



Benchmarking Exercise

Material prepared for Int. Benchmarking Exercise

data spreadsheet of

Cleanwater

(Utility #6)

Full list of variables

Cleanwater

Variable Name	Category	Cleanwater
Terrain ()	Context information	Flat
Disposable income per household (€)	Context information	38,516
CI-008 Type of system	Context information	Both bulk water supply and direct distribution
CI-014 Supply area (km2)	Context information	88
CI-023 Protection area (km2)	Context information	
CI-026 Number of treatment plants (No.)	Context information	7
CI-NEW-001 Responsible for service connection ()	Context information	yes
CI-002 Type of activity	Context information	Water supply and other
CI-003 Type of assets ownership	Context information	Public
CI-004 Type of operations (management)	Context information	Public
zCI-095 Upland surface water sources (m3)	Context information	0
zCI-096 Lowland surface water sources (m3)	Context information	0
zCI-097 Natural springs and wetland sources (m3)	Context information	0
zCI-098 Well water sources (m3)	Context information	0
zCI-099 Borehole water sources (m3)	Context information	55,577,000
zCI-100 Saline and brackish water sources (m3)	Context information	0
zCI-NEW-001 Vat return	Context information	yes
zCI-NEW-002 Asset valuation method	Context information	Mixed
zCI-NEW-007 VAT on top of bill	Context information	yes
E-005 Resident population (No.)	Demography and customer	514,218
E-006 Direct customer meters (No.)	Demography and customer	34,075
E-009 Bulk customer meters (No.)	Demography and customer	18
E-010 Registered customers (No.)	Demography and customer	31,551
E-011b Bulk registered customers (No.)	Demography and customer	18
zE-001 Total connected properties (No.)	Demography and customer	308,685
E-001 Residential properties supplied (No.)	Demography and customer	281,685
E-001a Non-residential properties supplied (No.)	Demography and customer	27,000
E-007 Residential customer meters (No.)	Demography and customer	29,159
E-008 Non-residential customer meters (No.)	Demography and customer	4,898
E-011 Residential registered customers (No.)	Demography and customer	27,240
E-011a Non-residential registered customers (No.)	Demography and customer	4,293
G-001 Total revenues (€)	Financial	72,402,357
G-002a Operating revenues from drinking water activities (€)	Financial	72,402,357
G-002b Operating revenues from non drinking water activities (€)	Financial	390,975
G-003 Sales revenues (€)	Financial	72,402,357
G-032 Investment in tangible assets (€)	Financial	21,073,873
G-035 Capitalised costs of self constructed assets (€)	Financial	0
G-036 Water sales revenues from direct consumption (€)	Financial	51,300,030
G-037 Water sales revenues from exported water (€)	Financial	21,102,327
zCI-NEW-001a Vat return amount (€)	Financial	13,126,460

