

ANNEX 5.2:

VRBAS FINANCIAL MODEL – BASE CASE



Demand projection		1	2	3	4	5	6	7	8	9	10	20	32
Financial year ending	Units	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2027	2039
Water:													
Vrbas town													
Unit domestic consumption - before elasticity	m3/p/d	0.136	0.137	0.138	0.139	0.140	0.141	0.141	0.142	0.142	0.143	0.146	0.150
Price elasticity effect	m3/p/d	-	-	-	-	-	-	-	-	-	-	-	-
Income elasticity effect	m3/p/d	-	-	-	-	-	-	-	-	-	-	-	-
Unit domestic consumption - after elasticity	m3/p/d	0.136	0.137	0.138	0.139	0.140	0.141	0.141	0.142	0.142	0.143	0.146	0.150
Vrbas villages													
Unit domestic consumption - before elasticity	m3/p/d	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135
Price elasticity effect	m3/p/d	-	-	-	-	-	-	-	-	-	-	-	-
Income elasticity effect	m3/p/d	-	-	-	-	-	-	-	-	-	-	-	-
Unit domestic consumption - after elasticity	m3/p/d	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135
Kula town													
Unit domestic consumption - before elasticity	m3/p/d	0.136	0.137	0.138	0.139	0.140	0.141	0.141	0.142	0.142	0.143	0.146	0.150
Price elasticity effect	m3/p/d	-	-	-	-	-	-	-	-	-	-	-	-
Income elasticity effect	m3/p/d	-	-	-	-	-	-	-	-	-	-	-	-
Unit domestic consumption - after elasticity	m3/p/d	0.136	0.137	0.138	0.139	0.140	0.141	0.141	0.142	0.142	0.143	0.146	0.150
Wastewater:													
Vrbas town													
Factor water to waste water	%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
Unit domestic consumption - before elasticity	m3/p/d	0.122	0.123	0.124	0.125	0.126	0.126	0.127	0.127	0.128	0.128	0.132	0.135
Price elasticity effect	m3/p/d	-	-	-	-	-	-	-	-	-	-	-	-
Income elasticity effect	m3/p/d	-	-	-	-	-	-	-	-	-	-	-	-
Unit domestic consumption - after elasticity	m3/p/d	0.122	0.123	0.124	0.125	0.126	0.126	0.127	0.127	0.128	0.128	0.132	0.135
Vrbas villages													
Factor water to waste water	%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
Unit domestic consumption - before elasticity	m3/p/d	0.122	0.122	0.122	0.122	0.122	0.122	0.122	0.122	0.122	0.122	0.122	0.122
Price elasticity effect	m3/p/d	-	-	-	-	-	-	-	-	-	-	-	-
Income elasticity effect	m3/p/d	-	-	-	-	-	-	-	-	-	-	-	-
Unit domestic consumption - after elasticity	m3/p/d	0.122	0.122	0.122	0.122	0.122	0.122	0.122	0.122	0.122	0.122	0.122	0.122
Kula town													
Factor water to waste water	%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
Unit domestic consumption - before elasticity	m3/p/d	0.122	0.123	0.124	0.125	0.126	0.126	0.127	0.127	0.128	0.128	0.132	0.135
Price elasticity effect	m3/p/d	-	-	-	-	-	-	-	-	-	-	-	-
Income elasticity effect	m3/p/d	-	-	-	-	-	-	-	-	-	-	-	-
Unit domestic consumption - after elasticity	m3/p/d	0.122	0.123	0.124	0.125	0.126	0.126	0.127	0.127	0.128	0.128	0.132	0.135

Demand projection													
Financial year ending	Units	1 2008	2 2009	3 2010	4 2011	5 2012	6 2013	7 2014	8 2015	9 2016	10 2017	20 2027	32 2039
Water demand:													
Domestic PE connected to the Water system													
Vrbas town	Inh	26,535	26,641	26,748	26,855	26,962	27,070	27,178	27,287	27,396	27,506	28,626	30,031
Vrbas villages	Inh	19,901	19,921	19,941	19,961	19,981	20,001	20,021	20,041	20,061	20,081	20,283	20,527
Kula town	Inh	19,592	19,641	19,690	19,740	19,789	19,838	19,888	19,938	19,988	20,038	20,544	21,169
Water sale Vrbas town													
Domestic:	m3/y	1,317,198	1,332,191	1,347,283	1,362,474	1,377,765	1,388,216	1,398,729	1,409,304	1,419,941	1,430,641	1,530,394	1,644,177
- water billed	m3/y	1,317,198	1,332,191	1,347,283	1,362,474	1,377,765	1,388,216	1,398,729	1,409,304	1,419,941	1,430,641	1,530,394	1,644,177
- unaccounted for water (administrative)	m3/y	-	-	-	-	-	-	-	-	-	-	-	-
UFW	%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Industry:	m3/y	120,584	125,909	131,274	136,681	142,129	147,618	155,619	163,681	171,806	179,993	240,276	271,332
before elasticity increase water consumption (new connections, new businesses)	m3/y	5,325	5,366	5,407	5,448	5,489	8,001	8,063	8,125	8,187	8,250	2,498	2,697
Price elasticity effect	m3/y	-	-	-	-	-	-	-	-	-	-	-	-
Income elasticity effect	m3/y	-	-	-	-	-	-	-	-	-	-	-	-
Water consumption by industry - after elasticity	m3/y	125,909	131,274	136,681	142,129	147,618	155,619	163,681	171,806	179,993	188,242	242,773	274,030
Institutional users	m3/y	120,584	125,909	131,274	136,681	142,129	147,618	155,619	163,681	171,806	179,993	240,276	271,332
before elasticity increase water consumption (new connections)	m3/y	5,325	5,366	5,407	5,448	5,489	8,001	8,063	8,125	8,187	8,250	2,498	2,697
Price elasticity effect	m3/y	-	-	-	-	-	-	-	-	-	-	-	-
Income elasticity effect	m3/y	-	-	-	-	-	-	-	-	-	-	-	-
Water consumption by institutional	m3/y	125,909	131,274	136,681	142,129	147,618	155,619	163,681	171,806	179,993	188,242	242,773	274,030
Water sale Vrbas villages													
Domestic:	m3/y	980,621	981,602	982,583	983,566	984,550	985,534	986,520	987,506	988,494	989,482	999,422	1,011,481
- water billed	m3/y	980,621	981,602	982,583	983,566	984,550	985,534	986,520	987,506	988,494	989,482	999,422	1,011,481
- unaccounted for water (administrative)	m3/y	-	-	-	-	-	-	-	-	-	-	-	-
UFW	%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Industry:	m3/y	54,425	59,927	65,440	70,964	76,500	82,046	84,865	87,691	90,521	93,358	123,987	165,110
before elasticity increase water consumption (new connections, new businesses)	m3/y	5,502	5,513	5,524	5,535	5,546	2,820	2,825	2,831	2,836	2,842	3,390	3,471
Price elasticity effect	m3/y	-	-	-	-	-	-	-	-	-	-	-	-
Income elasticity effect	m3/y	-	-	-	-	-	-	-	-	-	-	-	-
Water consumption by industry - after elasticity	m3/y	59,927	65,440	70,964	76,500	82,046	84,865	87,691	90,521	93,358	96,200	127,377	168,580
Institutional users	m3/y	18,142	19,976	21,813	23,655	25,500	27,349	28,288	29,230	30,174	31,119	41,329	55,037
before elasticity increase water consumption (new connections)	m3/y	1,834	1,838	1,841	1,845	1,849	940	942	944	945	947	1,130	1,157
Price elasticity effect	m3/y	-	-	-	-	-	-	-	-	-	-	-	-
Income elasticity effect	m3/y	-	-	-	-	-	-	-	-	-	-	-	-
Water consumption by institutional	m3/y	19,976	21,813	23,655	25,500	27,349	28,288	29,230	30,174	31,119	32,067	42,459	56,193

