	1572
Figure 91.21 Market forecast breakdown, 2016	1572
Figure 91.22 Market forecast data, 2013–2020	1573
92. INDIA	1576
92.1 Top market opportunities	1576
92.2 Sector structure and regulation	1577
Figure 92.1 Water sector structure	1577
Figure 92.2 Water sector funding organisations	1578
Figure 92.3 Regulations applicable to the water sector	1579
92.2.1 New Central Pollution Control Board regulations	1579
Figure 92.4 Wastewater discharge standards for municipal WWTPs	1580
92.2.2 National River Ganga Basin Management Bill	1580
92.3 Water resources	1581
Figure 92.5 Projected change in water stress by 2020	1581
Figure 92.6 Water resources	1581
Figure 92.7 Water withdrawals by sector, 2010-2030	1582
92.3.1 Desalination	1582
92.3.2 Water reuse	1582
92.3.3 Water transfer	1583
92.3.4 Groundwater protection	1583
92.3.5 Reservoirs and storage	1583
92.3.6 Demand management	1583
92.4 Utility sector	1583
92.4.1 Utility sector strategies and investment planning	1583
Figure 92.8 India's first 20 smart cities	1584
92.4.1.1 Water and wastewater service extension	1584
92.4.1.2 Wastewater treatment and polishing	1584
92.4.1.3 Non-revenue water and smart water	1584
92.4. 2 Utility sector structure and performance	1585
Figure 92.9 Utility market structure	1585
	1000

Figure 92.10 Water and wastewater utilities serving greater than 300,000 people	1585
Figure 92.11 Utility service performance	1587
Figure 92.12 Water supply indicators	1587
Figure 92.13 Wastewater service indicators	1587
92.4.3 Utility infrastructure	1588
Figure 92.14 Major water treatment plants	1588
Figure 92.15 Wastewater treatment plants by level of treatment	1588
Figure 92.16 Major wastewater treatment plants	1588
Figure 92.17 Major desalination plants	1589
Figure 92.18 Major water reuse plants	1589
92.4.4 Utility funding	1589
Figure 92.19 Water and wastewater charges for a benchmark user in selected major cities, 2015	1589
Figure 92.20 Sources of utility funding	1589
Figure 92.21 Sources of debt used to fund utility investments	1590
Figure 92.22 Overseas development assistance for the water and sanitation sector, 2008-2014	1590
92.4.5 Utility procurement	1591
Figure 92.23 Procurement models used	1591
Figure 92.24 Criteria for comparing bids on construction contracts	1591
92.4.6 Private sector participation	1592
Figure 92.25 Models of private sector participation	1592
92.4.7 Current and future projects	1593
Figure 92.26 Future utility investment projects	1593
92.5 Industrial water	1615
Figure 92.27 Industrial water market significance	1615
92.5.1 Power generation	1615
92.5.2 Refining & petrochemicals	1615
92.5.3 Industrial parks and clusters	1615
92.5.4 Pharmaceuticals	1616
92.6 Market participants	1616
Figure 92.28 Major companies active in the water sector	1616
92.7 Market forecast	1620
92.7.1 Future market directions	1620
92.7.2 Notes on market forecast	1620
Figure 92.29 Market forecast, 2013-2020	1620
Figure 92.30 Market forecast breakdown, 2016	1621
Figure 92.31 Market forecast data, 2013-2020	1622
9	
92.8 Data Sources	1625
Figure 92.32 Sources of data used in this report	1625
93. INDONESIA	1626
93.1 Top market opportunities	1626
93.2 Sector structure and regulation	1626
Figure 93.1 Water sector structure	1626
Figure 93.2 Water sector funding organisations	1628
Figure 93.3 Regulations applicable to the water sector	1628
93.3 Water resources	1629
Figure 93.4 Projected change in water stress by 2020	1629
	1629
Figure 93.5 Water resources	
Figure 93.6 Water withdrawals by sector, 2010-2030	1630
93.3.1 Desalination	1630
93.3.2 Water reuse	1630
93.3.3 Water transfer	1630
93.3.4 Groundwater protection	1631
93.3.5 Reservoirs and storage	1631
93.4 Utility sector	1631
	1631
93.4.1 Utility sector strategies and investment planning	
93.4.1.1 Water service extension	1631
	1631 1631 1631

93.4.2 Utility sector structure and performance Figure 93.7 Utility market structure	1632 1632
Figure 93.8 Water and wastewater utilities serving greater than 300,000 people	1632
Figure 93.9 Utility service performance	1632
	1634
Figure 93.10 Water supply indicators	
Figure 93.11 Wastewater service indicators	1635
93.4.3 Utility infrastructure	1635
Figure 93.12 Major water treatment plants	1635
Figure 93.13 Major wastewater treatment plants	1636
93.4.4 Utility funding	1636
Figure 93.14 Water and wastewater charges for a benchmark user in selected major cities, 2015	1636
Figure 93.15 Sources of utility funding	1636
Figure 93.16 Sources of debt used to fund utility investments	1636
Figure 93.17 Overseas development assistance for the water and sanitation sector, 2008-2014	1637
93.4.4.1 Tackling utility financial health	1637
93.4.4.2 Commercial lending	1638
93.4.4.3 The funding requirements	1638
Figure 93.18 Drinking water funding requirement, 2015-2019	1638
93.4.4.4 Government funding	1638
Figure 93.19 Cipta Karya TP (APBN) funds for drinking water supply, 2010-2015	1638
Figure 93.20 Special Allocation Funds (DAK) grants for water supply, 2010-2013	1639
93.4.4.5 Official development assistance (ODA)	1639
93.4.5 Utility procurement	1639
Figure 93.21 Procurement models used	1637
· · · · · · · · · · · · · · · · · · ·	
Figure 93.22 Criteria for comparing bids on construction contracts	1640
93.4.6 Private sector participation	1640
Figure 93.23 Models of private sector participation	1640
93.4.6.1 Procurement models	1640
93.4.6.2 New regulatory developments	1641
93.4.6.3 Jakarta concessions	1641
93.4.7 Current and future projects	1642
Figure 93.24 Future utility investment projects	1642
93.5 Industrial water	1645
Figure 93.25 Industrial water market significance	1645
93.5.1 Oil & gas	1646
93.5.2 Power generation	1646
93.5.3 Industrial estates	1646
93.6 Market participants	1646
Figure 93.26 Major companies active in the water sector	1646
93.7 Market forecast	1649
93.7.1 Future market directions	1649
93.7.2 Notes on market forecast	1649
Figure 93.27 Market forecast, 2013-2020	1650
Figure 93.28 Market forecast breakdown, 2016	1651
Figure 93.29 Market forecast data, 2013–2020	1652
93.8 Data Sources	1653
Figure 93.30 Sources of data used in this report	1653
94. JAPAN	1654
94.1 Top market opportunities	1654
94.2 Sector structure and regulation	1654
Figure 94.1 Water sector structure	1654
Figure 94.2 Water sector funding organisations	1655
Figure 94.3 Regulations applicable to the water sector	1655
94.3 Water resources	1656
Figure 94.4 Projected change in water stress by 2020	1656
Figure 94.5 Water resources	1656
Figure 94.6 Water withdrawals by sector, 2010-2030	1657
94.3.1 Desalination	1657

94.3.2 Water reuse	1657
94.3.3 Groundwater protection	1657
94.3.4 Reservoirs and storage	1658
94.3.5 Demand management	1658
94.4 Utility sector	1658
94.4.1 Utility sector strategies and investment planning	1658
94.4.1.1 Asset management	1658
94.4.1.2 Non-revenue water	1658
94.4.2 Utility sector structure and performance	1658
Figure 94.7 Utility market structure	1658
Figure 94.8 Water and wastewater utilities serving greater than 300,000 people	1659
Figure 94.9 Utility service performance	1661
Figure 94.10 Water supply indicators	1661
Figure 94.11 Wastewater service indicators	1661
94.4.3 Utility infrastructure	1662
Figure 94.12 Major water treatment plants	1662
Figure 94.13 Wastewater treatment plants by level of treatment	1662
Figure 94.14 Major wastewater treatment plants	1662
Figure 94.15 Major desalination plants	1662
Figure 94.16 Major water reuse plants	1663
94.4.4 Utility funding	1663
Figure 94.17 Water and wastewater charges for a benchmark user in selected major cities, 2015	1663
Figure 94.18 Sources of utility funding	1663
Figure 94.19 Sources of debt used to fund utility investments	1664
94.4.5 Utility procurement	1664
Figure 94.20 Procurement models used	1664
Figure 94.21 Criteria for comparing bids on construction contracts	1665
94.4.6 Private sector participation	1666
Figure 94.22 Models of private sector participation	1666
94.4.7 Current and future projects	1667
Figure 94.23 Future utility investment projects	1667
94.5 Industrial water	1668
Figure 94.24 Industrial water withdrawals	1668
Figure 94.25 Industrial water market significance	1668
94.6 Market participants	1669
Figure 94.26 Major companies active in the water sector	1669
94.7 Market forecast	1670
94.7.1 Future market directions	1670
94.7.2 Notes on market forecast	1670
Figure 94.27 Market forecast, 2013-2020	1671
Figure 94.28 Market forecast breakdown, 2016	1672
Figure 94.29 Market forecast data, 2013-2020	1673
95. MALAYSIA	1675
95.1 Top market opportunities	1675
95.2 Sector structure and regulation	1675
Figure 95.1 Water sector structure	1675
Figure 95.2 Water sector funding organisations	1677
Figure 95.3 Regulations applicable to the water sector	1677
95.3 Water resources	1679
Figure 95.4 Projected change in water stress by 2020	1679
Figure 95.5 Water resources	1679
Figure 95.6 Water withdrawals by sector, 2010–2030	1679
95.3.1 Desalination	1680
95.3.2 Water reuse	1680
95.3.3 Water transfer	1680
95.3.4 Reservoirs and storage	1680
95.3.5 Demand management	1680
	1000
95.4 Utility sector	1680

95.4.1 Utility sector strategies and investment planning	1680
95.4.1.1 Water service extension	1680
95.4.1.2 Non-revenue water	1680
95.4.1.3 Wastewater treatment and networks	1681
95.4.2 Utility sector structure and performance	1681
Figure 95.7 Utility market structure	1681
Figure 95.8 Water and wastewater utilities serving greater than 300,000 people	1681
Figure 95.9 Utility service performance	1682
Figure 95.10 Water supply indicators	1682
Figure 95.11 Wastewater service indicators	1683
95.4.3 Utility infrastructure	1683
Figure 95.12 Major water treatment plants	1683
Figure 95.13 Wastewater treatment plants by level of treatment	1684
Figure 95.14 Major wastewater treatment plants	1684
95.4.4 Utility funding	1684
Figure 95.15 Water and wastewater charges for a benchmark user in selected major cities, 2015	1684
Figure 95.16 Sources of utility funding	1684
Figure 95.17 Sources of debt used to fund utility investments	1685
Figure 95.18 Overseas development assistance for the water and sanitation sector, 2008-2014	1685
95.4.5 Utility procurement	1686
Figure 95.19 Procurement models used	1686
Figure 95.20 Criteria for comparing bids on construction contracts	1686
95.4.6 Private sector participation	1686
Figure 95.21 Models of private sector participation	1686
95.4.7 Current and future projects	1687
Figure 95.22 Future utility investment projects	1687
95.5 Industrial water	1688
Figure 95.23 Industrial water market significance	1688
· · · · · · · · · · · · · · · · · · ·	1688
95.5.1 Oil and gas	1688
95.5.2 Power generation 95.5.3 Palm oil production	1688
95.6 Market participants	1689
Figure 95.24 Major companies active in the water sector	1689
95.7 Market forecast	1691
95.7.1 Future market directions	1691
95.7.2 Notes on market forecast	1691
Figure 95.25 Market forecast, 2013-2020	1692
Figure 95.26 Market forecast breakdown, 2016	1693
Figure 95.27 Market forecast data, 2013-2020	1694
96. NEW ZEALAND	1696
96.1 Water availability and demand	1696
Figure 96.1 Water resources	1696
Figure 96.2 Sectoral water withdrawal	1696
96.2 Utility sector	1696
Figure 96.3 Utility service performance	1696
Figure 96.4 Water and wastewater utilities serving greater than 300,000 people	1696
96.2.1 Utility water	1697
Figure 96.5 Water supply indicators	1697
Figure 96.6 Number of people connected to water supply network	1697
Figure 96.7 Percentage of people connected to water supply network	1698
Figure 96.8 Utility water supply capacity	1698
96.2.2 Utility wastewater	1698
Figure 96.9 Wastewater indicators	1699
×	1699
Figure 96.10 Number of people connected to sewerage network	
Figure 96.11 Percentage of people connected to sewerage network	1700
Figure 96.12 Volume of wastewater produced	1700
Figure 96.13 Wastewater treatment plants by level of treatment 96.2.3 Utility funding	1700 1701
	1/01

	1701
96.2.4 Private sector participation	1701
Figure 96.15 Selected major projects involving private sector participation	1701
96.3 Market forecast	1702
Figure 96.16 Market forecast, 2013-2020	1702
Figure 96.17 Market forecast breakdown, 2016	1703
Figure 96.18 Market forecast data, 2013-2020	1704
97. PAKISTAN	1706
97.1 Water availability and demand	1706
Figure 97.1 Water resources	1706
Figure 97.2 Sectoral water withdrawal	1706
97.2 Utility sector	1706
Figure 97.3 Utility service performance	1706
Figure 97.4 Water and wastewater utilities serving greater than 300,000 people	1706
97.2.1 Utility water	1707
Figure 97.5 Water supply indicators	1707
Figure 97.6 Number of people connected to water supply network	1707
Figure 97.7 Percentage of people connected to water supply network	1708
97.2.2 Utility wastewater	1708
Figure 97.8 Wastewater indicators	1708
Figure 97.9 Number of people connected to sewerage network	1709
Figure 97.10 Percentage of people connected to sewerage network	1709
97.2.3 Utility funding	1709
Figure 97.11 Benchmark water and wastewater tariffs for selected major cities, 2015	1709
Figure 97.12 Overseas development assistance for the water and sanitation sector, 2008-2014	1710
97.3 Current and future projects	1710
Figure 97.13 Projects tracked by GWI	1710
97.4 Market forecast	1712
Figure 97.14 Market forecast, 2013-2020	1712
Figure 97.15 Market forecast breakdown, 2016	1713
Figure 97.16 Market forecast data, 2013-2020	1714
98. PHILIPPINES	1716
98.1 Top market opportunities	1716
98.1 Top market opportunities 98.2 Sector structure and regulation	1716 1716
98.1 Top market opportunities 98.2 Sector structure and regulation Figure 98.1 Water sector structure	1716 1716 1716
98.1 Top market opportunities 98.2 Sector structure and regulation Figure 98.1 Water sector structure Figure 98.2 Water sector funding organisations	1716 1716 1716 1718
98.1 Top market opportunities 98.2 Sector structure and regulation Figure 98.1 Water sector structure	1716 1716 1716 1718 1718 1719
98.1 Top market opportunities 98.2 Sector structure and regulation Figure 98.1 Water sector structure Figure 98.2 Water sector funding organisations Figure 98.3 Regulations applicable to the water sector 98.3 Water resources	1716 1716 1716 1718 1718 1719 1721
98.1 Top market opportunities 98.2 Sector structure and regulation Figure 98.1 Water sector structure Figure 98.2 Water sector funding organisations Figure 98.3 Regulations applicable to the water sector 98.3 Water resources Figure 98.4 Projected change in water stress by 2020	1716 1716 1716 1718 1718 1719 1721 1721