Full list of variables

Cleanwater

Variable Name	Category	Cleanwater
zG-NEW-001 Residential connection fee (€)	Financial	
zG-NEW-002 Indirect taxes (€)	Financial	57,916,061
zG-NEW-004 Percentage of indirect taxes on residential water bill (%)	Financial	55
G-004 Total costs (€)	Financial	74,124,500
G-005 Running costs (€)	Financial	36,285,668
G-006 Capital costs (€)	Financial	37,838,832
G-007 Operational costs (€)	Financial	27,694,145
G-008 Internal manpower costs (€)	Financial	8,591,523
G-009 External services costs (€)	Financial	18,269,401
G-010 Imported raw and drinking water costs (€)	Financial	0
G-011 Electrical energy costs (€)	Financial	1,806,969
G-012 Purchased merchandises (€)	Financial	3,590,181
G-013 Leasing and rentals (€)	Financial	0
G-014 Taxes, levies and fees (€)	Financial	4,027,595
G-015 Exceptional earnings and losses (€)	Financial	0
G-016 Other operating costs (€)	Financial	0
G-028 Depreciation costs (€)	Financial	23,357,314
G-029 Interest expenses costs (€)	Financial	15,750,946
G-030 Interest income (€)	Financial	1,269,428
G-031 Net interest (€)	Financial	14,481,518
G-033 Investments for new assets (€)	Financial	2,982,310
G-034 Investments for asset replacements (€)	Financial	18,091,514
G-036a Water sales revenues from residential consumption (€)	Financial	35,910,021
G-036b Water sales revenue from non-residential consumption (€)	Financial	15,390,009
G-048 Shareholder's equity (€)	Financial	179,848,871
G-050 Total assets (€)	Financial	509,283,816
CI-053 Average mains age (years)	Operational	65
D-001 Pumping energy consumption (kWh)	Operational	15,305,988
D-005 Energy recovery (kWh)	Operational	
D-028 Mains failures (No.)	Operational	192
D-028a Mains failures caused by third parties (No.)	Operational	25
D-028b Mains failures under own responsibility (No.)	Operational	167
D-038 Days with restrictions to water service (days)	Operational	0
D-051 Drinking water quality tests carried out (No.)	Operational	41,952
D-053 Aesthetic tests carried out (No.)	Operational	2,776
D-054 Microbiological tests carried out (No.)	Operational	24,168
D-055 Physical-chemical tests carried out (No.)	Operational	15,008
D-056 Radioactivity tests carried out (No.)	Operational	0
D-062 Compliance of aesthetic tests (No.)	Operational	2,776
D-063 Compliance of microbiological tests (No.)	Operational	23,854
D-064 Compliance of physical-chemical tests (No.)	Operational	15,004
D-065 Compliance of radioactivity tests (No.)	Operational	
D-20 Mains rehabilitation (km)	Operational	17
D-21 Mains renovation (km)	Operational	17
D-22 Mains replacement (km)	Operational	0
zD-NEW-001 Treatment residuals (ton d.s.)	Operational	21
zD-NEW-002 Wasted treatment residu (tons D.S.)	Operational	16
B-001 Total personnel (FTE)	Personnel	156
B-018 Total training time (hours)	Personnel	
zB-001 Total FTE normalised (FTE)	Personnel	144
zB-025 Nominal working week length (hours/week)	Personnel	37

Full list of variables

Cleanwater

Variable Name	Category	Cleanwater
C-008 Mains length (km)	Physical assets	1,067
C-024 Service connections (No.)	Physical assets	28,624
zC-024 New service connections (No.)	Physical assets	
C-024a Residential service connections (No.)	Physical assets	
C-024b Non-residential service connections (No.)	Physical assets	
F-001 Population supplied (No.)	Quality of service	514,218
zF-015 Total complaints (No.)	Quality of service	
F-015 Service complaints (No.)	Quality of service	
F-016 Pressure complaints (No.)	Quality of service	0
F-017 Continuity complaints (No.)	Quality of service	0
F-018 Water quality complaints (No.)	Quality of service	0
F-019 Complaints on interruptions (No.)	Quality of service	
F-020 Billing complaints and queries (No.)	Quality of service	1
F-021 Other complaints and queries (No.)	Quality of service	
A-003 System input volume (m3)	Water volume	55,551,000
A-007 Exported drinking water (m3)	Water volume	22,212,000
A-020 Revenue water (m3)	Water volume	52,311,740
A-021 Non revenue water (m3)	Water volume	3,239,260
zA-005 Imported raw water (m3)	Water volume	0
zA-007 Imported drinking water (m3)	Water volume	0
zA-020 Direct revenue drinking water (m3)	Water volume	30,099,740
zA-NEW-001 Total volume of abstracted raw water (m3)	Water volume	55,577,000
zA-NEW-002 Exported and direct revenue raw water (m3)	Water volume	0
zA-NEW-003 Net volume of raw water exchanged with storage (m3)	Water volume	-26,000
A-006 Water produced (m3)	Water volume	54,233,000
A-019 Real losses (m3)	Water volume	1,440,945
A-021a Production losses (m3)	Water volume	1,318,000
A-021b Distribution losses and unbilled consumption (m3)	Water volume	1,921,260
zA-006 Distribution Input (m3)	Water volume	54,233,000
zA-020a Residential billed authorised drinking water (m3)	Water volume	21,230,035
zA-020b Non-residential billed authorised drinking water (m3)	Water volume	8,869,705
zA-NEW-004 Unbilled consumption and apparent losses (m3)	Water volume	480,315
zA-NEW-004a Unbilled consumption (m3)	Water volume	480,315
zA-NEW-004b Apparent losses (m3)	Water volume	261,559