Demand projection													
Financial year ending	Units	1 2008	2 2009	3 2010	4 2011	5 2012	6 2013	7 2014	8 2015	9 2016	10 2017	20 2027	32 2039
Water sale total - Vrbas town & villages:	m3/y	2,629,539	2,663,595	2,697,847	2,732,297	2,766,944	2,798,142	2,829,532	2,861,117	2,892,897	2,924,873	3,185,199	3,428,491
domestic	m3/y	2,297,820	2,313,793	2,329,866	2,346,040	2,362,315	2,373,751	2,385,249	2,396,810	2,408,435	2,420,123	2,529,816	2,655,658
industry	m3/y	185,836	196,714	207,645	218,628	229,663	240,484	251,372	262,327	273,350	284,442	370,151	442,610
institutional users	m3/y	145,884	153,088	160,336	167,628	174,966	183,907	192,911	201,979	211,112	220,309	285,232	330,223
Losses													
Water losses out of water sold	%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%
Water losses out of water produced	%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
Water losses	m3/y	1,007,964	1,021,018	1,034,148	1,047,353	1,060,634	1,072,593	1,084,626	1,096,733	1,108,915	1,121,172	1,220,961	1,314,220
Water production - TOTAL	m3/y	3,637,503	3,684,613	3,731,995	3,779,650	3,827,579	3,870,734	3,914,158	3,957,849	4,001,812	4,046,046	4,406,160	4,742,711
Water sale Kula town													
Domestic:	m3/y	972,563	982,164	991,806	1,001,491	1,011,217	1,017,366	1,023,539	1,029,736	1,035,958	1,042,205	1,098,329	1,159,007
- water billed	m3/y	972,563	982,164	991,806	1,001,491	1,011,217	1,017,366	1,023,539	1,029,736	1,035,958	1,042,205	1,098,329	1,159,007
- unaccounted for water (administrative)	m3/y	-	-	-	-	-	-	-	-	-	-	-	-
UFW	%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Industry:													
before elasticity	m3/y	89,167	92,966	96,783	100,618	104,472	108,345	114,046	119,776	125,533	131,319	172,699	191,553
increase water consumption (new connections, new businesses)	m3/y	3,799	3,817	3,835	3,854	3,873	5,702	5,729	5,757	5,785	5,814	1,534	1,615
Price elasticity effect	m3/y	-	-	-	-	-	-	-	-	-	-	-	-
Income elasticity effect	m3/y	-	-	-	-	-	-	-	-	-	-	-	-
Water consumption by industry - after elasticity	m3/y	92,966	96,783	100,618	104,472	108,345	114,046	119,776	125,533	131,319	137,132	174,233	193,168
Institutional users													
before elasticity	m3/y	89,167	92,966	96,783	100,618	104,472	108,345	114,046	119,776	125,533	131,319	172,699	191,553
increase water consumption (new connections)	m3/y	3,799	3,817	3,835	3,854	3,873	5,702	5,729	5,757	5,785	5,814	1,534	1,615
Price elasticity effect	m3/y	-	-	-	-	-	-	-	-	-	-	-	-
Income elasticity effect	m3/y	-	-	-	-	-	-	-	-	-	-	-	-
Water consumption by institutional	m3/y	92,966	96,783	100,618	104,472	108,345	114,046	119,776	125,533	131,319	137,132	174,233	193,168
Water sale total - Kula town	m3/y	1,158,495	1,175,729	1,193,042	1,210,435	1,227,907	1,245,459	1,263,091	1,280,803	1,298,596	1,316,470	1,446,795	1,545,343
domestic	m3/y	972,563	982,164	991,806	1,001,491	1,011,217	1,017,366	1,023,539	1,029,736	1,035,958	1,042,205	1,098,329	1,159,007
industry	m3/y	92,966	96,783	100,618	104,472	108,345	114,046	119,776	125,533	131,319	137,132	174,233	193,168
institutional users	m3/y	92,966	96,783	100,618	104,472	108,345	114,046	119,776	125,533	131,319	137,132	174,233	193,168
Losses													
Water losses out of water sold	%	67%	67%	67%	67%	67%	67%	67%	67%	67%	67%	67%	67%
Water losses out of water produced	%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%
Water losses (assumption)	m3/y	772,330	783,819	795,361	806,957	818,605	830,306	842,060	853,869	865,731	877,647	964,530	1,030,228
Water production - TOTAL	m3/y	1,930,824	1,959,548	1,988,404	2,017,391	2,046,511	2,075,764	2,105,151	2,134,671	2,164,326	2,194,116	2,411,326	2,575,571