98.1 Top market opportunities 98.2 Sector structure and regulation Figure 98.1 Water sector structure Figure 98.2 Water sector funding organisations Figure 98.3 Regulations applicable to the water sector 98.3 Water resources Figure 98.4 Projected change in water stress by 2020 Figure 98.5 Water resources	1716 1716 1716 1718 1719 1721 1721 1721
98.1 Top market opportunities98.2 Sector structure and regulationFigure 98.1 Water sector structureFigure 98.2 Water sector funding organisationsFigure 98.3 Regulations applicable to the water sector98.3 Water resourcesFigure 98.4 Projected change in water stress by 2020Figure 98.5 Water resourcesFigure 98.6 Water withdrawals by sector, 2010-2030	1716 1716 1716 1718 1719 1721 1721 1721 1721 1721
98.1 Top market opportunities98.2 Sector structure and regulationFigure 98.1 Water sector structureFigure 98.2 Water sector funding organisationsFigure 98.3 Regulations applicable to the water sector98.3 Water resourcesFigure 98.4 Projected change in water stress by 2020Figure 98.5 Water resourcesFigure 98.6 Water withdrawals by sector, 2010-203098.3.1 Desalination	1716 1716 1718 1718 1719 1721 1721 1721 1721 1722
98.1 Top market opportunities98.2 Sector structure and regulationFigure 98.1 Water sector structureFigure 98.2 Water sector funding organisationsFigure 98.3 Regulations applicable to the water sector98.3 Water resourcesFigure 98.4 Projected change in water stress by 2020Figure 98.5 Water resourcesFigure 98.6 Water withdrawals by sector, 2010-2030	1716 1716 1718 1718 1719 1721 1721 1721 1721 1722 1722
98.1 Top market opportunities98.2 Sector structure and regulationFigure 98.1 Water sector structureFigure 98.2 Water sector funding organisationsFigure 98.3 Regulations applicable to the water sector98.3 Water resourcesFigure 98.4 Projected change in water stress by 2020Figure 98.5 Water resourcesFigure 98.6 Water withdrawals by sector, 2010-203098.3.1 Desalination98.3.2 Water reuse98.3.3 Water transfer	1716 1716 1716 1718 1719 1721 1721 1721 1721 1722 1722 1722
98.1 Top market opportunities98.2 Sector structure and regulationFigure 98.1 Water sector structureFigure 98.2 Water sector funding organisationsFigure 98.2 Water sector funding organisationsFigure 98.3 Regulations applicable to the water sector98.3 Water resourcesFigure 98.4 Projected change in water stress by 2020Figure 98.5 Water resourcesFigure 98.6 Water withdrawals by sector, 2010-203098.3.1 Desalination98.3.2 Water reuse98.3.3 Water transfer98.3.4 Groundwater protection	1716 1716 1716 1718 1719 1721 1721 1721 1721 1722 1722 1722
98.1 Top market opportunities98.2 Sector structure and regulationFigure 98.1 Water sector structureFigure 98.2 Water sector funding organisationsFigure 98.3 Regulations applicable to the water sector98.3 Water resourcesFigure 98.4 Projected change in water stress by 2020Figure 98.5 Water resourcesFigure 98.6 Water withdrawals by sector, 2010-203098.3.1 Desalination98.3.2 Water reuse98.3.3 Water transfer98.3.4 Groundwater protection98.3.5 Reservoirs and storage	1716 1716 1718 1719 1721 1721 1721 1721 1722 1722 1722
98.1 Top market opportunities98.2 Sector structure and regulationFigure 98.1 Water sector structureFigure 98.2 Water sector funding organisationsFigure 98.3 Regulations applicable to the water sector98.3 Water resourcesFigure 98.4 Projected change in water stress by 2020Figure 98.5 Water resourcesFigure 98.6 Water withdrawals by sector, 2010-203098.3.1 Desalination98.3.2 Water reuse98.3.3 Water transfer98.3.4 Groundwater protection98.3.5 Reservoirs and storage98.3.6 Demand management	1716 1716 1718 1718 1719 1721 1721 1721 1722 1722 1722 1722
98.1 Top market opportunities98.2 Sector structure and regulationFigure 98.1 Water sector structureFigure 98.2 Water sector funding organisationsFigure 98.3 Regulations applicable to the water sector98.3 Water resourcesFigure 98.4 Projected change in water stress by 2020Figure 98.5 Water resourcesFigure 98.6 Water withdrawals by sector, 2010-203098.3.1 Desalination98.3.2 Water reuse98.3.3 Water transfer98.3.4 Groundwater protection98.3.5 Reservoirs and storage98.3.6 Demand management98.4 Utility sector	1716 1716 1718 1718 1719 1721 1721 1721 1722 1722 1722 1722
98.1 Top market opportunities98.2 Sector structure and regulationFigure 98.1 Water sector structureFigure 98.2 Water sector funding organisationsFigure 98.3 Regulations applicable to the water sector98.3 Water resourcesFigure 98.4 Projected change in water stress by 2020Figure 98.5 Water resourcesFigure 98.6 Water withdrawals by sector, 2010-203098.3.1 Desalination98.3.2 Water reuse98.3.3 Water transfer98.3.4 Groundwater protection98.3.5 Reservoirs and storage98.3.6 Demand management	1716 1716 1718 1718 1719 1721 1721 1721 1722 1722 1722 1722
98.1 Top market opportunities 98.2 Sector structure and regulation Figure 98.1 Water sector structure Figure 98.2 Water sector funding organisations Figure 98.3 Regulations applicable to the water sector 98.3 Water resources Figure 98.4 Projected change in water stress by 2020 Figure 98.5 Water resources Figure 98.6 Water withdrawals by sector, 2010-2030 98.3.1 Desalination 98.3.2 Water reuse 98.3.3 Water transfer 98.3.4 Groundwater protection 98.3.5 Reservoirs and storage 98.3.6 Demand management 98.4.1 Utility sector 98.4.1 Utility sector strategies and investment planning 98.4.1.1 Water service extension	1716 1716 1716 1718 1719 1721 1721 1721 1722 1722 1722 1722
98.1 Top market opportunities 98.2 Sector structure and regulation Figure 98.1 Water sector structure Figure 98.2 Water sector funding organisations Figure 98.3 Regulations applicable to the water sector 98.3 Water resources Figure 98.4 Projected change in water stress by 2020 Figure 98.5 Water resources Figure 98.6 Water withdrawals by sector, 2010-2030 98.3.1 Desalination 98.3.2 Water reuse 98.3.3 Water transfer 98.3.4 Groundwater protection 98.3.5 Reservoirs and storage 98.3.6 Demand management 98.4.1 Utility sector 98.4.1 Utility sector strategies and investment planning 98.4.1.2 Wastewater treatment facilities and network extension	1716 1716 1716 1718 1719 1721 1721 1721 1722 1722 1722 1722
98.1 Top market opportunities 98.2 Sector structure and regulation Figure 98.1 Water sector structure Figure 98.2 Water sector funding organisations Figure 98.3 Regulations applicable to the water sector 98.3 Water resources Figure 98.4 Projected change in water stress by 2020 Figure 98.5 Water resources Figure 98.6 Water withdrawals by sector, 2010-2030 98.3.1 Desalination 98.3.2 Water reuse 98.3.3 Water transfer 98.3.4 Groundwater protection 98.3.5 Reservoirs and storage 98.3.6 Demand management 98.4.1 Utility sector strategies and investment planning 98.4.1.1 Water service extension 98.4.1.2 Wastewater treatment facilities and network extension 98.4.1.3 Non-revenue water	1716 1716 1716 1718 1719 1721 1721 1721 1722 1722 1722 1722
98.1 Top market opportunities 98.2 Sector structure and regulation Figure 98.1 Water sector structure Figure 98.2 Water sector funding organisations Figure 98.3 Regulations applicable to the water sector 98.3 Water resources Figure 98.4 Projected change in water stress by 2020 Figure 98.5 Water resources Figure 98.6 Water withdrawals by sector, 2010-2030 98.3.1 Desalination 98.3.2 Water reuse 98.3.3 Water transfer 98.3.4 Groundwater protection 98.3.5 Reservoirs and storage 98.4.1 Utility sector strategies and investment planning 98.4.1 Utility sector strategies and investment planning 98.4.1.2 Wastewater treatment facilities and network extension 98.4.1.3 Non-revenue water 98.4.2 Utility sector structure and performance	1716 1716 1716 1718 1719 1721 1721 1721 1722 1722 1722 1722
98.1 Top market opportunities 98.2 Sector structure and regulation Figure 98.1 Water sector structure Figure 98.2 Water sector funding organisations Figure 98.3 Regulations applicable to the water sector 98.3 Water resources Figure 98.4 Projected change in water stress by 2020 Figure 98.5 Water resources Figure 98.6 Water withdrawals by sector, 2010-2030 98.3.1 Desalination 98.3.2 Water reuse 98.3.3 Water transfer 98.3.4 Groundwater protection 98.3.5 Reservoirs and storage 98.4.1 Utility sector strategies and investment planning 98.4.1.1 Water service extension 98.4.1.2 Wastewater treatment facilities and network extension 98.4.1.2 Wastewater treatment facilities and network extension 98.4.2.2 Utility sector structure and performance Figure 98.7 Utility market structure	1716 1716 1718 1718 1719 1721 1721 1721 1722 1722 1722 1722
98.1 Top market opportunities 98.2 Sector structure and regulation Figure 98.1 Water sector structure Figure 98.2 Water sector funding organisations Figure 98.3 Regulations applicable to the water sector 98.3 Water resources Figure 98.4 Projected change in water stress by 2020 Figure 98.5 Water resources Figure 98.6 Water withdrawals by sector, 2010-2030 98.3.1 Desalination 98.3.2 Water reuse 98.3.3 Water transfer 98.3.4 Groundwater protection 98.3.5 Reservoirs and storage 98.4.1 Utility sector 98.4.1 Utility sector strategies and investment planning 98.4.1.1 Water service extension 98.4.1.2 Wastewater treatment facilities and network extension 98.4.2 Utility sector structure and performance	1716 1716 1718 1718 1719 1721 1721 1721 1722 1722 1722 1722

Figure 98.11 Wastewater service indicators	1725
98.4.3 Utility infrastructure	1725
Figure 98.12 Major water treatment plants	1725
Figure 98.13 Major wastewater treatment plants	1725
Figure 98.14 Major desalination plants	1726
98.4.4 Utility funding	1726
Figure 98.15 Water and wastewater charges for a benchmark user in selected major cities, 2015	1726
Figure 98.16 Sources of utility funding	1726
Figure 98.17 Sources of debt used to fund utility investments	1726
Figure 98.18 Overseas development assistance for the water and sanitation sector, 2008-2014	1727
98.4.5 Utility procurement	1727
Figure 98.19 Procurement models used	1727
Figure 98.20 Criteria for comparing bids on construction contracts	1728
98.4.6 Private sector participation	1728
Figure 98.21 Models of private sector participation	1728
98.4.7 Current and future projects	1729
Figure 98.22 Future utility investment projects	1729
98.5 Industrial water	1731
Figure 98.23 Industrial water market significance	1731
98.6 Market participants	1731
Figure 98.24 Major companies active in the water sector	1731
98.7 Market forecast	1734
98.7.1 Future market directions	1734
98.7.2 Notes on market forecast	1734
Figure 98.25 Market forecast, 2013-2020	1735
Figure 98.26 Market forecast breakdown, 2016	1736
Figure 98.27 Market forecast data, 2013–2020	1737
99. SINGAPORE	1739
99.1 Top market opportunities	1739
	1739
99.2 Sector structure and regulation	1739 1739
99.2 Sector structure and regulation Figure 99.1 Water sector structure	
99.2 Sector structure and regulation	1739
99.2 Sector structure and regulation Figure 99.1 Water sector structure Figure 99.2 Water sector funding organisations	1739 1739
99.2 Sector structure and regulation Figure 99.1 Water sector structure Figure 99.2 Water sector funding organisations Figure 99.3 Regulations applicable to the water sector	1739 1739 1740
99.2 Sector structure and regulation Figure 99.1 Water sector structure Figure 99.2 Water sector funding organisations Figure 99.3 Regulations applicable to the water sector 99.2.1 Clean Water Policy	1739 1739 1740 1740
99.2 Sector structure and regulation Figure 99.1 Water sector structure Figure 99.2 Water sector funding organisations Figure 99.3 Regulations applicable to the water sector 99.2.1 Clean Water Policy 99.3 Water resources	1739 1739 1740 1740 1740
99.2 Sector structure and regulation Figure 99.1 Water sector structure Figure 99.2 Water sector funding organisations Figure 99.3 Regulations applicable to the water sector 99.2.1 Clean Water Policy 99.3 Water resources Figure 99.4 Water resources	1739 1739 1740 1740 1740 1740 1740
99.2 Sector structure and regulation Figure 99.1 Water sector structure Figure 99.2 Water sector funding organisations Figure 99.3 Regulations applicable to the water sector 99.2.1 Clean Water Policy 99.3 Water resources Figure 99.4 Water resources Figure 99.5 Water withdrawals by sector, 2010-2030	1739 1739 1740 1740 1740 1740 1740 1741
99.2 Sector structure and regulation Figure 99.1 Water sector structure Figure 99.2 Water sector funding organisations Figure 99.3 Regulations applicable to the water sector 99.2.1 Clean Water Policy 99.3 Water resources Figure 99.4 Water resources Figure 99.5 Water withdrawals by sector, 2010-2030 99.3.1 Desalination	1739 1739 1740 1740 1740 1740 1740 1741 1741
99.2 Sector structure and regulation Figure 99.1 Water sector structure Figure 99.2 Water sector funding organisations Figure 99.3 Regulations applicable to the water sector 99.2.1 Clean Water Policy 99.3 Water resources Figure 99.4 Water resources Figure 99.5 Water withdrawals by sector, 2010-2030 99.3.1 Desalination 99.3.2 Water reuse	1739 1739 1740 1740 1740 1740 1741 1741 1741
99.2 Sector structure and regulation Figure 99.1 Water sector structure Figure 99.2 Water sector funding organisations Figure 99.3 Regulations applicable to the water sector 99.2.1 Clean Water Policy 99.3 Water resources Figure 99.4 Water resources Figure 99.5 Water withdrawals by sector, 2010-2030 99.3.1 Desalination 99.3.2 Water reuse 99.3.3 Water transfer	1739 1739 1740 1740 1740 1740 1741 1741 1741 1741
99.2 Sector structure and regulation Figure 99.1 Water sector structure Figure 99.2 Water sector funding organisations Figure 99.3 Regulations applicable to the water sector 99.2.1 Clean Water Policy 99.3 Water resources Figure 99.4 Water resources Figure 99.5 Water withdrawals by sector, 2010-2030 99.3.1 Desalination 99.3.2 Water reuse 99.3.3 Water transfer 99.3.4 Reservoirs and storage 99.3.5 Demand management 99.4 Utility sector	1739 1739 1740 1740 1740 1740 1741 1741 1741 1741
99.2 Sector structure and regulation Figure 99.1 Water sector structure Figure 99.2 Water sector funding organisations Figure 99.3 Regulations applicable to the water sector 99.2.1 Clean Water Policy 99.3 Water resources Figure 99.4 Water resources Figure 99.5 Water withdrawals by sector, 2010-2030 99.3.1 Desalination 99.3.2 Water reuse 99.3.3 Water transfer 99.3.4 Reservoirs and storage 99.3.5 Demand management 99.4.1 Utility sector 99.4.1 Utility sector strategies and investment planning	1739 1739 1740 1740 1740 1740 1741 1741 1741 1741
99.2 Sector structure and regulation Figure 99.1 Water sector structure Figure 99.2 Water sector funding organisations Figure 99.3 Regulations applicable to the water sector 99.2.1 Clean Water Policy 99.3 Water resources Figure 99.4 Water resources Figure 99.5 Water withdrawals by sector, 2010-2030 99.3.1 Desalination 99.3.2 Water reuse 99.3.3 Water transfer 99.3.4 Reservoirs and storage 99.3.5 Demand management 99.4.1 Utility sector 99.4.1.1 Water treatment upgrades	1739 1739 1740 1740 1740 1740 1741 1741 1741 1741
