



Confederation of Danish Industry

ESTONIA



COUNTRY INTRODUCTION

- Estonia became a member of the European Union in 2003, and will hold the presidency of the European Council in the second half of 2017.
- Estonia is located entirely in the catchment area of the Baltic Sea and almost half of Lake Peipsi (Europe's 5th biggest lake) is located on Estonian territory.
- There are 7 000 rivers, brooks and canals in Estonia. The river system is therefore dense, but most rivers are characterised by short lengths, small catchment areas and low flow rates.

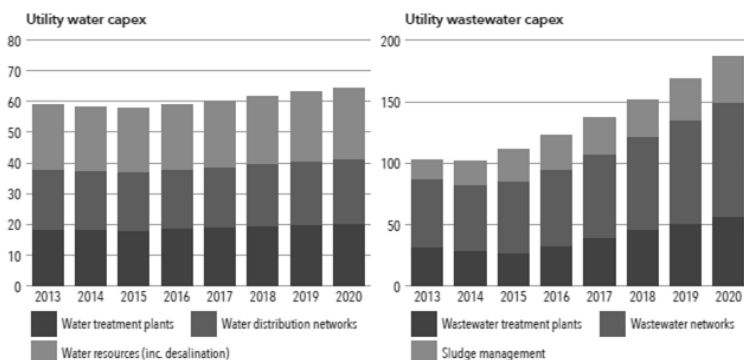
WATER GOVERNANCE

- The Ministry of the Environment (MoE), with the Water Department, is responsible for the development of water legislation, the setting of water quality standards, the development of groundwater and surface water resources, and the management of water resources and water use. The MoE is the competent authority in all river basin districts in Estonia.
- The Water Management Commission deals with preparation and implementation of the river basin management plans.
- The National Environmental Board is responsible for the permits for water abstraction and for the monitoring of drinking water.
- The National Health Board is responsible for the drinking water quality.
- The Ministry of Rural Affairs is in charge of different activities related to water as agriculture, animal farming, fishing industry and rural entrepreneurship and rural life.
- Municipalities and local authorities are responsible for the approval of a public water supply and sewerage development plan; approval of the set prices for water services; supervision over the connection charges or prices for water services and more.
- The Estonian Water Works Association (EVEL) is a nationwide voluntary association of water companies providing the service of public water supply and sewerage and other business operators related to this area of activity.
- For each river basin, a river basin management plan is established for a duration of six years and then updated.
- The national water policy follows the EU water policy. Estonian water policy is based on the national Water Act (1994) which specifies the main legal obligations and regulation areas for the water protection and use

COMPETITION

- There are a total of 200 water operators in Estonia, mostly public companies, but increasingly with private-public ownership.
- The Tallinna Vesi utility is the largest water and wastewater utility in Estonia, and is a private-public company. It serves app. 420 500 people in terms of water and 399 500 in terms of wastewater.

MARKET FORECAST (million \$)



Sources: GWI Global Water Market 2017 (Global Water Intelligence, 2016), AQUASTAT (2016), OECD (2015)

Edited: August 2017

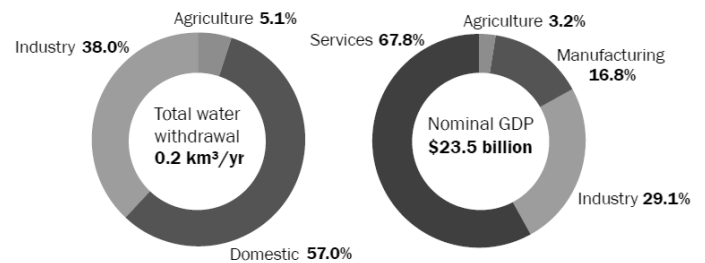
MACRO DATA

Urban Population	0.9 Million
Rural Population	0.4 Million
Total Population	1.3 Million
National GDP (2015)	22 691 Million USD
National GDP per capita (2015)	17 295.4 USD
National GDP Growth (2015)	1.1 %
Growth Rate (2015 - 2025)	54.4 %
FDI Stock as % of GDP (2015)	83.3 %
Danish Investment Stock (2014)	1.2 Billion DKK
Danish Export (2015)	1 615.3 Million DKK
Danish Water Technology (DWT) Export (2015)	56.1 Million DKK
DWT Export in % of total Danish Export	3.5 %
Import as % of GDP (2015)	75.7 %