Demand projection		1	2	3	4	5	6	7	8	9	10	20	32
Financial year ending	Units	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2027	2039
Wastewater demand													
existing + new users Vrbas town	Inh	22,555	26,641	26,748	26,855	26,962	27,070	27,178	27,287	27,396	27,506	28,626	30,031
new users 5 villages Vrbas	Inh	5,970	11,953	19,941	19,961	19,981	20,001	20,021	20,041	20,061	20,081	20,283	20,527
new users Kula town	Inh	-	-	-	-	14,842	15,375	15,910	16,449	16,989	17,533	20,544	21,169
Total domestic users connected	Inh	28,525	38,594	46,689	46,815	61,785	62,445	63,109	63,776	64,446	65,119	69,453	71,727
Wastewater sale Vrbas town													
Domestic consumption - after elasticity	m3/y	1,007,657	1,198,972	1,212,555	1,226,227	1,239,989	1,249,395	1,258,856	1,268,374	1,277,947	1,287,577	1,377,355	1,479,759
Factor water to waste water	%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
Small industries - after elasticity	m3/y	96,320	118,147	123,013	127,916	132,856	140,057	147,313	154,625	161,993	169,418	218,496	246,627
Large industries:													
Carnex	m3/y	-	-	-	1,241,000	1,241,000	1,241,000	1,241,000	1,241,000	1,241,000	1,241,000	1,241,000	1,241,000
Vital	m3/y	-	-	-	456,250	456,250	456,250	456,250	456,250	456,250	456,250	456,250	456,250
Factor water to waste water	%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
Institutional users - after elasticity	m3/y	96,320	118,147	123,013	127,916	132,856	140,057	147,313	154,625	161,993	169,418	218,496	246,627
Wastewater sale Vrbas villages													
Domestic consumption - after elasticity	m3/y	264,768	530,065	884,325	885,209	886,095	886,981	887,868	888,756	889,644	890,534	899,480	910,333
Factor water to waste water	%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
Small industries - after elasticity	m3/y	16,180	35,338	63,868	68,850	73,841	76,379	78,922	81,469	84,022	86,580	114,640	151,722
Factor water to waste water	%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
Institutional users - after elasticity	m3/y	5,393	11,779	21,289	22,950	24,614	25,460	26,307	27,156	28,007	28,860	38,213	50,574
Wastewater sale Kula town													
Domestic consumption - after elasticity	m3/y	-	-	-	-	682,572	709,613	736,948	764,579	792,508	820,737	988,497	1,043,106
Factor water to waste water	%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
Small industries - after elasticity	m3/y	-	-	-	-	73,133	79,547	86,239	93,208	100,459	107,992	156,810	173,851
Large industries:													
Istra	m3/y	-	-	-	-	401,500	401,500	401,500	401,500	401,500	401,500	401,500	401,500
Eterna	m3/y	-	-	-	-	547,500	547,500	547,500	547,500	547,500	547,500	547,500	547,500
Factor water to waste water	%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
Institutional users - after elasticity	m3/y	-	-	-	-	73,133	79,547	86,239	93,208	100,459	107,992	156,810	173,851
Wastewater Vrbas city + villages													
by type of customer													
domestic	m3/y	1,272,424	1,729,037	2,096,880	2,111,436	2,126,083	2,136,375	2,146,724	2,157,129	2,167,591	2,178,111	2,276,834	2,390,092
Industry -small	m3/y	112,500	153,485	186,881	196,765	206,697	216,436	226,235	236,094	246,015	255,998	333,136	398,349
industry - big	m3/y	-	-	-	1,697,250	1,697,250	1,697,250	1,697,250	1,697,250	1,697,250	1,697,250	1,697,250	1,697,250
institutional users	m3/y	101,714	129,926	144,302	150,866	157,470	165,516	173,620	181,781	190,001	198,278	256,709	297,201
by location													
Vrbas town	m3/y	1,200,297	1,435,266	1,458,580	3,179,308	3,202,950	3,226,758	3,250,732	3,274,874	3,299,183	3,323,662	3,511,597	3,670,263
Vrbas villages	m3/y	286,341	577,182	969,482	977,009	984,550	988,819	993,096	997,381	1,001,674	1,005,974	1,052,332	1,112,629
Infiltration													
Vrbas town	m3/y	851,472	914,544	977,616	1,040,688	1,103,760	1,103,760	1,103,760	1,103,760	1,103,760	1,103,760	1,103,760	1,103,760
Vrbas villages	m3/y	75,686	151,373	227,059	302,746	378,432	387,893	397,354	406,814	416,275	425,736	491,591	536,112
Wastewater delivered to the WWTP	m3/y	2,413,797	3,078,364	3,632,738	5,499,751	5,669,692	5,707,230	5,744,942	5,782,829	5,820,892	5,859,132	6,159,279	6,422,764
Wastewater delivered to the WWTP	m3/d	6,613	8,434	9,953	15,068	15,533	15,636	15,740	15,843	15,948	16,052	16,875	17,597

Demand projection

Financial year ending	Units	1 2008	2 2009	3 2010	4 2011	5 2012	6 2013	7 2014	8 2015	9 2016	10 2017	20 2027	32 2039
Wastewater total	m3/y	1,486,638	2,012,448	2,428,062	4,156,317	5,965,337	6,033,285	6,102,254	6,172,251	6,243,283	6,315,356	6,815,045	7,122,700
by type of customer													
domestic	m3/y	1,272,424	1,729,037	2,096,880	2,111,436	2,808,655	2,845,988	2,883,672	2,921,709	2,960,100	2,998,847	3,265,331	3,433,199
Industry -small	m3/y	112,500	153,485	186,881	196,765	279,830	295,983	312,473	329,303	346,474	363,989	489,945	572,200
industry - big	m3/y	-	-	-	1,697,250	2,646,250	2,646,250	2,646,250	2,646,250	2,646,250	2,646,250	2,646,250	2,646,250
institutional users	m3/y	101,714	129,926	144,302	150,866	230,602	245,064	259,859	274,990	290,459	306,270	413,519	471,052
by location													
Vrbas town	m3/y	1,200,297	1,435,266	1,458,580	3,179,308	3,202,950	3,226,758	3,250,732	3,274,874	3,299,183	3,323,662	3,511,597	3,670,263
Vrbas villages	m3/y	286,341	577,182	969,482	977,009	984,550	988,819	993,096	997,381	1,001,674	1,005,974	1,052,332	1,112,629
Kula town	m3/y	-	-	-	-	1,777,837	1,817,707	1,858,425	1,899,996	1,942,426	1,985,720	2,251,116	2,339,808
Infiltration													
Infiltration	%	62%	53%	50%	32%	33%	33%	33%	33%	33%	33%	33%	34%
Infiltration - Vrbas town	m3/y	851,472	914,544	977,616	1,040,688	1,103,760	1,103,760	1,103,760	1,103,760	1,103,760	1,103,760	1,103,760	1,103,760
Infiltration - Vrbas villages	m3/y	75,686	151,373	227,059	302,746	378,432	387,893	397,354	406,814	416,275	425,736	491,591	536,112
Infiltration - Kula town	m3/y					473,040	488,808	504,576	520,344	536,112	551,880	677,096	788,400
Wastewater delivered to the WWTP	m3/y	2,413,797	3,078,364	3,632,738	5,499,751	7,920,569	8,013,746	8,107,944	8,203,170	8,299,430	8,396,732	9,087,492	9,550,972
Wastewater delivered to the WWTP	m3/d	6,613	8,434	9,953	15,068	21,700	21,955	22,214	22,474	22,738	23,005	24,897	26,167