99.2 Sector structure and regulation Figure 99.1 Water sector structure Figure 99.2 Water sector funding organisations Figure 99.3 Regulations applicable to the water sector 99.2.1 Clean Water Policy 99.3 Water resources Figure 99.4 Water resources Figure 99.5 Water withdrawals by sector, 2010-2030 99.3.1 Desalination 99.3.2 Water reuse 99.3.3 Water transfer 99.3.5 Demand management 99.4.1 Utility sector 99.4.1 Utility sector strategies and investment planning 99.4.1.2 Water polishing	1739 1739 1740 1740 1740 1740 1741 1741 1741 1741
99.2 Sector structure and regulation Figure 99.1 Water sector structure Figure 99.2 Water sector funding organisations Figure 99.3 Regulations applicable to the water sector 99.2.1 Clean Water Policy 99.3 Water resources Figure 99.4 Water resources Figure 99.5 Water withdrawals by sector, 2010-2030 99.3.1 Desalination 99.3.2 Water reuse 99.3.3 Water transfer 99.3.5 Demand management 99.4.1 Utility sector 99.4.1.1 Water treatment upgrades 99.4.1.2 Water polishing 99.4.1.3 Wastewater networks	1739 1739 1740 1740 1740 1740 1741 1741 1741 1741
99.2 Sector structure and regulation Figure 99.1 Water sector structure Figure 99.2 Water sector funding organisations Figure 99.3 Regulations applicable to the water sector 99.2.1 Clean Water Policy 99.3 Water resources Figure 99.4 Water resources Figure 99.5 Water withdrawals by sector, 2010-2030 99.3.1 Desalination 99.3.2 Water reuse 99.3.3 Water transfer 99.3.4 Reservoirs and storage 99.4.1 Utility sector 99.4.1.1 Water treatment upgrades 99.4.1.2 Water polishing 99.4.1.4 Smart water	1739 1739 1740 1740 1740 1740 1741 1741 1741 1741
99.2 Sector structure and regulation Figure 99.1 Water sector structure Figure 99.2 Water sector funding organisations Figure 99.3 Regulations applicable to the water sector 99.2.1 Clean Water Policy 99.3 Water resources Figure 99.4 Water resources Figure 99.5 Water withdrawals by sector, 2010-2030 99.3.1 Desalination 99.3.2 Water reuse 99.3.3 Water transfer 99.3.4 Reservoirs and storage 99.3.5 Demand management 99.4.1 Utility sector 99.4.1.1 Water treatment upgrades 99.4.1.2 Water polishing 99.4.1.3 Wastewater networks 99.4.2.1 Utility sector structure and performance	1739 1739 1740 1740 1740 1740 1741 1741 1741 1741
99.2 Sector structure and regulation Figure 99.1 Water sector structure Figure 99.2 Water sector funding organisations Figure 99.3 Regulations applicable to the water sector 99.2.1 Clean Water Policy 99.3 Water resources Figure 99.4 Water resources Figure 99.5 Water withdrawals by sector, 2010-2030 99.3.1 Desalination 99.3.2 Water reuse 99.3.3 Water transfer 99.3.4 Reservoirs and storage 99.4.1 Utility sector 99.4.1.1 Water treatment upgrades 99.4.1.2 Water polishing 99.4.1.3 Wastewater networks 99.4.1.4 Smart water 99.4.2 Utility sector structure and performance Figure 99.6 Utility market structure	1739 1739 1740 1740 1740 1740 1741 1741 1741 1741
99.2 Sector structure and regulation Figure 99.1 Water sector structure Figure 99.2 Water sector funding organisations Figure 99.3 Regulations applicable to the water sector 99.2.1 Clean Water Policy 99.3 Water resources Figure 99.4 Water resources Figure 99.5 Water withdrawals by sector, 2010-2030 99.3.1 Desalination 99.3.2 Water reuse 99.3.3 Water transfer 99.3.4 Reservoirs and storage 99.4.1 Utility sector 99.4.1.1 Water treatment upgrades 99.4.1.2 Water polishing 99.4.1.4 Smart water 99.4.1.4 Smart water 99.4.2 Utility sector structure and performance Figure 99.6 Utility market structure Figure 99.7 Water and wastewater utilities serving greater than 300,000 people	1739 1739 1740 1740 1740 1740 1741 1741 1741 1741
99.2 Sector structure and regulation Figure 99.1 Water sector structure Figure 99.2 Water sector funding organisations Figure 99.3 Regulations applicable to the water sector 99.2.1 Clean Water Policy 99.3 Water resources Figure 99.4 Water resources Figure 99.5 Water withdrawals by sector, 2010-2030 99.3.1 Desalination 99.3.2 Water reuse 99.3.3 Water transfer 99.3.4 Reservoirs and storage 99.3.5 Demand management 99.4.1 Utility sector strategies and investment planning 99.4.1.1 Water treatment upgrades 99.4.1.2 Water polishing 99.4.1.4 Smart water 99.4.2 Utility sector structure and performance Figure 99.7 Water and wastewater utilities serving greater than 300,000 people Figure 99.8 Utility service performance	1739 1739 1740 1740 1740 1740 1741 1741 1741 1741
99.2 Sector structure and regulation Figure 99.1 Water sector structure Figure 99.2 Water sector funding organisations 99.2.1 Clean Water Policy 99.3 Water resources Figure 99.4 Water resources Figure 99.5 Water withdrawals by sector, 2010-2030 99.3.1 Desalination 99.3.2 Water reuse 99.3.3 Water transfer 99.3.4 Reservoirs and storage 99.4.1 Utility sector 99.4.1 Utility sector strategies and investment planning 99.4.1.2 Water polishing 99.4.1.3 Wastewater networks 99.4.1.4 Smart water 99.4.2 Utility sector structure and performance Figure 99.6 Utility market structure Figure 99.7 Water and wastewater utilities serving greater than 300,000 people Figure 99.8 Water supply indicators	1739 1739 1740 1740 1740 1740 1741 1741 1741 1741
99.2 Sector structure and regulation Figure 99.1 Water sector structure Figure 99.2 Water sector funding organisations Figure 99.3 Regulations applicable to the water sector 99.2.1 Clean Water Policy 99.3 Water resources Figure 99.4 Water resources Figure 99.5 Water withdrawals by sector, 2010-2030 99.3.1 Desalination 99.3.2 Water reuse 99.3.3 Water transfer 99.3.4 Reservoirs and storage 99.4.1 Utility sector 99.4.1 Utility sector strategies and investment planning 99.4.1.2 Water polishing 99.4.1.3 Wastewater networks 99.4.1.4 Smart water 99.4.2 Utility sector structure and performance Figure 99.7 Water and wastewater utilities serving greater than 300,000 people Figure 99.8 Utility service performance Figure 99.9.10 Wastewater service indicators	1739 1739 1740 1740 1740 1740 1741 1741 1741 1741
99.2 Sector structure and regulation Figure 99.1 Water sector structure Figure 99.2 Water sector funding organisations Figure 99.3 Regulations applicable to the water sector 99.2.1 Clean Water Policy 99.3 Water resources Figure 99.4 Water resources Figure 99.5 Water withdrawals by sector, 2010-2030 99.3.1 Desalination 99.3.2 Water reuse 99.3.3 Water transfer 99.3.4 Reservoirs and storage 99.3.5 Demand management 99.4.1.1 Water treatment upgrades 99.4.1.2 Water polishing 99.4.1.3 Wastewater networks 99.4.1.4 Smart water 99.4.2 Utility sector structure and performance Figure 99.6 Utility market structure Figure 99.7 Water and wastewater utilities serving greater than 300,000 people Figure 99.8 Utility service performance Figure 99.9.10 Wastewater service indicators 99.4.3 Utility infrastructure	1739 1739 1740 1740 1740 1740 1741 1741 1741 1741
99.2 Sector structure and regulation Figure 99.1 Water sector funding organisations Figure 99.2 Water sector funding organisations Figure 99.3 Regulations applicable to the water sector 99.2.1 Clean Water Policy 99.3 Water resources Figure 99.4 Water resources Figure 99.5 Water withdrawals by sector, 2010-2030 99.3.1 Desalination 99.3.2 Water reuse 99.3.3 Water transfer 99.3.4 Reservoirs and storage 99.3.5 Demand management 99.4.1 Utility sector strategies and investment planning 99.4.1.1 Water treatment upgrades 99.4.1.2 Water polishing 99.4.1.3 Wastewater networks 99.4.1.4 Smart water 99.4.2 Utility sector structure and performance Figure 99.6 Utility market structure Figure 99.7 Water and wastewater utilities serving greater than 300,000 people Figure 99.10 Wastewater service indicators 99.4.3 Utility infrastructure Figure 99.11 Major water treatment plants	1739 1739 1740 1740 1740 1740 1741 1741 1741 1741
99.2 Sector structure and regulation Figure 99.1 Water sector structure Figure 99.2 Water sector funding organisations Figure 99.3 Regulations applicable to the water sector 99.2.1 Clean Water Policy 99.3 Water resources Figure 99.4 Water resources Figure 99.5 Water withdrawals by sector, 2010-2030 99.3.1 Desalination 99.3.2 Water reuse 99.3.3 Water transfer 99.3.4 Reservoirs and storage 99.3.5 Demand management 99.4.1.1 Water treatment upgrades 99.4.1.2 Water polishing 99.4.1.3 Wastewater networks 99.4.1.4 Smart water 99.4.2 Utility sector structure and performance Figure 99.6 Utility market structure Figure 99.7 Water and wastewater utilities serving greater than 300,000 people Figure 99.8 Utility service performance Figure 99.9.10 Wastewater service indicators 99.4.3 Utility infrastructure	1739 1739 1740 1740 1740 1740 1741 1741 1741 1741

Figure 99.14 Major desalination plants	1744 1745
Figure 99.15 Major water reuse plants	1745
99.4.4 Utility funding	1745
Figure 99.16 Water and wastewater charges for a benchmark user in selected major cities, 2015	1745
Figure 99.17 Sources of utility funding Figure 99.18 Sources of debt used to fund utility investments	1745
99.4.4.1 Tariffs	1745
99.4.4.2 Government grants 99.4.4.3 Private finance	1746
	1746
99.4.5 Utility procurement	1746 1746
Figure 99.19 Procurement models used	1746
Figure 99.20 Criteria for comparing bids on construction contracts	
99.4.6 Private sector participation	<u>1747</u> 1747
Figure 99.21 Models of private sector participation	
99.4.7 Current and future projects	1747
Figure 99.22 Future utility investment projects	1747
99.5 Industrial water	1748
Figure 99.23 Industrial water market significance	1748
99.6 Market participants	1748
Figure 99.24 Major companies active in the water sector	1748
99.7 Market forecast	1750
99.7.1 Future market directions	1750
99.7.2 Notes on market forecast	1750
Figure 99.25 Market forecast, 2013–2020	1751
Figure 99.26 Market forecast breakdown, 2016	1752
Figure 99.27 Market forecast data, 2013-2020	1753
99.8 Data Sources	1754
Figure 99.28 Sources of data used in this report	1754
100. SOUTH KOREA	1755
100.1 Water availability and demand	1755
Figure 100.1 Water resources	1755
Figure 100.2 Sectoral water withdrawal	1755
100.2 Utility sector	1755
Figure 100.3 Utility service performance	
	1755
Figure 100.4 Water and wastewater utilities serving greater than 300,000 people	1755
Figure 100.4 Water and wastewater utilities serving greater than 300,000 people 100.2.1 Utility water	
100.2.1 Utility water	1756 1757
100.2.1 Utility water Figure 100.5 Water supply indicators	1756 1757 1757
100.2.1 Utility water Figure 100.5 Water supply indicators Figure 100.6 Number of people connected to water supply network	1756 1757 1757 1757
100.2.1 Utility water Figure 100.5 Water supply indicators Figure 100.6 Number of people connected to water supply network Figure 100.7 Percentage of people connected to water supply network	1756 1757 1757 1757 1757 1758
100.2.1 Utility water Figure 100.5 Water supply indicators Figure 100.6 Number of people connected to water supply network Figure 100.7 Percentage of people connected to water supply network Figure 100.8 Utility water supply capacity	1756 1757 1757 1757 1758 1758 1758
100.2.1 Utility water Figure 100.5 Water supply indicators Figure 100.6 Number of people connected to water supply network Figure 100.7 Percentage of people connected to water supply network Figure 100.8 Utility water supply capacity Figure 100.9 Non-revenue water	1756 1757 1757 1757 1758 1758 1758 1759
100.2.1 Utility water Figure 100.5 Water supply indicators Figure 100.6 Number of people connected to water supply network Figure 100.7 Percentage of people connected to water supply network Figure 100.8 Utility water supply capacity Figure 100.9 Non-revenue water Figure 100.10 Length of water distribution network	1756 1757 1757 1757 1758 1758 1758 1759 1759
100.2.1 Utility water Figure 100.5 Water supply indicators Figure 100.6 Number of people connected to water supply network Figure 100.7 Percentage of people connected to water supply network Figure 100.8 Utility water supply capacity Figure 100.9 Non-revenue water Figure 100.10 Length of water distribution network 100.2.2 Utility wastewater	1756 1757 1757 1757 1758 1758 1758 1759 1759 1760
100.2.1 Utility water Figure 100.5 Water supply indicators Figure 100.6 Number of people connected to water supply network Figure 100.7 Percentage of people connected to water supply network Figure 100.8 Utility water supply capacity Figure 100.9 Non-revenue water Figure 100.10 Length of water distribution network 100.2.2 Utility wastewater Figure 100.11 Wastewater indicators	1756 1757 1757 1757 1758 1758 1758 1759 1759 1760 1760
100.2.1 Utility water Figure 100.5 Water supply indicators Figure 100.6 Number of people connected to water supply network Figure 100.7 Percentage of people connected to water supply network Figure 100.8 Utility water supply capacity Figure 100.9 Non-revenue water Figure 100.10 Length of water distribution network 100.2.2 Utility wastewater Figure 100.11 Wastewater indicators Figure 100.12 Number of people connected to sewerage network	1756 1757 1757 1757 1758 1758 1758 1759 1759 1760 1760 1760
100.2.1 Utility water Figure 100.5 Water supply indicators Figure 100.6 Number of people connected to water supply network Figure 100.7 Percentage of people connected to water supply network Figure 100.8 Utility water supply capacity Figure 100.9 Non-revenue water Figure 100.10 Length of water distribution network 100.2.2 Utility wastewater Figure 100.11 Wastewater indicators Figure 100.12 Number of people connected to sewerage network Figure 100.13 Percentage of people connected to sewerage network	1756 1757 1757 1757 1758 1758 1758 1759 1759 1759 1760 1760 1760 1761
100.2.1 Utility water Figure 100.5 Water supply indicators Figure 100.6 Number of people connected to water supply network Figure 100.7 Percentage of people connected to water supply network Figure 100.8 Utility water supply capacity Figure 100.9 Non-revenue water Figure 100.10 Length of water distribution network 100.2.2 Utility wastewater Figure 100.11 Wastewater indicators Figure 100.12 Number of people connected to sewerage network Figure 100.13 Percentage of people connected to sewerage network Figure 100.14 Volume of wastewater produced	1756 1757 1757 1757 1758 1758 1758 1759 1759 1759 1760 1760 1760 1761 1761