BUSINESS ENVIRONMENT

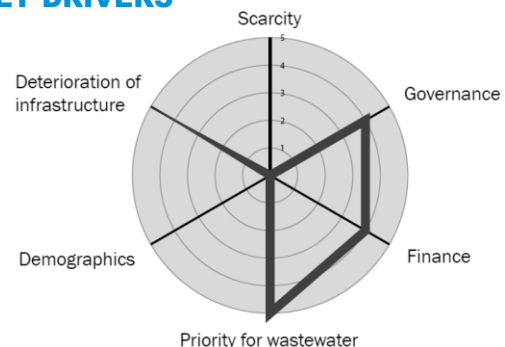
Global Competitiveness Rank	2016-2017 Index	30 / 138
Government Effectiveness Rank	2014 Index	30 / 158
Corruption Rank	2015 Index	23 / 168
Ease of Doing Business Rank (World Bank)	2015 Index	16 / 189

SECTORAL GDP AND WATER WITHDRAWAL



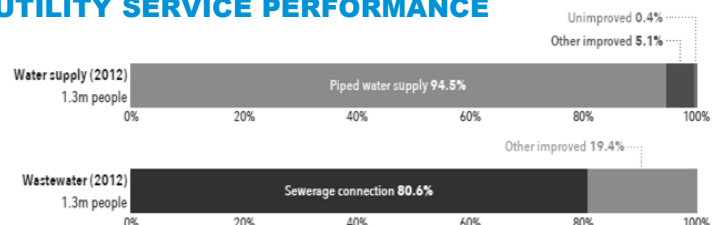
Source: GWI Global Water Market 2011 (Global Water Intelligence, 2010)

MARKET DRIVERS



Source: GWI Global Water Market 2011 (Global Water Intelligence, 2010)

UTILITY SERVICE PERFORMANCE



Source: GWI Global Water Market 2017 (Global Water Intelligence, 2016)

WATER MARKET BY SECTOR (Million \$)	2013	2014	2015	2016	2017	2018	2019	2020
Utility water capital expenditure	59	58	58	59	60	62	63	64
Water networks	20	19	19	19	20	20	21	21
Water treatment plants	18	18	18	18	19	19	20	20
Water resources (excl. desalination)	21	21	21	21	22	22	23	23
Seawater and brackish water desalination	0	0	0	0	0	0	0	0
Utility wastewater capital expenditure	103	101	111	123	137	152	169	187
Wastewater networks	56	54	58	62	68	76	84	93
Wastewater treatment plants	30	28	26	32	38	45	50	56
Sludge management	17	20	27	29	30	31	34	38
Utility capital expenditure	162	160	169	182	197	214	232	252
Industrial capital expenditure	6	7	7	8	8	9	9	10
Total capital expenditure	169	166	176	190	205	222	241	262

Source: GWI Global Water Market 2017 (Global Water Intelligence, 2016)

1. DRINKING / PROCESSWATER

- The water need of the majority of Estonian households and enterprises is covered by groundwater, except in Tallinn and Narva, where surface water is mainly used.
- The water extraction of Estonia diminished constantly in the 1990s, reaching the level below 100 million m³ per year. It has since remained stable.
- The cities of Tallinn and Narva are the largest water consumers in Estonia.
- The industrial sector is by far the biggest water user accounting for app. 96% of water withdrawal. The municipal sector accounts for 3.8% and the agricultural sector accounts for the remaining 0.2%.
- In 2012, piped water supply coverage was 94.5%.
- In 2014, non-revenue water was 16.1%.

2. WASTEWATER

- In 2012, 80.6% of the population was connected to the sewerage network, but significant efforts are still needed to developed municipal wastewater infrastructure in rural areas.
- 81% wastewater was collected in 2009.
- In 2014, 32.3% wastewater was treated to tertiary level and 3.7% was treated to secondary level.
- The water pollution load in Estonia has been steadily decreasing since 1992 due to a decrease in discharges and an increase in treatment efficiency.