Capital expenditure

Financial year ending	Units	Total	1 2008	2 2009	3 2010	4 2011	5 2012	6 2013	7 2014	8 2015	9 2016	17 2024	18 2025	32 2039
Summary (incl. VAT & contingencies)														
Investment	€ m	25.16	2.46	11.35	11.35									
Land	€ m	0.02	-	0.02	-									
Total. Incl. VAT & contingencies	€ m	25.18	2.46	11.37	11.35									
WWTP (excl. contingencies, excl. VAT)														
Investigation works & design	€ m	0.49	-	0.25	0.25									
Construction works	€ m	4.38	-	2.19	2.19									
Electro-mechanical equipment	€ m	5.31	-	2.66	2.66									
Additional land acquisition (1,5 ha)	€ m	0.02	-	0.02	-									
Trial run, staff training, operation	€ m	0.30	-	0.15	0.15									
Sewerage														
Vrbas main sewers	€ m	0.45	-	0.23	0.23									
Vrbas villages sewerage extension - civil works	€ m	1.33	0.27	0.53	0.53									
Vrbas villages sewerage extension - elctr/mech	€ m	0.38	0.08	0.15	0.15									
Vrbas villages sewerage extension - pipes & fitti	€ m	9.49	1.90	3.80	3.80									
Supervision														
Supervision WWTP	€ m	0.57	-	0.28	0.28									
Supervision sewer extension	€ m	0.35	0.07	0.14	0.14									
Total	€ m	23.06	2.31	10.39	10.37									
WWTP (incl. contingencies, excl. VAT)														
Investigation works & design	€ m	0.49	-	0.25	0.25									
Construction works	€ m	5.04	-	2.52	2.52									
Electro-mechanical equipment	€ m	5.79	-	2.89	2.89									
Additional land acquisition (1,5 ha)	€ m	0.02	-	0.02	-									
Trial run, staff training, operation	€ m	0.30	-	0.15	0.15									
Sewerage														
Vrbas main sewers	€ m	0.45	-	0.23	0.23									
Vrbas villages sewerage extension - civil works	€ m	1.33	0.27	0.53	0.53									
Vrbas villages sewerage extension - elctr/mech	€ m	0.38	0.08	0.15	0.15									
Vrbas villages sewerage extension - pipes & fitti	€ m	9.49	1.90	3.80	3.80									
Supervision														
Supervision WWTP	€ m	0.90	-	0.45	0.45									
Supervision sewer extension	€ m	0.58	0.12	0.23	0.23									
Total	€ m	24.77	2.36	11.22	11.20									

Capital expenditure

Financial year ending	Units	Total	1 2008	2 2009	3 2010	4 2011	5 2012	6 2013	7 2014	8 2015	9 2016	17 2024	18 2025	32 2039
WWTP (incl. contingencies, incl. VAT)														
Investigation works & design	€ m	0.50	-	0.25	0.25									
Construction works	€ m	5.11	-	2.55	2.55									
Electro-mechanical equipment	€ m	5.87	-	2.93	2.93									
Additional land acquisition (1,5 ha)	€ m	0.02	-	0.02	-									
Trial run, staff training, operation	€ m	0.30	-	0.15	0.15									
Sewerage														
Vrbas main sewers	€ m	0.46	-	0.23	0.23									
Vrbas villages sewerage extension - civil works	€ m	1.35	0.28	0.54	0.54									
Vrbas villages sewerage extension - elctr/mech	€ m	0.39	0.08	0.15	0.15									
Vrbas villages sewerage extension - pipes & fitti	€ m	9.69	1.98	3.85	3.85									
Supervision														
Supervision WWTP	€ m	0.92	-	0.46	0.46									
Supervision sewer extension	€ m	0.59	0.12	0.24	0.24									
Total	€ m	25.18	2.46	11.37	11.35									
Reinvestment														
WWTP - electro-mechanical equipment	€ m	8.26											8.26	
Sewerage pumps Vrbas villages	€ m	0.53										0.53		
Financing														
EU-IPA	€ m	18.56	-	9.28	9.28									
Min. Agriculture, DG Water	€ m	3.87	-	1.94	1.94									
Municipal contribution	€ m	2.75	2.46	0.16	0.14									
Loan	€ m	-	-	-	-									
Total	€ m	25.18	2.46	11.37	11.35									