100.2.1 Utility waterFigure 100.5 Water supply indicatorsFigure 100.6 Number of people connected to water supply networkFigure 100.7 Percentage of people connected to water supply networkFigure 100.8 Utility water supply capacityFigure 100.9 Non-revenue waterFigure 100.10 Length of water distribution network100.2.2 Utility wastewaterFigure 100.11 Wastewater indicatorsFigure 100.12 Number of people connected to sewerage networkFigure 100.13 Percentage of people connected to sewerage networkFigure 100.14 Volume of wastewater producedFigure 100.15 Percentage of wastewater collected	1756 1757 1757 1757 1758 1758 1758 1759 1759 1760 1760 1760 1761 1761 1761
100.2.1 Utility water Figure 100.5 Water supply indicators Figure 100.6 Number of people connected to water supply network Figure 100.7 Percentage of people connected to water supply network Figure 100.8 Utility water supply capacity Figure 100.9 Non-revenue water Figure 100.10 Length of water distribution network 100.2.2 Utility wastewater Figure 100.11 Wastewater indicators Figure 100.12 Number of people connected to sewerage network Figure 100.13 Percentage of people connected to sewerage network Figure 100.14 Volume of wastewater produced Figure 100.15 Percentage of wastewater collected Figure 100.16 Percentage of wastewater treated to secondary level	1756 1757 1757 1757 1758 1758 1759 1759 1759 1760 1760 1760 1761 1761 1762 1762
100.2.1 Utility waterFigure 100.5 Water supply indicatorsFigure 100.6 Number of people connected to water supply networkFigure 100.7 Percentage of people connected to water supply networkFigure 100.8 Utility water supply capacityFigure 100.9 Non-revenue waterFigure 100.10 Length of water distribution network100.2.2 Utility wastewaterFigure 100.11 Wastewater indicatorsFigure 100.12 Number of people connected to sewerage networkFigure 100.13 Percentage of people connected to sewerage networkFigure 100.14 Volume of wastewater producedFigure 100.15 Percentage of wastewater collectedFigure 100.16 Percentage of wastewater treated to secondary levelFigure 100.17 Percentage of wastewater treated to tertiary level	1756 1757 1757 1758 1758 1758 1759 1759 1760 1760 1760 1761 1761 1762 1762 1762
100.2.1 Utility waterFigure 100.5 Water supply indicatorsFigure 100.6 Number of people connected to water supply networkFigure 100.7 Percentage of people connected to water supply networkFigure 100.8 Utility water supply capacityFigure 100.9 Non-revenue waterFigure 100.10 Length of water distribution network100.2.2 Utility wastewaterFigure 100.11 Wastewater indicatorsFigure 100.12 Number of people connected to sewerage networkFigure 100.13 Percentage of people connected to sewerage networkFigure 100.14 Volume of wastewater producedFigure 100.15 Percentage of wastewater collectedFigure 100.16 Percentage of wastewater treated to secondary levelFigure 100.17 Percentage of wastewater treated to tertiary levelFigure 100.18 Length of sewerage network	1756 1757 1757 1757 1758 1758 1759 1759 1759 1760 1760 1760 1761 1761 1762 1762 1763 1763
100.2.1 Utility water Figure 100.5 Water supply indicators Figure 100.6 Number of people connected to water supply network Figure 100.7 Percentage of people connected to water supply network Figure 100.8 Utility water supply capacity Figure 100.9 Non-revenue water Figure 100.10 Length of water distribution network 100.2.2 Utility wastewater Figure 100.11 Wastewater indicators Figure 100.12 Number of people connected to sewerage network Figure 100.13 Percentage of people connected to sewerage network Figure 100.14 Volume of wastewater produced Figure 100.15 Percentage of wastewater collected Figure 100.16 Percentage of wastewater treated to secondary level Figure 100.17 Percentage of wastewater treated to tertiary level Figure 100.18 Length of sewerage network 100.2.3 Utility funding	1756 1757 1757 1757 1758 1758 1759 1759 1760 1760 1760 1760 1761 1761 1762 1762 1763 1763 1763
100.2.1 Utility water Figure 100.5 Water supply indicators Figure 100.6 Number of people connected to water supply network Figure 100.7 Percentage of people connected to water supply network Figure 100.8 Utility water supply capacity Figure 100.9 Non-revenue water Figure 100.10 Length of water distribution network 100.2.2 Utility wastewater Figure 100.11 Wastewater indicators Figure 100.12 Number of people connected to sewerage network Figure 100.13 Percentage of people connected to sewerage network Figure 100.14 Volume of wastewater produced Figure 100.15 Percentage of wastewater collected Figure 100.16 Percentage of wastewater treated to secondary level Figure 100.17 Percentage of wastewater treated to tertiary level Figure 100.18 Length of sewerage network 100.2.3 Utility funding Figure 100.19 Benchmark water and wastewater tariffs for selected major cities, 2015	1756 1757 1757 1757 1758 1758 1758 1759 1759 1760 1760 1760 1761 1761 1761 1761 1762 1763 1763 1763 1764 1764
100.2.1 Utility water Figure 100.5 Water supply indicators Figure 100.6 Number of people connected to water supply network Figure 100.7 Percentage of people connected to water supply network Figure 100.8 Utility water supply capacity Figure 100.9 Non-revenue water Figure 100.10 Length of water distribution network 100.2.2 Utility wastewater Figure 100.11 Wastewater indicators Figure 100.12 Number of people connected to sewerage network Figure 100.13 Percentage of people connected to sewerage network Figure 100.14 Volume of wastewater produced Figure 100.15 Percentage of wastewater collected Figure 100.16 Percentage of wastewater treated to secondary level Figure 100.17 Percentage of wastewater treated to tertiary level Figure 100.18 Length of sewerage network 100.2.3 Utility funding Figure 100.19 Benchmark water and wastewater tariffs for selected major cities, 2015 100.2.4 Private sector participation	1756 1757 1757 1757 1758 1758 1759 1759 1759 1760 1760 1760 1761 1761 1761 1762 1762 1763 1763 1763 1764 1764
100.2.1 Utility water Figure 100.5 Water supply indicators Figure 100.6 Number of people connected to water supply network Figure 100.7 Percentage of people connected to water supply network Figure 100.8 Utility water supply capacity Figure 100.9 Non-revenue water Figure 100.10 Length of water distribution network 100.2.2 Utility wastewater Figure 100.11 Wastewater indicators Figure 100.12 Number of people connected to sewerage network Figure 100.13 Percentage of people connected to sewerage network Figure 100.14 Volume of wastewater produced Figure 100.15 Percentage of wastewater collected Figure 100.16 Percentage of wastewater treated to secondary level Figure 100.17 Percentage of wastewater treated to tertiary level Figure 100.18 Length of sewerage network 100.2.3 Utility funding Figure 100.19 Benchmark water and wastewater tariffs for selected major cities, 2015 100.2.4 Private sector participation Figure 100.20 Selected major projects involving private sector participation	1756 1757 1757 1757 1758 1758 1759 1759 1759 1760 1760 1760 1760 1761 1761 1762 1762 1763 1763 1763 1764 1764 1764
100.2.1 Utility water Figure 100.5 Water supply indicators Figure 100.6 Number of people connected to water supply network Figure 100.7 Percentage of people connected to water supply network Figure 100.8 Utility water supply capacity Figure 100.9 Non-revenue water Figure 100.10 Length of water distribution network 100.2.2 Utility wastewater Figure 100.11 Wastewater indicators Figure 100.12 Number of people connected to sewerage network Figure 100.13 Percentage of people connected to sewerage network Figure 100.14 Volume of wastewater produced Figure 100.15 Percentage of wastewater collected Figure 100.16 Percentage of wastewater treated to secondary level Figure 100.17 Percentage of wastewater treated to tertiary level Figure 100.18 Length of sewerage network 100.2.3 Utility funding Figure 100.19 Benchmark water and wastewater tariffs for selected major cities, 2015 100.2.4 Private sector participation	1756 1757 1757 1757 1758 1758 1759 1759 1759 1760 1760 1760 1761 1761 1761 1762 1762 1763 1763 1763 1764 1764

1766

Figure 100.22 Market forecast breakdown, 2016

Figure 101.2 Sectoral water withdrawal 1769 101.2 Utility sector 1769 Figure 101.3 Utility service performance 1769 Figure 101.4 Water and wastewater utilities serving greater than 300,000 people 1769 01.2.1 Utility water 1770 Figure 101.5 Water supply indicators 1770 Figure 101.7 Percentage of people connected to water supply network 1771 Figure 101.7 Dercentage of people connected to water supply network 1771 Figure 101.9 Utility water supply capacity 1772 Figure 101.1 Number of people connected to sewerage network 1773 Figure 101.1 Number of people connected to sewerage network 1773 Figure 101.1 Number of sewerage connected to sewerage network 1773 Figure 101.1 Number of sewerage connection to sewerage network 1774 Figure 101.1 Number of sewerage connection to sewerage network 1775 Figure 101.1 A Benchmark water and wastewater tariffs for selected major cities, 2015 1774 Figure 101.1 S Overseas development assistance for the water and sanitation sector, 2008-2014 1774 Figure 101.1 Market forecast, 2013-2020 1775 Figure 101.1 Market forecast, 2013-2020 1776 Figure 101.1 Market forecast, 2013-2020 1776 Figure 101.1 Market forecast, 2013-2020 1778 Figure 102.1 Market and wastewater utilitit	Figure 100.23 Market forecast data, 2013-2020	1767
Figure 101.1 Water resources 1769 Figure 101.2 Utility service performance 1769 Figure 101.3 Utility service performance 1769 Figure 101.3 Utility service performance 1770 Figure 101.5 Water supply indicators 1770 Figure 101.6 Number of people connected to water supply network 1770 Figure 101.7 Morentage of people connected to water supply network 1771 Figure 101.8 Number of water connections 1772 Figure 101.1 Number of people connected to sewerage network 1773 Figure 101.1 Number of people connected to sewerage network 1773 Figure 101.1 Rumber of severage connections 1774 Figure 101.1 Rumber of severage connections 1774 Figure 101.1 Recentage of people connected to sewerage network 1773 Figure 101.1 Rumber of severage connections 1774 Figure 101.1 Recentage of people connected to sewerage network 1773 Figure 101.1 Rumber of severage connections 1774 Figure 101.1 Rumber of severage connections 1775 <	101. SRI LANKA	1769
Figure 101.2 Sectoral water withdrawal 1769 101.2 Utility sector 1769 Figure 101.3 Utility service performance 1769 Figure 101.4 Water and wastewater utilities serving greater than 300,000 people 1769 Figure 101.5 Water supply indicators 1770 Figure 101.5 Water supply indicators 1770 Figure 101.7 Percentage of people connected to water supply network 1771 Figure 101.8 Unitity water and wastewater 1771 Figure 101.9 Utility water supply capacity 1772 Figure 101.1 Wastewater 1772 Figure 101.1 Wastewater 1772 Figure 101.1 Wastewater 1772 Figure 101.1 Wastewater indicators 1772 Figure 101.1 Westewater 1773 Figure 101.1 Verseas development assistance for severage network 1773 Figure 101.1 Wastewater and wastewater tariffs for selected major chies, 2015 1774 Figure 101.1.1 Wastewater and wastewater tariffs for selected major chies, 2015 1774 Figure 101.1.1 Wastewater forecast breakdown, 2016 1777 Figure 101.1.1 Warket forecast, 2013-2020 1776 Figure 101.1.1 Market forecast, 2013-2020 1776 Figure 102.1 Water resources	101.1 Water availability and demand	1769
101.2 Utility sector 1769 Figure 101.3 Utility service performance 1769 Figure 101.4 Water and wastewater utilities serving greater than 300,000 people 1769 101.2.1 Utility water 1770 Figure 101.5 Water supply indicators 1770 Figure 101.5 Number of people connected to water supply network 1771 Figure 101.5 Number of water connections 1771 Figure 101.1 With water supply capacity 1772 Figure 101.1 With water supply capacity 1772 Figure 101.1 With water supply capacity 1772 Figure 101.1 Waterwater indicators 1772 Figure 101.1 With water supply capacity 1772 Figure 101.1 Waterwater indicators 1774 Figure 101.1 A Benchmark water and wastewater tariffs for selected major cities, 2015 1774 Figure 101.1 A Benchmark water and wastewater tariffs for selected major cities, 2015 1774 Figure 101.1 A Benchmark water and wastewater tariffs for selected major cities, 2015 1775 Figure 101.1 A Market forecast, 2013-2020 1775 Figure 101.1 Market forecast, 2013-2020 1776 Figure 101.1 Market forecast breakdow, 2016 1777 Figure 101.1 Market forecast breakdow, 2016 1777 Figure 102.3 Utility service performance 1780 Figure 102.2 Water and wastewater utilities serving greate	Figure 101.1 Water resources	1769
Figure 101.3 Utility service performance 1769 Figure 101.4 Water and wastewater utilities serving greater than 300,000 people 1760 101.2.1 Unity water 1770 Figure 101.5 Water supply indicators 1770 Figure 101.5 Water supply indicators 1770 Figure 101.7 Percentage of people connected to water supply network 1771 Figure 101.8 Number of water connections 1771 Figure 101.9 Utility water supply capacity 1772 Figure 101.1 OW Satewater indicators 1772 Figure 101.1 OW Satewater indicators 1772 Figure 101.1 Number of severage connection to severage network 1773 Figure 101.1 Strentsed of people connected to severage network 1773 Figure 101.1 Number of severage connections 1774 Figure 101.1 Number of severage network 1773 Figure 101.1 Number of severage network 1775 Figure 101.1 Number of severage network 1774 Figure 101.1 Number of severage network 1774 Figure 101.1 Number of severage network 1775 Figure 101.1 Market forecast Q013 1775 Figure 101.1 Market forecast Q013 1776 <	Figure 101.2 Sectoral water withdrawal	1769
Figure 101.4 Water and wastewater utilities serving greater than 300,000 people 1769 1012.1 Utility water 1770 Figure 101.5 Water supply indicators 1770 Figure 101.6 Number of people connected to water supply network 1771 Figure 101.7 Brearchage of people connected to water supply network 1771 Figure 101.8 Number of water connections 1772 Figure 101.1 Number of people connected to severage network 1772 Figure 101.1 Number of people connected to severage network 1773 Figure 101.1 Number of people connected to severage network 1773 Figure 101.1 Number of severage connections 1774 101.2.3 Utility funding 1774 Figure 101.1 & Benchmark water and wastewater tariffs for selected major cities, 2015 1774 Figure 101.1 S Dverseas development assistance for the water and sanitation sector, 2008-2014 1774 101.3 Current and future projects 1775 Figure 101.1 Projects tracked by GWI 1775 Figure 101.1 Projects tracked by GWI 1775 Figure 101.1 Market forecast traakdown, 2016 1777 Figure 101.1 Market forecast traakdown, 2016 1777 Figure 102.1 Water resources		1769