3. CLIMATE ADAPTATION

- The main pressures affecting the water environment and water sector have been pollution from the agricultural sector and chemical industries, high water consumption in energy production for cooling purposes, as well as pollution from municipal wastewater treatment plants.
- As a member of the EU, Estonia is obliged to implement the directive on the river basin districts, which is complemented by initial estimate on risks related to danger and floods, danger lists and risks charts, as well as management plans.
- The impact of climate change is relatively small compared with other countries of Europe. The rise and temperature and precipitation is expected to have a positive rather than negative effect on the country.

Source: GWI Global Water Market 2017 (Global Water Intelligence, 2016)

WATER UTILITY DATA

No. of people connected to water network	1,252,330	2012
% of people connected to water network	94.5	2012
No. of water connections	186,000	2012
Utility water supply capacity (m ³ /yr)	55,622,000	2014
Length of water network (km)	3,300	2008
Meter coverage (%)	-	-
Non-revenue water	16.1	2014

Source: GWI Global Water Market 2017 (Global Water Intelligence, 2016)

WASTEWATER UTILITY DATA

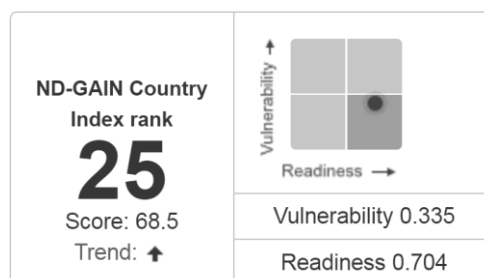
No. of people connected to sewerage network	1,068,125	2012
% of people connected to sewerage network	80.6	2012
No. of wastewater connections	296,000	2012
Volume of wastewater produced (m ³ /yr)	265,352,152	2014
Wastewater collected (%)	81.0	2009
Wastewater treated to secondary level (%)	3.7	2014
Wastewater treated to tertiary level (%)	32.3	2014
Length of wastewater network (km)	-	-
No. of WWTPs	66	2012

Source: GWI Global Water Market 2017 (Global Water Intelligence, 2016)

CLIMATE ADAPTATION

Global ND-GAIN index, Combined	Rank	25 / 181
Global ND-GAIN index, Vulnerability	Rank	45 / 181
Global ND-GAIN index, Readiness	Rank	22 / 181
Yearly rainfall (NRI)	mm/year	333

GLOBAL CLIMATE ADAPTATION INDEX



Source: Notre Dame Global Adaptation Index (2017)

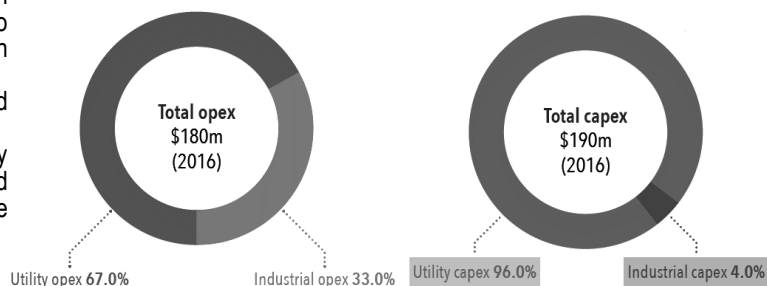
WATER MARKET BY SECTOR (Million \$)	2013	2014	2015	2016	2017	2018	2019	2020
Pipes	21	21	21	23	24	26	29	31
Pumps	10	10	10	11	12	12	13	14
Valves	4	4	4	4	5	5	5	6
Screens	2	2	2	2	2	2	2	3
Agitation/Mixing/Settling	3	3	3	3	3	4	4	4
Aeration	2	2	2	3	3	4	4	4
Gas flotation	1	1	1	1	1	1	1	1
Oil-water separation	1	1	1	1	1	1	1	1
Non-membrane filtration	2	2	2	2	2	2	2	2
Low pressure membranes (MF/UF)	0	0	0	0	0	0	0	0
High pressure membranes (RO/NF)	0	0	0	0	0	0	0	0
Thermal desalination equipment	0	0	0	0	0	0	0	0
Ion exchange	0	0	0	0	0	0	0	0
ED/EDI	0	0	0	0	0	0	0	0
Activated carbon	0	0	0	0	0	0	0	0
Disinfection	2	2	2	2	2	2	2	2
Chemical feed systems	1	1	1	1	1	2	2	2
Sludge thickening/dewatering	3	3	4	4	4	4	5	5
Sludge drying/thermal processes	2	2	3	3	3	3	3	3
Anaerobic digestion	1	1	2	2	3	3	3	3
Other sludge stabilisation	1	1	2	2	2	2	3	3
Meters	1	1	1	1	1	1	1	1
Sensors	2	2	2	2	2	2	2	2
Testing/Analysis	1	1	1	1	1	1	1	1
Automation/control	6	6	6	7	8	9	9	10
Other equipment	15	15	15	17	18	20	22	24
Total equipment	82	82	86	93	100	108	116	125
Design and engineering	13	12	13	14	15	17	18	20
Civil engineering/fabrication	83	81	86	92	100	108	117	128
Regulatory & professional costs	2	2	2	2	3	3	3	3
Total expenditure	180	178	188	202	218	235	254	275