Operational expenditures		1	2	3	4	5	6	7	8	9	10	20	32
Financial year ending	Units	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2027	2039
Expenditure by component													
Drinking water	000 RSD	64,977	69,633	74,892	83,977	91,314	99,421	108,345	118,063	127,030	136,686	284,086	691,462
Sewage collection Vrbas city	000 RSD	18,988	20,626	22,217	29,064	31,838	34,984	38,372	41,994	45,202	48,689	102,796	254,588
Waste water treatment	000 RSD	-	-	-	106,992	112,062	116,941	122,209	127,899	133,382	139,249	251,882	472,863
Sewage collection 5 Vrbas villages	000 RSD	-	8,127	24,984	45,024	47,415	49,495	51,762	54,235	56,582	59,113	99,335	205,325
Total		83,965	98,386	122,093	265,056	282,629	300,842	320,689	342,191	362,196	383,738	738,099	1,624,238
Drinking water	%	77%	71%	61%	32%	32%	33%	34%	35%	35%	36%	38%	43%
Sewage collection Vrbas city	%	23%	21%	18%	11%	11%	12%	12%	12%	12%	13%	14%	16%
Waste water treatment	%	0%	0%	0%	40%	40%	39%	38%	37%	37%	36%	34%	29%
Sewage collection 5 Vrbas villages	%	0%	8%	20%	17%	17%	16%	16%	16%	16%	15%	13%	13%
Total	%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Expenditure by service													
water	000 RSD	64,977	69,633	74,892	83,977	91,314	99,421	108,345	118,063	127,030	136,686	284,086	691,462
sewage collection	000 RSD	18,988	28,753	47,201	74,088	79,253	84,479	90,134	96,228	101,784	107,803	202,131	459,913
wastewater	000 RSD	-	-	-	106,992	112,062	116,941	122,209	127,899	133,382	139,249	251,882	472,863
Total costs	000 RSD	83,965	98,386	122,093	265,056	282,629	300,842	320,689	342,191	362,196	383,738	738,099	1,624,238
going to water	%	77%	71%	61%	32%	32%	33%	34%	35%	35%	36%	38%	43%
going to sewage collection	%	23%	29%	39%	28%	28%	28%	28%	28%	28%	28%	27%	28%
going to wastewater	%	0%	0%	0%	40%	40%	39%	38%	37%	37%	36%	34%	29%
Total	%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Depreciation													
water services	000 RSD	3,500	3,534	3,577	3,766	3,766	4,003	4,315	4,607	4,886	5,170	7,969	12,709
sewage collection	000 RSD	2,812	7,187	15,821	26,318	26,515	26,890	27,232	27,507	27,677	27,876	31,984	36,882
wastewater services	000 RSD	-	-	-	46,186	46,186	46,186	46,186	46,186	46,186	46,186	72,600	72,600
Depreciation	000 RSD	6,312	10,721	19,398	76,269	76,467	77,079	77,733	78,300	78,749	79,232	112,554	122,191
going to water	%	55%	33%	18%	5%	5%	5%	6%	6%	6%	7%	7%	10%
going to sewage collection	%	45%	67%	82%	35%	35%	35%	35%	35%	35%	35%	28%	30%
going to wastewater	%	0%	0%	0%	61%	60%	60%	59%	59%	59%	58%	65%	59%
Total	%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Operational expenditures													
Financial year ending	Units	1 2008	2 2009	3 2010	4 2011	5 2012	6 2013	7 2014	8 2015	9 2016	10 2017	20 2027	32 2039
Cost structure for existing water services													
Water													
Water demand	m3/y	3,637,503	3,684,613	3,731,995	3,779,650	3,827,579	3,870,734	3,914,158	3,957,849	4,001,812	4,046,046	4,406,160	4,742,711
Variable costs		12,396	13,663	15,066	16,619	18,338	20,067	21,963	24,044	26,127	28,394	64,122	168,188
Liquid chlorine	000 RSD	798	849	902	960	1,020	1,083	1,150	1,221	1,297	1,377	2,442	4,720
Electricity	000 RSD	9,008	10,060	11,234	12,544	14,005	15,465	17,078	18,857	20,620	22,548	53,752	148,142
Fuel and lubricant	000 RSD	2,590	2,755	2,930	3,116	3,313	3,518	3,735	3,966	4,210	4,469	7,928	15,325
Fixed costs	000 RSD	52,581	55,970	59,826	67,358	72,976	79,355	86,382	94,019	100,903	108,293	219,965	523,274
Wages and Salaries	000 RSD	19,855	21,473	23,449	26,611	29,338	32,345	35,661	39,316	42,520	45,986	100,667	257,754
Employee benefits	000 RSD	3,645	3,942	4,304	4,885	5,385	5,937	6,546	7,217	7,805	8,441	18,479	47,314
Other materials	000 RSD	3,513	3,689	3,873	4,067	4,270	4,484	4,708	4,944	5,191	5,450	8,878	15,943
Transport services	000 RSD	16	17	18	20	21	23	24	26	28	30	56	121
Repair services	000 RSD	10,663	11,281	11,963	12,687	13,488	14,339	15,244	16,206	17,144	18,137	31,835	62,533
Other services	000 RSD	2,853	3,018	3,201	3,394	3,609	3,837	4,079	4,336	4,587	4,853	8,518	16,731
Taxes and fees	000 RSD	-	-	-	-	-	-	-	-	-	-	-	-
Depreciation	000 RSD	3,500	3,534	3,577	3,766	3,766	4,003	4,315	4,607	4,886	5,170	7,969	12,709
Other costs	000 RSD	-	-	-	-	-	-	-	-	-	-	-	-
Overhead costs	000 RSD	8,535	9,016	9,440	11,929	13,099	14,387	15,805	17,367	18,741	20,226	43,563	110,169
TOTAL	000 RSD	64,977	69,633	74,892	83,977	91,314	99,421	108,345	118,063	127,030	136,686	284,086	691,462

Operational expenditures		1	2	3	4	5	6	7	8	9	10	20	32
Financial year ending	Units	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2027	2039
Cost structure for existing wastewater services													
Wastewater demand (Vrbas towr	m3/y	1,200,297	1,435,266	1,458,580	3,179,308	3,202,950	3,226,758	3,250,732	3,274,874	3,299,183	3,323,662	3,511,597	3,670,263
Variable costs	000 RSD	1,591	2,097	2,349	5,646	6,271	6,899	7,589	8,349	9,097	9,911	22,923	61,345
Electricity	000 RSD	1,591	2,097	2,349	5,646	6,271	6,899	7,589	8,349	9,097	9,911	22,923	61,345
Fixed costs	000 RSD	17,398	18,529	19,868	23,418	25,567	28,085	30,782	33,644	36,106	38,778	79,873	193,243
Wages and Salaries	000 RSD	7,435	8,041	8,781	10,593	11,679	12,876	14,196	15,651	16,926	18,306	40,074	102,607
Employee benefits	000 RSD	1,454	1,572	1,717	2,071	2,284	2,518	2,776	3,060	3,310	3,579	7,836	20,063
Other materials	000 RSD	-	-	-	-	-	-	-	-	-	-	-	-
Transport services	000 RSD	-	-	-	-	-	-	-	-	-	-	-	-
Repair services	000 RSD	2,500	2,645	2,805	2,974	3,162	3,362	3,574	3,800	4,019	4,252	7,464	14,661
Other services	000 RSD	-	-	-	-	-	-	-	-	-	-	-	-
Taxes and fees	000 RSD	-	-	-	-	-	-	-	-	-	-	-	-
Depreciation	000 RSD	2,812	2,894	3,030	3,030	3,228	3,603	3,945	4,220	4,389	4,589	7,158	12,056
Other costs	000 RSD	-	-	-	-	-	-	-	-	-	-	-	-
Overhead	000 RSD	3,196	3,376	3,535	4,749	5,214	5,727	6,292	6,913	7,461	8,052	17,342	43,856
TOTAL costs for existing infrastr	000 RSD	18,988	20,626	22,217	29,064	31,838	34,984	38,372	41,994	45,202	48,689	102,796	254,588
Incremental operational costs caused by connection of large industries to existing sewage collection network in Vrbas city													
Wastewater demand large industri	m3/y	-	-	-	1,697,250	1,697,250	1,697,250	1,697,250	1,697,250	1,697,250	1,697,250	1,697,250	1,697,250
Variable costs	000 RSD	-	-	-	3,014	3,323	3,629	3,963	4,327	4,680	5,061	11,079	28,368
Electricity	000 RSD	-	-	-	3,014	3,323	3,629	3,963	4,327	4,680	5,061	11,079	28,368
Existing/base line costs sewage collection Vrbas city													
Variable costs	000 RSD	1,591	2,097	2,349	2,632	2,948	3,270	3,627	4,022	4,417	4,850	11,844	32,977
Electricity	000 RSD	1,591	2,097	2,349	2,632	2,948	3,270	3,627	4,022	4,417	4,850	11,844	32,977
Fixed costs	000 RSD	17,398	18,529	19,868	23,418	25,567	28,085	30,782	33,644	36,106	38,778	79,873	193,243
Wages and Salaries	000 RSD	7,435	8,041	8,781	10,593	11,679	12,876	14,196	15,651	16,926	18,306	40,074	102,607
Employee benefits	000 RSD	1,454	1,572	1,717	2,071	2,284	2,518	2,776	3,060	3,310	3,579	7,836	20,063
Other materials	000 RSD	-	-	-	-	-	-	-	-	-	-	-	-
Transport services	000 RSD	-	-	-	-	-	-	-	-	-	-	-	-
Repair services	000 RSD	2,500	2,645	2,805	2,974	3,162	3,362	3,574	3,800	4,019	4,252	7,464	14,661
Other services	000 RSD	-	-	-	-	-	-	-	-	-	-	-	-
Taxes and fees	000 RSD	-	-	-	-	-	-	-	-	-	-	-	-
Depreciation	000 RSD	2,812	2,894	3,030	3,030	3,228	3,603	3,945	4,220	4,389	4,589	7,158	12,056
Other costs	000 RSD	-	-	-	-	-	-	-	-	-	-	-	-
Overhead	000 RSD	3,196	3,376	3,535	4,749	5,214	5,727	6,292	6,913	7,461	8,052	17,342	43,856
TOTAL costs	000 RSD	18,988	20,626	22,217	26,050	28,515	31,355	34,409	37,666	40,522	43,628	91,717	226,220