101.2.1 Utility water 1770 Figure 101.5 Water supply indicators 1770 Figure 101.7 Percentage of people connected to water supply network 1771 Figure 101.8 Number of water connections 1771 Figure 101.9 Utility water supply capacity 1772 Figure 101.1 Number of water supply capacity 1772 Figure 101.1 Number of water supply capacity 1772 Figure 101.1 Number of people connected to sewerage network 1773 Figure 101.1 Sumber of sewerage connections 1774 Figure 101.1 Sucessaa development assistance for the water and sanitation sector, 2008-2014 1775 Figure 101.1 Narket forecast, 2013-2020 1776 Figure 101.1 Market forecast, 2013-2020 1776 Figure 101.1 Market forecast data, 2013-2020 1778 Figure 102.1 Water radia water withdrawal 1780 102.1 Water availability and demand 1780 102.1 Water availability and demand 1780 102.1 Water availability service performance 1780 Figure 102.2 Store availability service performance 1780 Figure 1		1769
Figure 101.5 Water supply indicators 1770 Figure 101.6 Number of people connected to water supply network 1771 Figure 101.7 Percentage of people connected to water supply network 1771 Figure 101.8 Number of water connections 1772 101.2.2 Utility watewater 1772 Figure 101.1 Wastewater indicators 1772 Figure 101.1 Wastewater indicators 1772 Figure 101.1 Number of people connected to sewerage network 1773 Figure 101.1 A Brenetage of people connected to sewerage network 1774 Tigure 101.1 A Brenetage of people connected to severage network 1774 Figure 101.1 A Brenetage of people connected to severage network 1774 Figure 101.1 A Brenetage of people connected to severage network 1774 Figure 101.1 A Brenethage of people connected to severage network 1774 Figure 101.1 Forcets tracked by GWI 1775 Figure 101.1 Forcets tracked by GWI 1775 Figure 101.1 Market forecast data, 2013-2020 1776 Figure 101.1 Market forecast data, 2013-2020 1776 Figure 102.1 Water resources 1780 Figure 102.2 Water and wastewater utilities serving greater than 300,000 people 1780 Figure 102.2 Water supply	Figure 101.4 Water and wastewater utilities serving greater than 300,000 people	
Figure 101.6 Number of people connected to water supply network 1770 Figure 101.7 Percentage of people connected to water supply network 1771 Figure 101.8 Number of water connections 1771 Figure 101.9 Utility water supply capacity 1772 Figure 101.10 Wastewater indicators 1772 Figure 101.12 Percentage of people connected to sewerage network 1773 Figure 101.13 Number of sewerage connections 1774 101.32 Utility funding 1774 Figure 101.14 Benchmark water and wastewater tariffs for selected major cities, 2015 1774 Figure 101.14 Benchmark water and wastewater tariffs for selected major cities, 2015 1774 Figure 101.14 Benchmark water and wastewater tariffs for selected major cities, 2015 1775 Figure 101.16 Coresease development assistance for the water and sanitation sector, 2008-2014 1776 Figure 101.17 Market forecast, 2013-2020 1776 Figure 101.17 Market forecast, 2013-2020 1776 Figure 101.19 Market forecast breakdown, 2016 1777 Figure 101.19 Market forecast data, 2013-2020 1778 Figure 102.2 Sectoral water withdrawal 1780 Figure 102.2 Water supply indicators 1780 Figure 102.2 Wuter supply indicators 1781 <td></td> <td></td>		
Figure 101.7 Percentage of people connected to water supply network 1771 Figure 101.8 Number of water connections 1771 Figure 101.9 Unity water supply capacity 1772 101.2.2 Utility watewater 1772 Figure 101.10 Wastewater indicators 1772 Figure 101.11 Number of people connected to severage network 1773 Figure 101.12 Percentage of people connected to severage network 1773 Figure 101.13 Number of severage connections 1774 Figure 101.14 Benchmark water and wastewater tariffs for selected major cities, 2015 1774 Figure 101.14 Denchmark water and wastewater tariffs for selected major cities, 2015 1774 Figure 101.15 Cversea development assistance for the water and sanitation sector, 2008-2014 1775 Figure 101.16 Projects tracked by GWI 1775 Figure 101.16 Projects tracked by GWI 1776 Figure 101.18 Market forecast, 2013-2020 1776 Figure 101.19 Market forecast data, 2013-2020 1776 Figure 102.19 Water resources 1780 Figure 102.2 Sectoral water withdrawal 1780 102.2 Utility service performance 1780 Figure 102.2 Number of people connected to water supply network 1782 Figure 102.2 W	a	
Figure 101.8 Number of water connections1771Figure 101.9 Utility water supply capacity1772101.2.2 Utility waterswater indicators1772Figure 101.10 Wastewater indicators1773Figure 101.12 Percentage of people connected to sewerage network1773Figure 101.12 Percentage of people connected to sewerage network1774101.2.3 Utility funding1774Figure 101.14 Benchmark water and wastewater tariffs for selected major cities, 20151774Figure 101.15 Overseas development assistance for the water and sanitation sector, 2008-20141775Figure 101.16 Drojects tracked by GWI1775101.4 Market forecast1775Figure 101.17 Market forecast, 2013-20201776Figure 101.18 Market forecast breakdown, 20161777Figure 101.19 Market forecast breakdown, 20161777Figure 101.19 Market forecast data, 2013-20201780102.1 Water availability and demand1780Figure 102.2 Sectoral water withdrawal1780102.2 Utility sector1780Figure 102.3 Utility service performance1780Figure 102.4 Water and wastewater utilities serving greater than 300,000 people1780Figure 102.7 Number of people connected to water supply network1782Figure 102.7 Utility wastewater indicators1782Figure 102.7 Number of people connected to water supply network1782Figure 102.8 Water supply indicators1783Figure 102.9 Vastewater indicators1783Figure 102.1 Vastewater indicators1783Figure 102.1 Vastewater i		
Figure 101.9 Utility water supply capacity1772101.2.2 Utility watewater1772Figure 101.11 Number of people connected to severage network1773Figure 101.11 Number of people connected to severage network1773Figure 101.12 Percentage of people connected to severage network1773101.2.3 Utility funding1774Figure 101.15 Overseas development assistance for the water and sanitation sector, 2008-20141774Figure 101.16 Projects tracked by GWI1775Figure 101.16 Projects tracked by GWI1775Figure 101.16 Projects tracked by GWI1775Figure 101.17 Market forecast, 2013-20201776Figure 101.18 Market forecast breakdown, 20161777Figure 101.19 Market forecast data, 2013-20201776Figure 101.19 Market forecast data, 2013-20201776Figure 101.19 Market forecast data, 2013-20201778102.1 Water availability and demand1780Figure 102.1 Water resources1780Figure 102.2 Utility sector1780Figure 102.3 Utility service performance1780Figure 102.4 Water and wastewater utilities serving greater than 300,000 people1780102.2.1 Utility water1781Figure 102.4 Number of people connected to swerage network1782Figure 102.2.2 Utility service performance1783Figure 102.3 Utility service performance1783Figure 102.4 Number of people connected to water supply network1782Figure 102.1 Utility water connections1782Figure 102.2.3 Utility water connections1784 <td></td> <td></td>		
101.2.2 Utility wastewater 1772 Figure 101.10 Wastewater indicators 1772 Figure 101.11 Number of people connected to sewerage network 1773 Figure 101.12 Percentage of people connected to sewerage network 1773 Figure 101.12 Percentage of people connected to sewerage network 1774 101.2.3 Utility funding 1774 Figure 101.15 Overseas development assistance for the water and sanitation sector, 2008-2014 1774 Figure 101.16 Projects tracked by GWI 1775 Figure 101.16 Projects tracked by GWI 1775 Figure 101.17 Market forecast, 2013-2020 1776 Figure 101.18 Market forecast, 2013-2020 1776 Figure 101.19 Market forecast data, 2013-2020 1776 Figure 101.19 Market forecast data, 2013-2020 1776 Figure 102.1 Water resources 1780 Figure 102.1 Water resources 1780 Figure 102.2 Sectoral water withdrawal 1780 Figure 102.3 Utility service performance 1780 Figure 102.4 Water and wastewater utilities serving greater than 300,000 people 1780 Figure 102.4 Number of people connected to water supply network 1781 Figure 102.4 Number of people connected to sewerage network 1781		
Figure 101.10 Wastewater indicators1772Figure 101.11 Number of people connected to sewerage network1773Figure 101.13 Dumber of sewerage connected to sewerage network1773Figure 101.13 Number of sewerage connected to sewerage network1774101.23 Utility funding1774Figure 101.14 Denchmark water and wastewater tariffs for selected major cities, 20151774Figure 101.15 Overseas development assistance for the water and sanitation sector, 2008-20141775Figure 101.16 Projects tracked by GWI1775101.3 Current and future projects1776Figure 101.17 Market forecast, 2013-20201776Figure 101.18 Market forecast breakdown, 20161777Figure 101.19 Market forecast data, 2013-20201778102.1 Water availability and demand1780Figure 102.1 Water resources1780Figure 102.2 Utility sector1780Figure 102.3 Utility service performance1780Figure 102.4 Water and wastewater utilities serving greater than 300,000 people1780102.2.1 Utility water1781Figure 102.4 Water and wastewater utilities serving under supply network1781Figure 102.3 Utility service performance1783Figure 102.4 Water and wastewater connected to swater supply network1782Figure 102.1 Utility water1783Figure 102.1 Number of people connected to swater supply network1783Figure 102.1 Utility service performance1783Figure 102.1 Utility service performance1783Figure 102.1 Vater resources1783 <td< td=""><td></td><td></td></td<>		
Figure 101.11 Number of people connected to sewerage network1773Figure 101.12 Percentage of people connected to sewerage network1773101.2.3 Utility funding1774101.2.3 Utility funding1774Figure 101.14 Benchmark water and wastewater tarlffs for selected major cities, 20151774Figure 101.15 Overseas development assistance for the water and sanitation sector, 2008-20141774101.3 Current and future projects1775Figure 101.16 Projects tracked by GWI1775101.4 Market forecast1776Figure 101.18 Market forecast breakdown, 20161777Figure 101.19 Market forecast breakdown, 20161777Figure 101.19 Market forecast breakdown, 20161777Figure 101.19 Market forecast data, 2013-20201778102.1 Water availability and demand1780Figure 102.1 Water resources1780Figure 102.2 Sectoral water withdrawal1780102.2.1 Utility sector1780Figure 102.3 Utility service performance1780Figure 102.4 Water and wastewater utilities serving greater than 300,000 people1780102.2.1 Utility water1781Figure 102.5 Water supply indicators1782Figure 102.6 Number of people connected to water supply network1782Figure 102.1 Percentage of people connected to sewerage network1782Figure 102.1 Number of severage connections1782102.2.2.2.1 Utility water1783Figure 102.1 Number of severage connected to sewerage network1783Figure 102.1 Number of severage connected to sewerage		
Figure 101.12 Percentage of people connected to sewerage network1773Figure 101.13 Number of sewerage connections1774101.23 Utility funding1774Figure 101.14 Benchmark water and wastewater tariffs for selected major cities, 20151774Figure 101.15 Overseas development assistance for the water and sanitation sector, 2008-20141774101.3 Current and future projects1775Figure 101.16 Projects tracked by GWI1775101.4 Market forecast1776Figure 101.19 Market forecast data, 2013-20201776Figure 101.19 Market forecast data, 2013-20201778102.1 Water availability and demand1780Figure 102.1 Water resources1780Figure 102.1 Water availability and demand1780Figure 102.2 Sectoral water withdrawal1780102.2.Utility sector1780Figure 102.3 Water and wastewater utilities serving greater than 300,000 people1780Figure 102.4 Water and wastewater utilities serving greater than 300,000 people1780Figure 102.5 Water supply indicators1781Figure 102.6 Number of people connected to water supply network1782Figure 102.7 Percentage of people connected to water supply network1782Figure 102.1 Water and pastewater indicators1783Figure 102.1 Number of sewerage connected to sewerage network1783Figure 102.1 Number of sewerage connected to sewerage network1784Figure 102.1 Number of sewerage connected to sewerage network1784Figure 102.1 Number of sewerage connected to sewerage network1784<		
Figure 101.13 Number of sewerage connections1774101.2.3 Utility funding1774Figure 101.15 Overseas development assistance for the water and sanitation sector, 2008-20141774101.3 Current and future projects1775Figure 101.15 Overseas development assistance for the water and sanitation sector, 2008-20141774101.3 Current and future projects1775Figure 101.14 Projects tracked by GWI1775101.4 Market forecast1776Figure 101.17 Market forecast, 2013-20201776Figure 101.19 Market forecast breakdown, 20161777Figure 101.19 Market forecast data, 2013-20201778102.1 Water availability and demand1780Figure 102.1 Water resources1780Figure 102.2 Sectoral water withdrawal1780102.2 Utility sector1780Figure 102.4 Water and wastewater utilities serving greater than 300,000 people1780Figure 102.4 Water and wastewater utilities serving greater than 300,000 people1780Figure 102.4 Water and wastewater utilities serving greater than 300,000 people1780Figure 102.5 Water supply indicators1781Figure 102.6 Number of people connected to water supply network1782Figure 102.1 Utility watewater1782Figure 102.1 Number of people connected to sewerage network1783Figure 102.1 Number of severage connections1782Figure 102.1 Number of severage connected to sewerage network1783Figure 102.1 Number of severage connected to sewerage network1783Figure 102.1 Number of severage connect		
1012.3 Utility funding1774Figure 101.14 Benchmark water and wastewater tariffs for selected major cities, 20151774Figure 101.15 Overseas development assistance for the water and sanitation sector, 2008-20141775101.3 Current and future projects1775Figure 101.16 Projects tracked by GWI1775101.4 Market forecast1776Figure 101.17 Market forecast, 2013-20201776Figure 101.18 Market forecast breakdown, 20161777Figure 101.19 Market forecast data, 2013-20201778102.1 Water availability and demand1780102.1 Water availability and demand1780Figure 102.1 Water resources1780Figure 102.2 Sectoral water withdrawal1780102.2 Utility sector1780Figure 102.3 Utility service performance1780Figure 102.4 Water and wastewater utilities serving greater than 300,000 people1780102.2.1 Utility water1781Figure 102.4 Source of people connected to water supply network1782Figure 102.4 Unither of people connected to water supply network1782Figure 102.4 Utility water1783Figure 102.7 Percentage of people connected to severage network1783Figure 102.1 Utility water1783Figure 102.1 Number of water connections1782Figure 102.1 Number of severage connections1783Figure 102.1 Number of severage network1783Figure 102.1 Number of severage network1784Figure 102.14 Percentage of people connected to severage network1784Figure 102.		