Source: GWI Global Water Market 2017 (Global Water Intelligence, 2016)

WATER FINANCE

- The Public Water Supply and Sewerage Act, which entered into force on 1 November 2010, granted the Competition Authority the authority to approve the price set for water. The price was previously agreed upon in the contract between the Tallinn City Government and the company.
- Since 2004, the Government, the Environmental Investment Centre and local budgets support the investment programs.
- From 1995, the price for water service must guarantee the sustainability of water infrastructure, but should not be more than 4% of the household net income per month. 50% of the environmental charges go to the state budget and 50% to the municipality budget.

OPEX AND CAPEX (2016)



Source: GWI Global Water Market 2017 (Global Water Intelligence, 2016)

OPERATING EXPENDITURE (Million \$)	2013	2014	2015	2016	2017	2018	2019	2020
By sector								
Utility water	58	59	60	60	61	61	62	63
Utility wastewater	50	53	57	60	64	69	74	79
Industrial	54	56	57	59	62	64	66	68
By segment								
Labour (in-house services)	42	44	45	47	48	50	52	54
Energy	46	48	50	52	54	57	59	62
Parts & consumables	11	11	12	12	13	13	13	14
Chemicals	11	12	12	12	13	13	13	14
Third party services	13	13	13	14	14	15	15	16
Oil & gas water services	0	0	0	0	0	0	0	0
Other	39	40	42	43	45	47	49	51
Total operating expenditure	162	168	174	180	187	194	202	209

Source: GWI Global Water Market 2017 (Global Water Intelligence, 2016)



MARKET ASSESSMENT

OVERALL MARKET ASSESSMENT

- The water sector in Estonia is very small, and growing slightly. It is well governed and funded, and has an adequate revenue model.

DRINKING / PROCESS WATER

- The water supply network and infrastructure is well-developed, with low leakages and good coverage. There are no large projects in the pipeline in this area.

WASTEWATER

- The coverage of wastewater treatment is expected to increase in the coming years; especially in the rural areas. Decentralised solutions could be an option, but this is not currently supported by the regulators.

CLIMATE ADAPTATION

- There are plans in place – as well as funding – for continuous development of climate adaption solutions, such as riverbank erosion prevention, and city flood management.

DANISH COMPETITIVENES

OVERALL MARKET ASSESSMENT

- Estonia has a small population and a very diversified water sector administration and regulation. The market is relatively small.

DRINKING / PROCESS WATER

- Water consumption is dominated by the consumption from the industry. Thus water efficiency initiatives in the industry will help to lift pressure on water resources. Water leakage is large and have to be handled responsibly. Danish companies can deliver solutions in both cases.

WASTEWATER

- There is still a challenge to treat wastewater in Estonia. Danish companies can help with solutions to this.

CLIMATE ADAPTATION

- Danish companies are capable of supplying solutions needed within riverbank erosion and urban flood management. However, their competitiveness in Estonia on these solutions is unknown.

COUNTRY RANK	MARKET ASSESSMENT (1-10 scale, 10 = best)	DANISH COMPETITIVENESS (1-10 scale, 10 = best)
ESTONIA	3	7
	The Estonian water market is small and well-developed, with no major investments planned in the coming years.	Danish companies can provide solutions within water efficiency, water leakage and wastewater treatment, which is needed in the Estonian water market. However, there are currently no investments or plans in the pipeline for this.