Operational expenditures													
Financial year ending	Units	1 2008	2 2009	3 2010	4 2011	5 2012	6 2013	7 2014	8 2015	9 2016	10 2017	20 2027	32 2039
Incremental costs for WWTP													
Waste water delivered at WWTP (Vrbas municipality only, including infiltration)				5,499,751	5,669,692	5,707,230	5,744,942	5,782,829	5,820,892	5,859,132	6,159,279	6,422,764	
Variable costs		-	-	-	30,099	32,810	35,137	37,643	40,345	43,060	45,969	88,567	197,764
Use of chemicals	000 RSD				3,465	3,751	3,964	4,190	4,429	4,681	4,947	8,471	15,863
Electricity	000 RSD				8,957	10,180	11,191	12,301	13,521	14,719	16,024	36,874	98,454
Sludge transport	000 RSD				3,672	4,074	4,413	4,781	5,180	5,557	5,961	11,846	26,523
Effluent discharge fee	000 RSD				14,005	14,805	15,568	16,371	17,215	18,103	19,037	31,376	56,924
Fixed costs	000 RSD	-	-	-	76,893	79,253	81,805	84,566	87,554	90,322	93,280	163,315	275,099
Wages and Salaries	000 RSD				6,695	7,381	8,138	8,972	9,891	10,697	11,569	25,326	64,847
Employee benefits	000 RSD				1,339	1,476	1,628	1,794	1,978	2,139	2,314	5,065	12,969
Other materials	000 RSD												
Transport services	000 RSD												
Repair services	000 RSD				15,487	16,464	17,504	18,608	19,783	20,928	22,139	38,860	76,334
Other services	000 RSD				4,186	4,450	4,731	5,029	5,347	5,656	5,984	10,503	20,631
Taxes and fees	000 RSD												
Depreciation	000 RSD				46,186	46,186	46,186	46,186	46,186	46,186	46,186	72,600	72,600
Overhead	000 RSD	-	-	-	3,001	3,296	3,620	3,976	4,369	4,715	5,089	10,960	27,717
TOTAL incremental costs	000 RSD	-	-	-	106,992	112,062	116,941	122,209	127,899	133,382	139,249	251,882	472,863
Variable costs	%				28%	29%	30%	31%	32%	32%	33%	35%	42%
Use of chemicals	%				3%	3%	3%	3%	3%	4%	4%	3%	3%
Electricity	%				8%	9%	10%	10%	11%	11%	12%	15%	21%
Sludge transport	%				3%	4%	4%	4%	4%	4%	4%	5%	6%
Effluent discharge fee	%				13%	13%	13%	13%	13%	14%	14%	12%	12%
Fixed costs	%				72%	71%	70%	69%	68%	68%	67%	65%	58%
Wages and Salaries	%				6%	7%	7%	7%	8%	8%	8%	10%	14%
Employee benefits	%				1%	1%	1%	1%	2%	2%	2%	2%	3%
Other materials	%				0%	0%	0%	0%	0%	0%	0%	0%	0%
Transport services	%				0%	0%	0%	0%	0%	0%	0%	0%	0%
Repair services	%				14%	15%	15%	15%	15%	16%	16%	15%	16%
Other services	%				4%	4%	4%	4%	4%	4%	4%	4%	4%
Taxes and fees	%				0%	0%	0%	0%	0%	0%	0%	0%	0%
Depreciation	%				43%	41%	39%	38%	36%	35%	33%	29%	15%
Overhead	%				3%	3%	3%	3%	3%	4%	4%	4%	6%
TOTAL incremental costs	%				100%	100%	100%	100%	100%	100%	100%	100%	100%
Incremental costs for sewerage extension													
Waste water originating from villages		340,454	681,438	1,111,384	1,187,955	1,264,527	1,274,874	1,285,221	1,295,570	1,305,920	1,316,270	1,391,070	1,446,445
Variable costs		-	1,204	3,982	7,317	8,587	9,454	10,407	11,456	12,489	13,614	31,495	83,852
Use of chemicals	000 RSD												
Electricity	000 RSD		1,204	3,982	7,317	8,587	9,454	10,407	11,456	12,489	13,614	31,495	83,852
Fixed costs	000 RSD	-	6,923	21,002	37,707	38,828	40,041	41,355	42,779	44,093	45,500	67,840	121,473
Wages and Salaries	000 RSD	-	561	1,839	3,347	3,691	4,069	4,486	4,946	5,349	5,785	12,663	32,424
Employee benefits	000 RSD	-	112	368	669	738	814	897	989	1,070	1,157	2,533	6,485
Other materials	000 RSD												
Transport services	000 RSD												
Repair services	000 RSD		1,515	4,634	7,837	8,331	8,857	9,416	10,011	10,590	11,203	19,664	38,627
Other services	000 RSD		206	630	1,066	1,133	1,204	1,280	1,361	1,440	1,523	2,674	5,253
Taxes and fees	000 RSD												
Depreciation	000 RSD	-	4,293	12,790	23,287	23,287	23,287	23,287	23,287	23,287	23,287	24,826	24,826
Overhead	000 RSD	-	236	740	1,501	1,648	1,810	1,988	2,185	2,357	2,544	5,480	13,858
TOTAL incremental costs	000 RSD	-	8,127	24,984	45,024	47,415	49,495	51,762	54,235	56,582	59,113	99,335	205,325