Figure 101.14 Benchmark water and wastewater tariffs for selected major cities, 20151774Figure 101.15 Overseas development assistance for the water and sanitation sector, 2008-20141775101.3 Current and future projects1775Figure 101.16 Projects tracked by GWI1775101.4 Market forecast1776Figure 101.17 Market forecast, 2013-20201776Figure 101.17 Market forecast breakdown, 20161777Figure 101.19 Market forecast data, 2013-20201778102.1 Water availability and demand1780102.1 Water availability and demand1780Figure 102.2 Sectoral water withdrawal1780102.2 Utility sector1780Figure 102.3 Utility service performance1780Figure 102.4 Water and wastewater utilities serving greater than 300,000 people1781102.2.1 Utility water1781Figure 102.5 Water supply indicators1781Figure 102.7 Percentage of people connected to water supply network1782102.2.2 Utility water1783Figure 102.7 Neter of people connected to sewerage network1783Figure 102.7 Neter of people connected to sewerage network1783Figure 102.10 Number of people connected to sewerage network1784Figure 102.12 Number of sewerage connections1785Figure 102.14 Percentage of people connected to sewerage network1784Figure 102.10 Number of sewerage network1784Figure 102.11 Percentage of people connected to sewerage network1785Figure 102.12 Number of sewerage network1786Figure		
Figure 101.15 Overseas development assistance for the water and sanitation sector, 2008-20141774101.3 Current and future projects1775Figure 101.16 Projects tracked by GWI1775101.4 Market forecast1776Figure 101.18 Market forecast, 2013-20201776Figure 101.19 Market forecast breakdown, 201617777Figure 101.19 Market forecast data, 2013-20201778102. TAIWAN1780102.1 Water availability and demand1780Figure 102.2 Sectoral water withdrawal1780Figure 102.3 Utility sector1780Figure 102.3 Utility service performance1780Figure 102.4 Water and watewater utilities serving greater than 300,000 people1780102.2.1 Utility water1781Figure 102.5 Water supply indicators1781Figure 102.6 Number of people connected to water supply network1782102.2.2 Utility water1782Figure 102.6 Number of people connected to sewerage network1782Figure 102.7 Percentage of people connected to sewerage network1783Figure 102.8 Number of sewerage connections1783Figure 102.10 Number of people connected to sewerage network1784Figure 102.11 Percentage of people connected to sewerage network1784Figure 102.12 Number of sewerage connections1786Figure 102.14 Percentage of people connected to sewerage network1783Figure 102.12 Number of sewerage network1785Figure 102.13 Volume of water erroduced1785Figure 102.14 Percentage of watewater traffs for selected major		
101.3 Current and future projects1775Figure 101.16 Projects tracked by GWI1775101.4 Market forecast1776Figure 101.17 Market forecast breakdown, 20161777Figure 101.18 Market forecast breakdown, 20161777Figure 101.19 Market forecast data, 2013-20201778102.1 KWAN1780102.1 Water availability and demand1780Figure 102.1 Water resources1780Figure 102.2 Sectoral water withdrawal1780102.2 Utility sector1780Figure 102.3 Utility service performance1780Figure 102.4 Water and wastewater utilities serving greater than 300,000 people1780102.2.1 Utility water1781Figure 102.5 Water supply indicators1781Figure 102.7 Number of people connected to water supply network1782Figure 102.7 Number of people connected to sewerage network1783Figure 102.8 Number of people connected to sewerage network1783Figure 102.10 Number of people connected to sewerage network1783Figure 102.11 Percentage of people connected to sewerage network1783Figure 102.12 Number of severage network1785Figure 102.13 Volume of wastewater collected1785Figure 102.14 Percentage of wastewater collected1785Figure 102.15 Length of sewerage network1785Figure 102.12 Number of people connected to sewerage network1786Figure 102.13 Volume of wastewater collected1785Figure 102.14 Percentage of wastewater collected1785Figure 102.15 Length of sewerag		
Figure 101.16 Projects tracked by GWI1775101.4 Market forecast1776Figure 101.17 Market forecast, 2013-20201776Figure 101.18 Market forecast breakdown, 20161777Figure 101.19 Market forecast data, 2013-20201778102. TAIWAN1780102.1 Water availability and demand1780Figure 102.1 Water resources1780Figure 102.2 Sectoral water withdrawal1780102.2 Utility sector1780Figure 102.3 Utility service performance1780Figure 102.4 Water and wastewater utilities serving greater than 300,000 people1780102.2.1 Utility water1781Figure 102.4 Water supply indicators1781Figure 102.5 Water supply indicators1782Figure 102.7 Percentage of people connected to water supply network1782102.2.2 Utility wastewater1783Figure 102.9 Number of water connections1782102.2.2 Utility wastewater1783Figure 102.10 Number of people connected to sewerage network1783Figure 102.11 Percentage of people connected to sewerage network1783Figure 102.12 Number of sewerage connections1784Figure 102.13 Volume of sewerage network1786Figure 102.14 Percentage of severage network1785Figure 102.14 Percentage of severage network1786Figure 102.15 Length of sewerage network1786Figure 102.14 Percentage of severage network1786Figure 102.14 Percentage of severage network1786Figure 102.15 Length of sewerage network <t< td=""><td></td><td></td></t<>		
101.4 Market forecast1776Figure 101.17 Market forecast breakdown, 20161777Figure 101.18 Market forecast breakdown, 20161777Figure 101.19 Market forecast breakdown, 20161778102. TAIWAN1780102.1 Water availability and demand1780Figure 102.1 Water resources1780Figure 102.2 Sectoral water withdrawal1780102.2 Utility sector1780Figure 102.3 Utility service performance1780Figure 102.4 Water and wastewater utilities serving greater than 300,000 people1780102.2.1 Utility water1781Figure 102.5 Water supply indicators1781Figure 102.6 Number of people connected to water supply network1782Figure 102.7 Percentage of people connected to water supply network1782Figure 102.9 Wastewater1783Figure 102.10 Number of people connected to severage network1783Figure 102.11 Percentage of people connected to severage network1784Figure 102.12 Number of severage connections1784Figure 102.13 Volume of severage connected to severage network1785Figure 102.14 Percentage of people connected to severage network1786Figure 102.13 Volume of severage connections1786Figure 102.14 Percentage of wastewater produced1785Figure 102.15 Length of sewerage network1786Figure 102.16 Wastewater treatment plants by level of treatment1786102.2.3 Utility funding1786Figure 102.17 Benchmark water and wastewater collected major cities, 20151786		
Figure 101.17 Market forecast, 2013-20201776Figure 101.18 Market forecast breakdown, 20161777Figure 101.19 Market forecast data, 2013-20201778 102. TAIWAN1780 102.1 Water availability and demand1780Figure 102.1 Water resources1780Figure 102.2 Sectoral water withdrawal1780102.2 Utility sector1780Figure 102.3 Utility service performance1780Figure 102.4 Water and wastewater utilities serving greater than 300,000 people1780102.2.1 Utility water1781Figure 102.5 Water supply indicators1781Figure 102.6 Number of people connected to water supply network1782Figure 102.7 Percentage of people connected to water supply network1783Figure 102.6 Number of water connections1783Figure 102.7 Dercentage of people connected to sewerage network1783Figure 102.7 Number of water connected to sewerage network1783Figure 102.10 Number of people connected to sewerage network1784Figure 102.11 Percentage of people connected to sewerage network1784Figure 102.12 Number of sewerage connections1785Figure 102.13 Volume of sewerage network1786Figure 102.14 Percentage of severage network1786Figure 102.15 Length of sewerage network1786Figure 102.16 Wastewater treatment plants by level of treatment1786Figure 102.16 Wastewater treatment plants by level of treatment1786Figure 102.17 Benchmark water and wastewater tariffs for selected major cities, 20151786 </td <td></td> <td></td>		
Figure 101.18 Market forecast breakdown, 20161777Figure 101.19 Market forecast data, 2013-20201778102. TAIWAN1780102.1 Water availability and demand1780Figure 102.1 Water resources1780Figure 102.2 Sectoral water withdrawal1780102.2 Utility sector1780Figure 102.3 Utility service performance1780Figure 102.4 Water and wastewater utilities serving greater than 300,000 people1780102.2.1 Utility water1781Figure 102.5 Water supply indicators1781Figure 102.6 Number of people connected to water supply network1782Figure 102.8 Number of people connected to water supply network1782102.2.2 Utility wastewater1783Figure 102.8 Number of people connected to sewerage network1783Figure 102.9 Wastewater indicators1783Figure 102.10 Number of people connected to sewerage network1784Figure 102.11 Percentage of people connected to sewerage network1784Figure 102.12 Number of sewerage connections1785Figure 102.13 Volume of sewerage connections1786Figure 102.14 Percentage of wastewater produced1785Figure 102.15 Length of sewerage network1786Figure 102.16 Wastewater treatment plants by level of treatment1786102.2.3 Utility funding1786Figure 102.15 Length of sewerage network1786Figure 102.16 Wastewater reatment plants by level of treatment1786102.2.3 Utility funding1786Figure 102.16 Selected major		
Figure 101.19 Market forecast data, 2013-20201778102.1 Water availability and demand1780102.1 Water availability and demand1780Figure 102.1 Water resources1780Figure 102.2 Sectoral water withdrawal1780102.2 Utility sector1780Figure 102.3 Utility service performance1780Figure 102.4 Water and wastewater utilities serving greater than 300,000 people1780102.2.1 Utility water1781Figure 102.5 Water supply indicators1781Figure 102.6 Number of people connected to water supply network1782Figure 102.8 Number of people connected to water supply network1782Figure 102.8 Number of water connections1783Figure 102.9 Wastewater indicators1783Figure 102.10 Number of people connected to sewerage network1783Figure 102.11 Percentage of people connected to sewerage network1784Figure 102.12 Number of sewerage connections1784Figure 102.13 Volume of wastewater produced1785Figure 102.14 Percentage of wastewater collected1785Figure 102.15 Length of sewerage network1786Figure 102.16 Wastewater treatment plants by level of treatment1786102.2.3 Utility funding1786Figure 102.16 Selected major projects involving private sector participation1786102.2.4 Private sector participation1786102.2.5 Length of sewerage network1786Figure 102.16 Wastewater treatment plants by level of treatment1786102.2.4 Private sector participation1786 <td></td> <td></td>		
102. TAIWAN1780102.1 Water availability and demand1780Figure 102.1 Water resources1780Figure 102.2 Sectoral water withdrawal1780102.2 Utility sector1780102.2 Utility sector1780Figure 102.3 Utility service performance1780Figure 102.4 Water and wastewater utilities serving greater than 300,000 people1780102.2.1 Utility water1781Figure 102.5 Water supply indicators1781Figure 102.5 Uniber of people connected to water supply network1782Figure 102.7 Percentage of people connected to water supply network1782Figure 102.8 Number of water connections1782102.2.2 Utility wastewater1783Figure 102.10 Number of people connected to sewerage network1783Figure 102.11 Percentage of people connected to sewerage network1784Figure 102.12 Number of sewerage connections1784Figure 102.13 Volume of people connected to sewerage network1784Figure 102.14 Percentage of people connected to sewerage network1785Figure 102.13 Volume of sewerage connections1786Figure 102.14 Percentage of wastewater collected1785Figure 102.15 Length of sewerage network1786102.2.4 Writy funding1786102.2.4 Private sector participation1786102.3 Utility funding1786102.3 Current and future projects1786102.3 Current and future projects involving private sector participation1786102.4 Market forecast1787		
102.1 Water availability and demand1780Figure 102.1 Water resources1780Figure 102.2 Sectoral water withdrawal1780102.2 Utility sector1780102.2 Utility sector1780Figure 102.3 Utility service performance1780Figure 102.4 Water and wastewater utilities serving greater than 300,000 people1780102.2.1 Utility water1781Figure 102.5 Water supply indicators1781Figure 102.6 Number of people connected to water supply network1782Figure 102.7 Percentage of people connected to water supply network1782102.2.2 Utility watewater1783Figure 102.8 Number of water connections1782102.2.2 Utility wastewater1783Figure 102.10 Number of people connected to sewerage network1783Figure 102.11 Percentage of people connected to sewerage network1784Figure 102.12 Number of sewerage connections1784Figure 102.13 Volume of people connected to sewerage network1785Figure 102.14 Percentage of people connected to sewerage network1785Figure 102.15 Length of sewerage connections1786102.2.3 Utility funding1786102.2.4 Private sector participation1786102.2.4 Private sector participation1786102.3 Current and future projects1786102.4 Market forecast1787102.4 Market forecast1787	Figure 101.19 Market forecast data, 2013-2020	1778
Figure 102.1 Water resources1780Figure 102.2 Sectoral water withdrawal1780102.2 Utility sector1780Figure 102.3 Utility service performance1780Figure 102.4 Water and wastewater utilities serving greater than 300,000 people1780102.2.1 Utility water1781Figure 102.5 Water supply indicators1781Figure 102.6 Number of people connected to water supply network1782Figure 102.8 Number of people connected to water supply network1782Figure 102.8 Number of people connected to water supply network1783Figure 102.9 Wastewater1783102.2.2 Utility wastewater1783Figure 102.9 Wastewater indicators1783Figure 102.10 Number of people connected to sewerage network1784Figure 102.11 Percentage of people connected to sewerage network1784Figure 102.12 Number of sewerage connections1785Figure 102.13 Volume of wastewater produced1785Figure 102.14 Percentage of wastewater collected1785Figure 102.15 Length of sewerage network1786Figure 102.14 Vastewater treatment plants by level of treatment1786102.2.3 Utility funding1786Figure 102.17 Benchmark water and wastewater tariffs for selected major cities, 20151786102.2.4 Private sector participation1786102.2.4 Private sector participation1786102.2.4 Utility funding1787Figure 102.19 Projects tracked by GWI1787102.4 Market forecast1787	102. TAIWAN	1780
Figure 102.1 Water resources1780Figure 102.2 Sectoral water withdrawal1780102.2 Utility sector1780Figure 102.3 Utility service performance1780Figure 102.4 Water and wastewater utilities serving greater than 300,000 people1780102.2.1 Utility water1781Figure 102.5 Water supply indicators1781Figure 102.6 Number of people connected to water supply network1782Figure 102.8 Number of people connected to water supply network1782Figure 102.8 Number of people connected to water supply network1783Figure 102.9 Wastewater1783102.2.2 Utility wastewater1783Figure 102.9 Wastewater indicators1783Figure 102.10 Number of people connected to sewerage network1784Figure 102.11 Percentage of people connected to sewerage network1784Figure 102.12 Number of sewerage connections1785Figure 102.13 Volume of wastewater produced1785Figure 102.14 Percentage of wastewater collected1785Figure 102.15 Length of sewerage network1786Figure 102.14 Vastewater treatment plants by level of treatment1786102.2.3 Utility funding1786Figure 102.17 Benchmark water and wastewater tariffs for selected major cities, 20151786102.2.4 Private sector participation1786102.2.4 Private sector participation1786102.2.4 Utility funding1787Figure 102.19 Projects tracked by GWI1787102.4 Market forecast1787	102.1 Water availability and demand	1780
Figure 102.2 Sectoral water withdrawal1780102.2 Utility sector1780Figure 102.3 Utility service performance1780Figure 102.4 Water and wastewater utilities serving greater than 300,000 people1780102.2.1 Utility water1781Figure 102.5 Water supply indicators1781Figure 102.6 Number of people connected to water supply network1782Figure 102.7 Percentage of people connected to water supply network1782102.2.2 Utility wastewater1783Figure 102.8 Number of water connected to severage network1783Figure 102.9 Wastewater indicators1783Figure 102.10 Number of people connected to sewerage network1783Figure 102.11 Percentage of people connected to sewerage network1784Figure 102.12 Number of severage connections1784Figure 102.13 Volume of wastewater produced1785Figure 102.14 Percentage of wastewater collected1785Figure 102.15 Length of severage network1786Figure 102.16 Wastewater treatment plants by level of treatment1786102.2.3 Utility funding1786Figure 102.17 Benchmark water and wastewater tariffs for selected major cities, 20151786102.2.4 Private sector participation1786Figure 102.19 Projects tracked by GWI1787102.44 Market forecast1787	•	