Full list of PIs and context information

PI name	Category
CI-076 Network delivery rate (m ³ /km.year)	Context information
CI-061 Service connection density (No./km)	Context information
zCI-070 Total per capita consumption (l per capita per day)	Context information
zCI-072 Average consumption per property (m ³ / property)	Context information
CI-071 Residential consumption (l per capita per day)	Context information
zCI-072a Residential consumption per residential property (m ³ /property)	Context information
zCI-072b Consumption per non-residential property (m ³ /property)	Context information
NEW Population density DW (people/km ²)	Context information
NEW Produced water per treatment plant (m ³ /No.)	Context information
Fi-028 Average water charges for direct consumption (€/m ³)	Economic & Financial
Fi-029 Average water charges for exported water (€/m ³)	Economic & Financial
Pe-001 Employees per service connection (FTE/1000 connections)	Economic & Financial
zCI-071 Average water charges per connected property (€/property)	Economic & Financial
zPe-001 Personnel intensity (FTE/1000 properties)	Economic & Financial
Fi-004 Unit total costs (€/m ³)	Economic & Financial
Fi-005 Unit running costs (€/m ³)	Economic & Financial
Fi-006 Unit capital costs (€/m ³)	Economic & Financial
Fi-007 Internal manpower costs (%)	Economic & Financial
Fi-008 Portion of external services costs in running costs (%)	Economic & Financial
Fi-009 Portion of imported [raw and drinking] water costs in running costs (%)	Economic & Financial
Fi-010 Portion of electrical energy costs in running costs (%)	Economic & Financial
Fi-011 Portion of other costs in running costs (%)	Economic & Financial
Fi-023 Portion of depreciation costs in capital costs (%)	Economic & Financial
Fi-024 Portion of net interest costs in capital costs (%)	Economic & Financial
Fi-025 Unit investment (€/m ³)	Economic & Financial
Fi-026 Investments for new assets and reinforcement of existing assets (%)	Economic & Financial
Fi-027 Investments for asset replacement and renovation (%)	Economic & Financial
Fi-028a Average water charges for residential consumption (€/m ³)	Economic & Financial
Fi-028b Average water charges for non-residential consumption (€/m ³)	Economic & Financial
Fi-030 Total cost coverage ratio ()	Economic & Financial
Fi-031 Operating cost coverage ratio ()	Economic & Financial
Fi-045 Asset turnover ratio ()	Economic & Financial
Pe-002 Employees per water produced (FTE/10 ⁶ m ³)	Economic & Financial
zCI-071a Average water charges for residential properties (€/property)	Economic & Financial
zCI-071b Average water charges for non-residential properties (€/property)	Economic & Financial
zFi-NEW-001 Unit profit costs (€/m ³)	Economic & Financial
zFi-NEW-002 Equity ratio ()	Economic & Financial
zFi-030 Total cost by sales coverage ratio ()	Economic & Financial
zFi-031 Operating costs by sales ratio ()	Economic & Financial
Fi-NEW-020 Share of water bill in disposable household income (%)	Economic & Financial
Op-027 Real losses per connection (l/connection/day)	Operational
Op-028 Real losses per mains length (m ³ /km/day)	Operational
Op-031 Mains failures (No./100 km)	Operational
zOp-027 Distribution losses per connection (m ³ /connection)	Operational
zOp-028 Distribution losses per mains length (m ³ /km/day)	Operational
zOp-031a Mains failures due to third parties (No./100 km)	Operational
zOp-031b Mains failures under own responsibility (No./100km)	Operational
zOp-023 Non-revenue water per connected property (m ³ / property)	Operational