Operational expenditures													
Financial year ending	Units	1 2008	2 2009	3 2010	4 2011	5 2012	6 2013	7 2014	8 2015	9 2016	10 2017	20 2027	32 2039
Total wastewater costs													
costs of the current system	000 RSD	15,792	17,249	18,683	24,315	26,624	29,257	32,080	35,080	37,742	40,638	85,454	210,732
incremental costs WWTP	000 RSD	-	-	-	103,990	108,767	113,322	118,233	123,530	128,667	134,160	240,922	445,146
incremental costs sewerage	000 RSD	-	7,892	24,243	43,523	45,767	47,685	49,774	52,050	54,225	56,569	93,855	191,466
overhead costs	000 RSD	3,196	3,612	4,275	9,250	10,158	11,157	12,256	13,467	14,533	15,685	33,781	85,432
Total	000 RSD	18,988	28,753	47,201	181,079	191,315	201,420	212,343	224,128	235,166	247,052	454,013	932,776
												-	
Cost structure for overhead costs													
Wages and Salaries	000 RSD	10,237	11,072	12,090	16,235	17,899	19,734	21,756	23,986	25,941	28,056	61,416	157,254
Employee benefits	000 RSD	-	-	-	3,247	3,580	3,947	4,351	4,797	5,188	5,611	12,283	31,451
Other materials	000 RSD												
Energy (Electricity)	000 RSD	66	73	80	89	98	107	116	127	138	149	326	834
Transport services	000 RSD												
Repair services	000 RSD	45	47	50	53	56	60	64	68	72	76	133	262
Other services	000 RSD	908	961	1,019	1,080	1,149	1,221	1,298	1,380	1,460	1,544	2,711	5,325
Taxes and fees	000 RSD												
Depreciation	000 RSD	475	475	475	475	475	475	475	475	475	475	475	475
Other costs	000 RSD												
TOTAL	000 RSD	11,732	12,628	13,715	21,179	23,257	25,543	28,061	30,834	33,274	35,911	77,345	195,601
Staffing schedule & costs													
Water Supply		36	36	36	37	37	37	37	37	37	37	37	37
Head of water supply	No.				1	1	1	1	1	1	1	1	1
Unit supervisor water treatment & c	No.	1	1	1	1	1	1	1	1	1	1	1	1
Foreman	No.	1	1	1	1	1	1	1	1	1	1	1	1
Technicians	No.	14	14	14	14	14	14	14	14	14	14	14	14
Support services	No.	1	1	1	1	1	1	1	1	1	1	1	1
Unit supervisor meeting & water si	No.	1	1	1	1	1	1	1	1	1	1	1	1
Technicians	No.	12	12	12	12	12	12	12	12	12	12	12	12
Support services	No.	6	6	6	6	6	6	6	6	6	6	6	6
Waste water - existing		15	15	15	16	16	16	16	16	16	16	16	16
Head of waste water	No.	1	1	1	1	1	1	1	1	1	1	1	1
Unit supervisor sewage pumps & V	No.				1	1	1	1	1	1	1	1	1
Foreman	No.	1	1	1	1	1	1	1	1	1	1	1	1
Technicians	No.	12	12	12	12	12	12	12	12	12	12	12	12
Support services	No.	1	1	1	1	1	1	1	1	1	1	1	1
Waste water - sewerage new		-	1	3	5	5	5	5	5	5	5	5	5
Technicians for 7 FCS	No.		1	3	5	5	5	5	5	5	5	5	5
WWTP - new		-	-	-	10	10	10	10	10	10	10	10	10
Unit supervisor WWTP operations	No.				1	1	1	1	1	1	1	1	1
Technicians	No.				7	7	7	7	7	7	7	7	7
Support services	No.				2	2	2	2	2	2	2	2	2

Operational expenditures													
Financial year ending	Units	1 2008	2 2009	3 2010	4 2011	5 2012	6 2013	7 2014	8 2015	9 2016	10 2017	20 2027	32 2039
Overhead		13	13	13	22	22	22	22	22	22	22	22	22
General manager	No.				1	1	1	1	1	1	1	1	1
Technical manager	No.	1	1	1	1	1	1	1	1	1	1	1	1
Head of legal-adm deprtment	No.	1	1	1	1	1	1	1	1	1	1	1	1
IT expert	No.				1	1	1	1	1	1	1	1	1
HR assistant	No.				1	1	1	1	1	1	1	1	1
Env. protection assistant	No.				1	1	1	1	1	1	1	1	1
Adm. Assistant	No.	1	1	1	1	1	1	1	1	1	1	1	1
security	No.	3	3	3	3	3	3	3	3	3	3	3	3
cleaning	No.	2	2	2	2	2	2	2	2	2	2	2	2
driver	No.				1	1	1	1	1	1	1	1	1
Head of fin-ec department	No.	1	1	1	1	1	1	1	1	1	1	1	1
Planner	No.	1	1	1	1	1	1	1	1	1	1	1	1
Accountant	No.	2	2	2	2	2	2	2	2	2	2	2	2
Complaints/info officer	No.	1	1	1	1	1	1	1	1	1	1	1	1
Billing/collection officers	No.				4	4	4	4	4	4	4	4	4
Total new PUC	No.	64	65	67	90	90	90	90	90	90	90	90	90
Water Supply	000 RSD	18,299	19,790	21,611	24,604	27,125	29,906	32,971	36,351	39,313	42,517	93,074	238,313
Head of water supply	000 RSD	-	-	-	1,004	1,107	1,221	1,346	1,484	1,605	1,735	3,799	9,727
Unit supervisor water treatment & c	000 RSD	779	842	920	1,004	1,107	1,221	1,346	1,484	1,605	1,735	3,799	9,727
Foreman	000 RSD	649	702	766	837	923	1,017	1,121	1,236	1,337	1,446	3,166	8,106
Technicians	000 RSD	7,268	7,860	8,583	9,373	10,333	11,393	12,560	13,848	14,976	16,197	35,457	90,786
Support services	000 RSD	389	421	460	502	554	610	673	742	802	868	1,899	4,864
Unit supervisor meetring & water si	000 RSD	649	702	766	837	923	1,017	1,121	1,236	1,337	1,446	3,166	8,106
Technicians	000 RSD	6,229	6,737	7,357	8,034	8,857	9,765	10,766	11,870	12,837	13,883	30,392	77,817
Support services	000 RSD	2,336	2,526	2,759	3,013	3,321	3,662	4,037	4,451	4,814	5,206	11,397	29,181
Waste water - existing	000 RSD	8,046	8,702	9,503	11,381	12,548	13,834	15,252	16,815	18,186	19,668	43,055	110,240
Head of waste water	000 RSD	779	842	920	1,004	1,107	1,221	1,346	1,484	1,605	1,735	3,799	9,727
Unit supervisor sewage pumps & V	000 RSD	-	-	-	1,004	1,107	1,221	1,346	1,484	1,605	1,735	3,799	9,727
Foreman	000 RSD	649	702	766	837	923	1,017	1,121	1,236	1,337	1,446	3,166	8,106
Technicians	000 RSD	6,229	6,737	7,357	8,034	8,857	9,765	10,766	11,870	12,837	13,883	30,392	77,817
Support services	000 RSD	389	421	460	502	554	610	673	742	802	868	1,899	4,864
Waste water - sewerage new	000 RSD	-	561	1,839	3,347	3,691	4,069	4,486	4,946	5,349	5,785	12,663	32,424
Technicians for 7 FCS	000 RSD	-	561	1,839	3,347	3,691	4,069	4,486	4,946	5,349	5,785	12,663	32,424
WWTP - new	000 RSD	-	-	-	6,695	7,381	8,138	8,972	9,891	10,697	11,569	25,326	64,847
Unit supervisor WWTP operations	000 RSD	-	-	-	1,004	1,107	1,221	1,346	1,484	1,605	1,735	3,799	9,727
Technicians	000 RSD	-	-	-	4,686	5,167	5,696	6,280	6,924	7,488	8,099	17,728	45,393
Support services	000 RSD	-	-	-	1,004	1,107	1,221	1,346	1,484	1,605	1,735	3,799	9,727