102.2 Utility sector1780Figure 102.3 Utility service performance1780Figure 102.4 Water and wastewater utilities serving greater than 300,000 people1780102.2.1 Utility water1781Figure 102.5 Water supply indicators1781Figure 102.6 Number of people connected to water supply network1781Figure 102.7 Percentage of people connected to water supply network1782102.2.2 Utility wastewater1783Figure 102.8 Number of water connections1782102.2.2 Utility wastewater1783Figure 102.9 Wastewater indicators1783Figure 102.10 Number of people connected to sewerage network1783Figure 102.11 Percentage of people connected to sewerage network1784Figure 102.12 Number of sewerage connections1784Figure 102.13 Volume of wastewater produced1785Figure 102.14 Percentage of wastewater collected1785Figure 102.15 Length of sewerage network1786Figure 102.16 Wastewater treatment plants by level of treatment1786102.2.3 Utility funding1786Figure 102.17 Benchmark water and wastewater tariffs for selected major cities, 20151786102.2.4 Private sector participation1786Figure 102.18 Selected major projects involving private sector participation1786102.3 Current and future projects1787Figure 102.19 Projects tracked by GWI1787102.4 Market forecast1789		1780
Figure 102.4 Water and wastewater utilities serving greater than 300,000 people1780102.2.1 Utility water1781Figure 102.5 Water supply indicators1781Figure 102.6 Number of people connected to water supply network1781Figure 102.7 Percentage of people connected to water supply network1782Figure 102.8 Number of water connections1782102.2.2 Utility wastewater1783Figure 102.9 Wastewater indicators1783Figure 102.10 Number of people connected to sewerage network1783Figure 102.11 Percentage of people connected to sewerage network1784Figure 102.12 Number of sewerage connections1784Figure 102.13 Volume of wastewater produced1785Figure 102.14 Percentage of wastewater collected1785Figure 102.15 Length of sewerage network1786102.2.3 Utility funding1786102.2.3 Utility funding1786102.2.3 Utility funding1786102.3 Current and future projects1787Figure 102.17 Penchmark water and wastewater tariffs for selected major cities, 20151786102.3 Current and future projects1787Figure 102.19 Projects tracked by GWI1787102.4 Market forecast1787		1780 1780
Figure 102.4 Water and wastewater utilities serving greater than 300,000 people1780102.2.1 Utility water1781Figure 102.5 Water supply indicators1781Figure 102.6 Number of people connected to water supply network1781Figure 102.7 Percentage of people connected to water supply network1782Figure 102.8 Number of water connections1782102.2.2 Utility wastewater1783Figure 102.9 Wastewater indicators1783Figure 102.10 Number of people connected to sewerage network1783Figure 102.11 Percentage of people connected to sewerage network1784Figure 102.12 Number of sewerage connections1784Figure 102.13 Volume of wastewater produced1785Figure 102.14 Percentage of wastewater collected1785Figure 102.15 Length of sewerage network1786102.2.3 Utility funding1786102.2.3 Utility funding1786102.2.3 Utility funding1786102.3 Current and future projects1787Figure 102.17 Penchmark water and wastewater tariffs for selected major cities, 20151786102.3 Current and future projects1787Figure 102.19 Projects tracked by GWI1787102.4 Market forecast1787	Figure 102.2 Sectoral water withdrawal	
102.2.1 Utility water1781Figure 102.5 Water supply indicators1781Figure 102.6 Number of people connected to water supply network1781Figure 102.7 Percentage of people connected to water supply network1782Figure 102.8 Number of water connections1782102.2.2 Utility wastewater1783Figure 102.9 Wastewater1783Figure 102.10 Number of people connected to sewerage network1783Figure 102.11 Percentage of people connected to sewerage network1784Figure 102.12 Number of sewerage connected to sewerage network1784Figure 102.13 Volume of sewerage connected1785Figure 102.14 Percentage of wastewater produced1785Figure 102.15 Length of sewerage network1786102.2.3 Utility funding1786Figure 102.17 Benchmark water and wastewater tariffs for selected major cities, 20151786102.2.4 Private sector participation1786Figure 102.18 Selected major projects involving private sector participation1787Figure 102.19 Projects tracked by GWI1787102.4 Market forecast1789	Figure 102.2 Sectoral water withdrawal 102.2 Utility sector	1780
Figure 102.5 Water supply indicators1781Figure 102.6 Number of people connected to water supply network1781Figure 102.7 Percentage of people connected to water supply network1782Figure 102.8 Number of water connections1782102.2.2 Utility wastewater1783Figure 102.9 Wastewater indicators1783Figure 102.10 Number of people connected to sewerage network1783Figure 102.11 Percentage of people connected to sewerage network1784Figure 102.12 Number of sewerage connected to sewerage network1784Figure 102.12 Number of sewerage connected to sewerage network1785Figure 102.13 Volume of wastewater produced1785Figure 102.14 Percentage of wastewater collected1785Figure 102.15 Length of sewerage network1786Figure 102.16 Wastewater treatment plants by level of treatment1786102.2.3 Utility funding1786102.2.4 Private sector participation1786Figure 102.18 Selected major projects involving private sector participation1787102.3 Current and future projects1787Figure 102.19 Projects tracked by GWI1787102.4 Market forecast1789	Figure 102.2 Sectoral water withdrawal 102.2 Utility sector Figure 102.3 Utility service performance	1780 1780
Figure 102.6 Number of people connected to water supply network1781Figure 102.7 Percentage of people connected to water supply network1782Figure 102.8 Number of water connections1782102.2.2 Utility wastewater1783Figure 102.9 Wastewater indicators1783Figure 102.10 Number of people connected to sewerage network1783Figure 102.11 Percentage of people connected to sewerage network1784Figure 102.12 Number of sewerage connections1784Figure 102.13 Volume of sewerage connections1785Figure 102.14 Percentage of wastewater produced1785Figure 102.15 Length of sewerage network1786Figure 102.16 Wastewater treatment plants by level of treatment1786102.2.3 Utility funding1786Figure 102.17 Benchmark water and wastewater tariffs for selected major cities, 20151786102.2.4 Private sector participation1786Figure 102.18 Selected major projects involving private sector participation1787102.3 Current and future projects1787Figure 102.19 Projects tracked by GWI1787102.4 Market forecast1789	Figure 102.2 Sectoral water withdrawal 102.2 Utility sector Figure 102.3 Utility service performance Figure 102.4 Water and wastewater utilities serving greater than 300,000 people	1780 1780 1780 1780
Figure 102.7 Percentage of people connected to water supply network1782Figure 102.8 Number of water connections1782102.2.2 Utility wastewater1783Figure 102.9 Wastewater indicators1783Figure 102.10 Number of people connected to sewerage network1783Figure 102.11 Percentage of people connected to sewerage network1784Figure 102.12 Number of sewerage connections1784Figure 102.13 Volume of sewerage connections1785Figure 102.14 Percentage of wastewater produced1785Figure 102.15 Length of sewerage network1786Figure 102.16 Wastewater treatment plants by level of treatment1786102.2.3 Utility funding1786Figure 102.17 Benchmark water and wastewater tariffs for selected major cities, 20151786102.2.4 Private sector participation1786Figure 102.18 Selected major projects involving private sector participation1787102.3 Current and future projects1787Figure 102.19 Projects tracked by GWI1787102.4 Market forecast1789	Figure 102.2 Sectoral water withdrawal 102.2 Utility sector Figure 102.3 Utility service performance Figure 102.4 Water and wastewater utilities serving greater than 300,000 people 102.2.1 Utility water	1780 1780 1780 1780 1780 1781
Figure 102.8 Number of water connections1782102.2.2 Utility wastewater1783Figure 102.9 Wastewater indicators1783Figure 102.10 Number of people connected to sewerage network1783Figure 102.11 Percentage of people connected to sewerage network1784Figure 102.12 Number of sewerage connections1784Figure 102.13 Volume of wastewater produced1785Figure 102.14 Percentage of wastewater collected1785Figure 102.15 Length of sewerage network1786Figure 102.16 Wastewater treatment plants by level of treatment1786102.2.3 Utility funding1786Figure 102.17 Benchmark water and wastewater tariffs for selected major cities, 20151786102.2.4 Private sector participation1786Figure 102.18 Selected major projects involving private sector participation1787Figure 102.19 Projects tracked by GWI1787102.4 Market forecast1789	Figure 102.2 Sectoral water withdrawal 102.2 Utility sector Figure 102.3 Utility service performance Figure 102.4 Water and wastewater utilities serving greater than 300,000 people 102.2.1 Utility water Figure 102.5 Water supply indicators	1780 1780 1780 1780 1781 1781
102.2.2 Utility wastewater1783Figure 102.9 Wastewater indicators1783Figure 102.10 Number of people connected to sewerage network1783Figure 102.11 Percentage of people connected to sewerage network1784Figure 102.12 Number of sewerage connections1784Figure 102.13 Volume of wastewater produced1785Figure 102.14 Percentage of wastewater collected1785Figure 102.15 Length of sewerage network1786Figure 102.16 Wastewater treatment plants by level of treatment1786102.2.3 Utility funding1786Figure 102.17 Benchmark water and wastewater tariffs for selected major cities, 20151786102.2.4 Private sector participation1786102.3 Current and future projects1787Figure 102.19 Projects tracked by GWI1787102.4 Market forecast1787	Figure 102.2 Sectoral water withdrawal 102.2 Utility sector Figure 102.3 Utility service performance Figure 102.4 Water and wastewater utilities serving greater than 300,000 people 102.2.1 Utility water Figure 102.5 Water supply indicators Figure 102.6 Number of people connected to water supply network	1780 1780 1780 1780 1781 1781 1781
Figure 102.9 Wastewater indicators1783Figure 102.10 Number of people connected to sewerage network1783Figure 102.11 Percentage of people connected to sewerage network1784Figure 102.12 Number of sewerage connections1784Figure 102.13 Volume of wastewater produced1785Figure 102.14 Percentage of wastewater collected1785Figure 102.15 Length of sewerage network1786Figure 102.16 Wastewater treatment plants by level of treatment1786102.2.3 Utility funding1786Figure 102.17 Benchmark water and wastewater tariffs for selected major cities, 20151786102.2.4 Private sector participation1786Figure 102.18 Selected major projects involving private sector participation1787102.3 Current and future projects1787Figure 102.19 Projects tracked by GWI1787102.4 Market forecast1789	Figure 102.2 Sectoral water withdrawal 102.2 Utility sector Figure 102.3 Utility service performance Figure 102.4 Water and wastewater utilities serving greater than 300,000 people 102.2.1 Utility water Figure 102.5 Water supply indicators Figure 102.6 Number of people connected to water supply network Figure 102.7 Percentage of people connected to water supply network	1780 1780 1780 1780 1781 1781 1781 1782
Figure 102.10 Number of people connected to sewerage network1783Figure 102.11 Percentage of people connected to sewerage network1784Figure 102.12 Number of sewerage connections1784Figure 102.13 Volume of wastewater produced1785Figure 102.14 Percentage of wastewater collected1785Figure 102.15 Length of sewerage network1786Figure 102.16 Wastewater treatment plants by level of treatment1786102.2.3 Utility funding1786Figure 102.17 Benchmark water and wastewater tariffs for selected major cities, 20151786102.2.4 Private sector participation1786102.3 Current and future projects1787Figure 102.19 Projects tracked by GWI1787102.4 Market forecast1789	Figure 102.2 Sectoral water withdrawal102.2 Utility sectorFigure 102.3 Utility service performanceFigure 102.4 Water and wastewater utilities serving greater than 300,000 people102.2.1 Utility waterFigure 102.5 Water supply indicatorsFigure 102.6 Number of people connected to water supply networkFigure 102.7 Percentage of people connected to water supply networkFigure 102.8 Number of water connections	1780 1780 1780 1780 1781 1781 1781 1782 1782
Figure 102.11 Percentage of people connected to sewerage network1784Figure 102.12 Number of sewerage connections1784Figure 102.13 Volume of wastewater produced1785Figure 102.14 Percentage of wastewater collected1785Figure 102.15 Length of sewerage network1786Figure 102.16 Wastewater treatment plants by level of treatment1786102.2.3 Utility funding1786Figure 102.17 Benchmark water and wastewater tariffs for selected major cities, 20151786102.2.4 Private sector participation1786Figure 102.18 Selected major projects involving private sector participation1786102.3 Current and future projects1787Figure 102.19 Projects tracked by GWI1787102.4 Market forecast1789	Figure 102.2 Sectoral water withdrawal 102.2 Utility sector Figure 102.3 Utility service performance Figure 102.4 Water and wastewater utilities serving greater than 300,000 people 102.2.1 Utility water Figure 102.5 Water supply indicators Figure 102.6 Number of people connected to water supply network Figure 102.7 Percentage of people connected to water supply network Figure 102.8 Number of water connections 102.2.2 Utility wastewater	1780 1780 1780 1780 1781 1781 1781 1782 1782 1782 1783
Figure 102.12 Number of sewerage connections1784Figure 102.13 Volume of wastewater produced1785Figure 102.14 Percentage of wastewater collected1785Figure 102.15 Length of sewerage network1786Figure 102.16 Wastewater treatment plants by level of treatment1786102.2.3 Utility funding1786Figure 102.17 Benchmark water and wastewater tariffs for selected major cities, 20151786102.2.4 Private sector participation1786Figure 102.18 Selected major projects involving private sector participation1787Figure 102.19 Projects tracked by GWI1787102.4 Market forecast1789	Figure 102.2 Sectoral water withdrawal 102.2 Utility sector Figure 102.3 Utility service performance Figure 102.4 Water and wastewater utilities serving greater than 300,000 people 102.2.1 Utility water Figure 102.5 Water supply indicators Figure 102.6 Number of people connected to water supply network Figure 102.7 Percentage of people connected to water supply network Figure 102.8 Number of water connections 102.2.2 Utility wastewater Figure 102.9 Wastewater indicators	1780 1780 1780 1780 1781 1781 1781 1782 1782 1783 1783
Figure 102.13 Volume of wastewater produced1785Figure 102.14 Percentage of wastewater collected1785Figure 102.15 Length of sewerage network1786Figure 102.16 Wastewater treatment plants by level of treatment1786102.2.3 Utility funding1786Figure 102.17 Benchmark water and wastewater tariffs for selected major cities, 20151786102.2.4 Private sector participation1786Figure 102.18 Selected major projects involving private sector participation1786102.3 Current and future projects1787Figure 102.19 Projects tracked by GWI1787102.4 Market forecast1789	Figure 102.2 Sectoral water withdrawal 102.2 Utility sector Figure 102.3 Utility service performance Figure 102.4 Water and wastewater utilities serving greater than 300,000 people 102.2.1 Utility water Figure 102.5 Water supply indicators Figure 102.6 Number of people connected to water supply network Figure 102.7 Percentage of people connected to water supply network Figure 102.8 Number of water connections 102.2.2 Utility wastewater Figure 102.9 Wastewater indicators Figure 102.10 Number of people connected to sewerage network	1780 1780 1780 1780 1781 1781 1781 1782 1782 1783 1783 1783
Figure 102.14 Percentage of wastewater collected1785Figure 102.15 Length of sewerage network1786Figure 102.16 Wastewater treatment plants by level of treatment1786102.2.3 Utility funding1786Figure 102.17 Benchmark water and wastewater tariffs for selected major cities, 20151786102.2.4 Private sector participation1786Figure 102.18 Selected major projects involving private sector participation1786102.3 Current and future projects1787Figure 102.19 Projects tracked by GWI1787102.4 Market forecast1789	Figure 102.2 Sectoral water withdrawal102.2 Utility sectorFigure 102.3 Utility service performanceFigure 102.4 Water and wastewater utilities serving greater than 300,000 people102.2.1 Utility waterFigure 102.5 Water supply indicatorsFigure 102.6 Number of people connected to water supply networkFigure 102.7 Percentage of people connected to water supply networkFigure 102.8 Number of water connections102.2.2 Utility wastewaterFigure 102.9 Wastewater indicatorsFigure 102.10 Number of people connected to sewerage networkFigure 102.11 Percentage of people connected to sewerage network	1780 1780 1780 1780 1781 1781 1781 1782 1782 1783 1783 1783 1784