Full list of PIs and context information

PI name	Category
Op-016 Mains rehabilitation (%/year)	Operational
Op-017 Mains renovation (%/year)	Operational
Op-018 Mains replacement (%/year)	Operational
zOp-NEW-001 Electricity use per m3 water produced (kWh/m3)	Operational
Pe-019 Total training (hours/employee)	Personnel
Ph-011 Customer meter density (meters/connection)	Physical
Ph-012 Metered customers (meters/customer)	Physical
zPh-012 Metered properties (%)	Physical
Ph-007 Energy recovery (%)	Physical
QS-003 Population coverage (%)	Quality of service
zQS-003 Household size (people/property)	Quality of service
QS-017 Days with restrictions to water service (%)	Quality of service
QS-026 Service complaints per connection (complaints/1000 connections)	Quality of service
QS-027 Service complaints per customer (complaints/ 1000 customers)	Quality of service
QS-028 Pressure complaints (%)	Quality of service
QS-029 Continuity complaints (%)	Quality of service
QS-030 Water quality complaints (%)	Quality of service
QS-031 Interruption complaints (%)	Quality of service
QS-032 Billing complaints and queries per customer (complaints/1000 customers)	Quality of service
QS-033 Other complaints & queries per customer (complaints/1000 customers)	Quality of service
zQS-027 Service complaints per connected property (complaints/1000 properties)	Quality of service
QS-018 Quality of supplied water (%)	Quality of service
QS-019 Aesthetic tests compliance (%)	Quality of service
QS-020 Microbiological tests compliance (%)	Quality of service
QS-021 Physical-chemical tests compliance (%)	Quality of service
QS-022 Radioactivity tests compliance (%)	Quality of service
zQS-NEW-001 Drinking water quality tests carried out per connection (tests/1000 connections)	Quality of service
zQS-NEW-001a Drinking water quality tests carried out per m3 drinking water (tests/1000 m3)	Quality of service
zWR-001 Inefficiency of use of water resources (%)	Water resources
zWR-001a Inefficiency of use of water production (%)	Water resources

Final list of PIs and context information

Cleanwater

PI name	Category	Cleanwater PI value	Cleanwater Accuracy	Cleanwater Reliability
CI-076 Network delivery rate (m ³ /km.year)	Context information	50,827.55		
CI-061 Service connection density (No./km)	Context information	26.83		
CI-071 Residential consumption (l per capita per day)	Context information	113.11		
Fi-029 Average water charges for exported water (€/m ³)	Economic & Financial	0.95	0-5%	***
Pe-001 Employees per service connection (FTE/1000 connections)	Economic & Financial	5.04	0-5%	***
Fi-028a Average water charges for residential consumption (€/m ³)	Economic & Financial	1.69	0-5%	***
Fi-028b Average water charges for non-residential consumption (€/m ³)	Economic & Financial	1.74	0-5%	***
Fi-030 Total cost coverage ratio ()	Economic & Financial	0.98	0-5%	***
Fi-031 Operating cost coverage ratio ()	Economic & Financial	2.00	0-5%	***
zCI-071a Average water charges for residential properties (€/property)	Economic & Financial	127.48		
zCI-071b Average water charges for non-residential properties (€/property)	Economic & Financial	570.00		
zFi-030 Total cost by sales coverage ratio ()	Economic & Financial	0.98	0-5%	***
zFi-031 Operating costs by sales ratio ()	Economic & Financial	2.00	0-5%	***
Fi-NEW-020 Share of water bill in disposable household income (%)	Economic & Financial	0.51	20-50%	**
zOp-027 Distribution losses per connection (m ³ /connection)	Operational	67.12	20-50%	**
zOp-028 Distribution losses per mains length (m ³ /km/day)	Operational	4.93	20-50%	**
zOp-NEW-001 Electricity use per m ³ water produced (kWh/m ³)	Operational	0.28	20-50%	*
zPh-012 Metered properties (%)	Physical	11.04	0-5%	***
QS-003 Population coverage (%)	Quality of service	100.00	0-5%	**
QS-017 Days with restrictions to water service (%)	Quality of service	0.00	0-5%	***
zQS-027 Service complaints per connected property (complaints/1000 properties)	Quality of service			
QS-018 Quality of supplied water (%)	Quality of service			
zWR-001 Inefficiency of use of water resources (%)	Water resources	5.83	20-50%	**