Figure 102.15 Length of sewerage network1786Figure 102.16 Wastewater treatment plants by level of treatment1786102.2.3 Utility funding1786Figure 102.17 Benchmark water and wastewater tariffs for selected major cities, 20151786102.2.4 Private sector participation1786Figure 102.18 Selected major projects involving private sector participation1786102.3 Current and future projects1787Figure 102.19 Projects tracked by GWI1787102.4 Market forecast1789	Figure 102.2 Sectoral water withdrawal 102.2 Utility sector Figure 102.3 Utility service performance Figure 102.4 Water and wastewater utilities serving greater than 300,000 people 102.2.1 Utility water Figure 102.5 Water supply indicators Figure 102.6 Number of people connected to water supply network Figure 102.7 Percentage of people connected to water supply network Figure 102.8 Number of water connections 102.2.2 Utility wastewater Figure 102.9 Wastewater indicators Figure 102.10 Number of people connected to sewerage network Figure 102.11 Percentage of people connected to sewerage network Figure 102.12 Number of sewerage connected to sewerage network	1780 1780 1780 1780 1781 1781 1781 1782 1782 1783 1783 1783 1783 1784 1784
Figure 102.16 Wastewater treatment plants by level of treatment1786102.2.3 Utility funding1786Figure 102.17 Benchmark water and wastewater tariffs for selected major cities, 20151786102.2.4 Private sector participation1786Figure 102.18 Selected major projects involving private sector participation1786102.3 Current and future projects1787Figure 102.19 Projects tracked by GWI1787102.4 Market forecast1789	Figure 102.2 Sectoral water withdrawal102.2 Utility sectorFigure 102.3 Utility service performanceFigure 102.4 Water and wastewater utilities serving greater than 300,000 people102.2.1 Utility waterFigure 102.5 Water supply indicatorsFigure 102.6 Number of people connected to water supply networkFigure 102.7 Percentage of people connected to water supply networkFigure 102.8 Number of water connections102.2.2 Utility wastewaterFigure 102.9 Wastewater indicatorsFigure 102.10 Number of people connected to sewerage networkFigure 102.11 Percentage of people connected to sewerage networkFigure 102.11 Percentage of people connected to sewerage networkFigure 102.12 Number of sewerage connectionsFigure 102.13 Volume of wastewater produced	1780 1780 1780 1780 1781 1781 1781 1782 1782 1783 1783 1783 1784 1784 1784
102.2.3 Utility funding1786Figure 102.17 Benchmark water and wastewater tariffs for selected major cities, 20151786102.2.4 Private sector participation1786Figure 102.18 Selected major projects involving private sector participation1786102.3 Current and future projects1787Figure 102.19 Projects tracked by GWI1787102.4 Market forecast1789	Figure 102.2 Sectoral water withdrawal 102.2 Utility sector Figure 102.3 Utility service performance Figure 102.4 Water and wastewater utilities serving greater than 300,000 people 102.2.1 Utility water Figure 102.5 Water supply indicators Figure 102.6 Number of people connected to water supply network Figure 102.7 Percentage of people connected to water supply network Figure 102.8 Number of water connections 102.2.2 Utility wastewater Figure 102.9 Wastewater indicators Figure 102.10 Number of people connected to sewerage network Figure 102.11 Percentage of people connected to sewerage network Figure 102.12 Number of sewerage connections Figure 102.13 Volume of wastewater produced Figure 102.14 Percentage of wastewater collected	1780 1780 1780 1780 1781 1781 1781 1782 1782 1783 1783 1783 1783 1784 1784 1785 1785
Figure 102.17 Benchmark water and wastewater tariffs for selected major cities, 20151786102.2.4 Private sector participation1786Figure 102.18 Selected major projects involving private sector participation1786102.3 Current and future projects1787Figure 102.19 Projects tracked by GWI1787102.4 Market forecast1789	Figure 102.2 Sectoral water withdrawal 102.2 Utility sector Figure 102.3 Utility service performance Figure 102.4 Water and wastewater utilities serving greater than 300,000 people 102.2.1 Utility water Figure 102.5 Water supply indicators Figure 102.6 Number of people connected to water supply network Figure 102.7 Percentage of people connected to water supply network Figure 102.8 Number of water connections 102.2.2 Utility wastewater Figure 102.9 Wastewater indicators Figure 102.10 Number of people connected to sewerage network Figure 102.11 Percentage of people connected to sewerage network Figure 102.12 Number of sewerage connections Figure 102.13 Volume of wastewater produced Figure 102.14 Percentage of wastewater collected Figure 102.14 Percentage of wastewater collected Figure 102.15 Length of sewerage network	1780 1780 1780 1780 1781 1781 1781 1782 1782 1783 1783 1783 1784 1784 1785 1785 1785
102.2.4 Private sector participation1786Figure 102.18 Selected major projects involving private sector participation1786102.3 Current and future projects1787Figure 102.19 Projects tracked by GWI1787102.4 Market forecast1789	Figure 102.2 Sectoral water withdrawal 102.2 Utility sector Figure 102.3 Utility service performance Figure 102.4 Water and wastewater utilities serving greater than 300,000 people 102.2.1 Utility water Figure 102.5 Water supply indicators Figure 102.6 Number of people connected to water supply network Figure 102.7 Percentage of people connected to water supply network Figure 102.8 Number of water connections 102.2.2 Utility wastewater Figure 102.9 Wastewater indicators Figure 102.9 Wastewater indicators Figure 102.10 Number of people connected to sewerage network Figure 102.11 Percentage of people connected to sewerage network Figure 102.12 Number of sewerage connections Figure 102.13 Volume of wastewater produced Figure 102.13 Volume of wastewater collected Figure 102.14 Percentage of wastewater collected Figure 102.15 Length of sewerage network Figure 102.16 Wastewater treatment plants by level of treatment	1780 1780 1780 1780 1781 1781 1781 1782 1782 1783 1783 1783 1783 1784 1785 1785 1785 1786 1786
Figure 102.18 Selected major projects involving private sector participation1786102.3 Current and future projects1787Figure 102.19 Projects tracked by GWI1787102.4 Market forecast1789	Figure 102.2 Sectoral water withdrawal 102.2 Utility sector Figure 102.3 Utility service performance Figure 102.4 Water and wastewater utilities serving greater than 300,000 people 102.2.1 Utility water Figure 102.5 Water supply indicators Figure 102.6 Number of people connected to water supply network Figure 102.7 Percentage of people connected to water supply network Figure 102.8 Number of water connections 102.2.2 Utility wastewater Figure 102.9 Wastewater indicators Figure 102.10 Number of people connected to sewerage network Figure 102.10 Number of people connected to sewerage network Figure 102.11 Percentage of people connected to sewerage network Figure 102.12 Number of sewerage connections Figure 102.13 Volume of wastewater produced Figure 102.14 Percentage of wastewater collected Figure 102.15 Length of sewerage network Figure 102.16 Wastewater treatment plants by level of treatment 102.2.3 Utility funding	1780 1780 1780 1780 1781 1781 1781 1782 1782 1783 1783 1783 1783 1784 1785 1785 1786 1786 1786
102.3 Current and future projects1787Figure 102.19 Projects tracked by GWI1787102.4 Market forecast1789	Figure 102.2 Sectoral water withdrawal 102.2 Utility sector Figure 102.3 Utility service performance Figure 102.4 Water and wastewater utilities serving greater than 300,000 people 102.2.1 Utility water Figure 102.5 Water supply indicators Figure 102.6 Number of people connected to water supply network Figure 102.7 Percentage of people connected to water supply network Figure 102.8 Number of water connections 102.2.2 Utility wastewater Figure 102.9 Wastewater indicators Figure 102.10 Number of people connected to sewerage network Figure 102.10 Number of people connected to sewerage network Figure 102.10 Number of people connected to sewerage network Figure 102.10 Number of people connected to sewerage network Figure 102.11 Percentage of people connected to sewerage network Figure 102.12 Number of sewerage connections Figure 102.13 Volume of wastewater produced Figure 102.14 Percentage of wastewater collected Figure 102.15 Length of sewerage network Figure 102.16 Wastewater treatment plants by level of treatment 102.2.3 Utility funding Figure 102.17 Benchmark water and wastewater tariffs for selected major cities, 2015	1780 1780 1780 1780 1781 1781 1781 1782 1782 1783 1783 1783 1783 1783 1784 1785 1786 1786 1786 1786 1786
Figure 102.19 Projects tracked by GWI 1787 102.4 Market forecast 1789	Figure 102.2 Sectoral water withdrawal 102.2 Utility sector Figure 102.3 Utility service performance Figure 102.4 Water and wastewater utilities serving greater than 300,000 people 102.2.1 Utility water Figure 102.5 Water supply indicators Figure 102.6 Number of people connected to water supply network Figure 102.7 Percentage of people connected to water supply network Figure 102.8 Number of water connections 102.2.2 Utility wastewater Figure 102.9 Wastewater indicators Figure 102.10 Number of people connected to sewerage network Figure 102.11 Percentage of people connected to sewerage network Figure 102.12 Number of severage connections Figure 102.13 Volume of severage connections Figure 102.14 Percentage of people connected Figure 102.13 Volume of wastewater produced Figure 102.14 Percentage of wastewater collected Figure 102.15 Length of sewerage network Figure 102.16 Wastewater treatment plants by level of treatment 102.2.3 Utility funding Figure 102.17 Benchmark water and wastewater tariffs for selected major cities, 2015 102.2.4 Private sector participation	1780 1780 1780 1780 1781 1781 1781 1782 1782 1783 1783 1783 1783 1784 1784 1785 1785 1786 1786 1786 1786
102.4 Market forecast 1789	Figure 102.2 Sectoral water withdrawal 102.2 Utility sector Figure 102.3 Utility service performance Figure 102.4 Water and wastewater utilities serving greater than 300,000 people 102.2.1 Utility water Figure 102.5 Water supply indicators Figure 102.6 Number of people connected to water supply network Figure 102.7 Percentage of people connected to water supply network Figure 102.8 Number of water connections 102.2.2 Utility wastewater Figure 102.9 Wastewater indicators Figure 102.10 Number of people connected to sewerage network Figure 102.11 Percentage of people connected to sewerage network Figure 102.12 Number of sewerage connections Figure 102.13 Volume of wastewater produced Figure 102.14 Percentage of wastewater collected Figure 102.15 Length of sewerage network Figure 102.16 Wastewater treatment plants by level of treatment 102.2.3 Utility funding Figure 102.17 Benchmark water and wastewater tariffs for selected major cities, 2015 102.2.4 Private sector participation Figure 102.18 Selected major projects involving private sector participation	1780 1780 1780 1780 1781 1781 1781 1782 1782 1783 1783 1783 1784 1784 1785 1785 1786 1786 1786 1786 1786
	Figure 102.2 Sectoral water withdrawal 102.2 Utility sector Figure 102.3 Utility service performance Figure 102.4 Water and wastewater utilities serving greater than 300,000 people 102.2.1 Utility water Figure 102.5 Water supply indicators Figure 102.6 Number of people connected to water supply network Figure 102.7 Percentage of people connected to water supply network Figure 102.8 Number of water connections 102.2.2 Utility wastewater Figure 102.9 Wastewater indicators Figure 102.10 Number of people connected to sewerage network Figure 102.10 Number of people connected to sewerage network Figure 102.11 Percentage of people connected to sewerage network Figure 102.12 Number of sewerage connections Figure 102.13 Volume of wastewater produced Figure 102.14 Percentage of wastewater collected Figure 102.15 Length of sewerage network Figure 102.16 Wastewater treatment plants by level of treatment 102.2.3 Utility funding Figure 102.17 Benchmark water and wastewater tariffs for selected major cities, 2015 102.2.4 Private sector participation Figure 102.18 Selected major projects involving private sector participation	1780 1780 1780 1780 1781 1781 1781 1782 1782 1783 1783 1783 1783 1784 1785 1786 1786 1786 1786 1786 1786 1786
	Figure 102.2 Sectoral water withdrawal 102.2 Utility sector Figure 102.3 Utility service performance Figure 102.4 Water and wastewater utilities serving greater than 300,000 people 102.2.1 Utility water Figure 102.5 Water supply indicators Figure 102.5 Water supply indicators Figure 102.7 Percentage of people connected to water supply network Figure 102.8 Number of people connected to water supply network Figure 102.9 Wastewater Figure 102.9 Wastewater indicators Figure 102.10 Number of people connected to sewerage network Figure 102.11 Percentage of people connected to sewerage network Figure 102.12 Number of sewerage connections Figure 102.13 Volume of wastewater produced Figure 102.14 Percentage of wastewater collected Figure 102.15 Length of sewerage network Figure 102.16 Wastewater treatment plants by level of treatment 102.2.3 Utility funding Figure 102.17 Benchmark water and wastewater tariffs for selected major cities, 2015 102.2.4 Private sector participation Figure 102.18 Selected major projects involving private sector participation 102.3 Current and future projects Figure 102.19 Projects tracked by GWI	1780 1780 1780 1780 1781 1781 1781 1782 1782 1783 1783 1783 1783 1784 1785 1786 1786 1786 1786 1786 1786 1786 1786

Figure 102.21 Market forecast breakdown, 2016 Figure 102.22 Market forecast data, 2013-2020	1790 1791
103. THAILAND	1793
103.1 Water availability and demand	1793
Figure 103.1 Water resources	1793
Figure 103.2 Sectoral water withdrawal	1793
103.2 Utility sector	1793
Figure 103.3 Utility service performance	1793
Figure 103.4 Water and wastewater utilities serving greater than 300,000 people	1793
103.2.1 Utility water	1794
Figure 103.5 Water supply indicators	1794
Figure 103.6 Number of people connected to water supply network	1794
Figure 103.7 Percentage of people connected to water supply network	1795
103.2.2 Utility wastewater	1795
Figure 103.8 Wastewater indicators	1795
Figure 103.9 Number of people connected to sewerage network	1796
Figure 103.10 Percentage of people connected to sewerage network	1796
Figure 103.11 Wastewater treatment plants by level of treatment	1796
103.2.3 Utility funding	1797
Figure 103.12 Benchmark water and wastewater tariffs for selected major cities, 2015	1797
Figure 103.13 Overseas development assistance for the water and sanitation sector, 2008-2014	1797
103.2.4 Private sector participation	1797
Figure 103.14 Selected major projects involving private sector participation	1797
103.3 Market forecast	1799
Figure 103.15 Market forecast, 2013-2020	1799
Figure 103.16 Market forecast breakdown, 2016	1800
Figure 103.17 Market forecast data, 2013-2020	1801
104. VIETNAM	1803
104.1 Top market opportunities	1803
104.2 Sector structure and regulation	1804
Figure 104.1 Water sector structure	1804
Figure 104.2 Water sector funding organisations	1805
Figure 104.3 Regulations applicable to the water sector	1805
104.3 Water resources	1803
Figure 104.4 Projected change in water stress by 2020	1807
Figure 104.5 Water resources	1807
Figure 104.5 Water resources Figure 104.6 Water withdrawals by sector, 2010–2030	1808
104.3.1 Desalination	1808
104.3.2 Groundwater protection	1808
104.3.3 Reservoirs and storage	1808
104.4 Utility sector	1800
	1809
104.4.1 Utility sector strategies and investment planning 104.4.1.1 Water service extension	
	1809 1809
104.4.1.2 Wastewater networks	
104.4.2 Utility sector structure and performance	1809
Figure 104.7 Utility market structure	1809
Figure 104.8 Water and wastewater utilities serving greater than 300,000 people	1809
Figure 104.9 Utility service performance	1810
Figure 104.10 Water supply indicators	1811
Figure 104.11 Wastewater service indicators	1811
104.4.3 Utility infrastructure	1812
Figure 104.12 Major water treatment plants	1812
Figure 104.13 Wastewater treatment plants by level of treatment	1812
Figure 104.14 Major wastewater treatment plants	1812
104.4.4 Utility funding	1813
Figure 104.15 Water and wastewater charges for a benchmark user in selected major cities, 2015	1813
Figure 104.16 Sources of utility funding	1813

· · · · · · · · · · · · · · · · · · ·	-
· · · · · · · · · · · · · · · · · · ·	-
· · · · · · · · · · · · · · · · · · ·	-
· · · · · · · · · · · · · · · · · · ·	1821
	1821
Figure 104.23 Industrial water market significance	1821 1821
104.5.1 Power generation	1821
· · · · · · · · · · · · · · · · · · ·	-
· · · · · · · · · · · · · · · · · · ·	-
104.5.2 Garments and textiles	1821
	· • • - ·
104.5.3 Industrial zone development	1821
104.6 Market participants	1822
Figure 104.24 Major companies active in the water sector	1822
104.7 Market forecast	1824
104.7.1 Future market directions	1824
104.7.2 Notes on market forecast	1824
	1825
Figure 104.25 Market forecast, 2013–2020	
Figure 104.26 Market forecast breakdown, 2016	1826
Figure 104.27 Market forecast data, 2013–2020	1827
	1027
INTERVIEWEES	1829
REFERENCES	1832