Operational expenditures													
Financial year ending	Units	1 2008	2 2009	3 2010	4 2011	5 2012	6 2013	7 2014	8 2015	9 2016	10 2017	20 2027	32 2039
Overhead	000 RSD	7,268	7,860	8,583	16,235	17,899	19,734	21,756	23,986	25,941	28,056	61,416	157,254
General manager	000 RSD	-	-	-	1,172	1,292	1,424	1,570	1,731	1,872	2,025	4,432	11,348
Technical manager	000 RSD	779	842	920	1,004	1,107	1,221	1,346	1,484	1,605	1,735	3,799	9,727
Head of legal-adm deprtament	000 RSD	779	842	920	1,004	1,107	1,221	1,346	1,484	1,605	1,735	3,799	9,727
IT expert	000 RSD	-	-	-	837	923	1,017	1,121	1,236	1,337	1,446	3,166	8,106
HR assistant	000 RSD	-	-	-	669	738	814	897	989	1,070	1,157	2,533	6,485
Env. protection assistant	000 RSD	-	-	-	837	923	1,017	1,121	1,236	1,337	1,446	3,166	8,106
Adm. Assistant	000 RSD	519	561	613	669	738	814	897	989	1,070	1,157	2,533	6,485
security	000 RSD	1,168	1,263	1,379	1,506	1,661	1,831	2,019	2,226	2,407	2,603	5,698	14,591
cleaning	000 RSD	779	842	920	1,004	1,107	1,221	1,346	1,484	1,605	1,735	3,799	9,727
driver	000 RSD	-	-	-	669	738	814	897	989	1,070	1,157	2,533	6,485
Head of fin-ec department	000 RSD	779	842	920	1,004	1,107	1,221	1,346	1,484	1,605	1,735	3,799	9,727
Planner	000 RSD	649	702	766	837	923	1,017	1,121	1,236	1,337	1,446	3,166	8,106
Accountant	000 RSD	1,298	1,404	1,533	1,674	1,845	2,034	2,243	2,473	2,674	2,892	6,332	16,212
Complaints/info officer	000 RSD	519	561	613	669	738	814	897	989	1,070	1,157	2,533	6,485
Billing/collection officers	000 RSD	-	-	-	2,678	2,952	3,255	3,589	3,957	4,279	4,628	10,131	25,939
Total	000 RSD	33.613	36.914	41.536	62.262	68.644	75.680	83.437	91.989	99.486	107.594	235.535	603.078

Tariff & affordability

Financial year ending	Units	1 2008	2 2009	3 2010	4 2011	5 2012	6 2013	7 2014	8 2015	9 2016	10 2017	20 2027	32 2039
Affordability domestic users													
Average household income	RSD	43,081	46,592	50,878	55,559	61,254	67,533	74,455	82,086	88,776	96,012	210,179	538,156
Average number of residents per household		3.02	3.02	3.01	3.00	2.99	2.98	2.97	2.96	2.95	2.94	2.86	2.80
Average water bill	RSD	332	349	367	386	445	491	530	574	616	661	1,250	2,813
Average sewerage bill	RSD	166	175	184	193	203	213	223	253	280	309	559	1,207
Average waste water treatment bill	RSD	-	-	-	270	284	298	313	328	344	361	580	1,037
Total average bill	RSD	499	524	551	849	932	1,002	1,066	1,155	1,241	1,331	2,389	5,058
Increase of an average bill	%	6.4%	5.1%	5.1%	54.2%	9.8%	7.4%	6.5%	8.3%	7.4%	7.3%	6.1%	6.8%
Maximum affordability level	RSD	1,723	1,864	2,035	2,222	2,450	2,701	2,978	3,283	3,551	3,840	8,407	21,526
Affordability Ratio	%	1.2%	1.1%	1.1%	1.5%	1.5%	1.5%	1.4%	1.4%	1.4%	1.4%	1.1%	0.9%
Affordability large industries													
Carnex revenues	RSD m	6,495	7,161	7,895	8,704	9,596	10,479	11,443	12,496	13,514	14,615	31,995	81,921
Vital revenues	RSD m	6,520	7,188	7,925	8,737	9,633	10,519	11,487	12,543	13,566	14,671	32,117	82,235
Carnex sewage charge	RSD m				60	57	54	52	51	50	49	50	54
Vital sewage charge	RSD m				22	21	20	19	19	18	18	18	20
Carnex affordability	%				0.7%	0.6%	0.5%	0.5%	0.4%	0.4%	0.3%	0.2%	0.1%
Vital affordability	%				0.3%	0.2%	0.2%	0.2%	0.2%	0.1%	0.1%	0.1%	0.0%
Tariff summary (excl. VAT)													
Drinking water													
Domestic	RSD / m3	25	26	27	29	33	36	39	43	46	49	94	213
Institutional users	RSD / m3	25	26	27	29	33	36	39	43	46	49	94	213
Business - small	RSD / m3	49	52	54	57	59	59	57	56	54	52	94	213
Business - large	RSD / m3												
Waste water treatment													
Domestic	RSD / m3	-	-	-	20	21	22	23	24	26	27	44	78
Institutional users	RSD / m3	-	-	-	20	21	22	23	24	26	27	44	78
Business - small	RSD / m3	-	-	-	20	21	22	23	24	26	27	44	78
Business - large	RSD / m3	-	-	-	30	32	33	35	36	38	40	65	118
Business - large discharged wastewater	RSD / m3	-	-	-	33	35	37	39	41	43	45	73	131
Sewerage													
Domestic	RSD / m3	12	13	14	14	15	16	17	19	21	23	42	91
Institutional users	RSD / m3	12	13	14	14	15	16	17	19	21	23	42	91
Business - small	RSD / m3	25	26	27	29	27	26	24	25	25	24	42	91
Business - large	RSD / m3	-	-	-	29	27	26	24	25	25	24	42	91
Business - large discharged wastewater	RSD / m3	-	-	-	32	30	28	27	27	27	27	47	101
Total W&WW (RSD)													
Domestic	RSD / m3	37	39	41	63	69	74	79	86	92	99	180	382
Institutional users	RSD / m3	37	39	41	63	69	74	79	86	92	99	180	382
Business - small	RSD / m3	74	78	82	106	107	106	105	105	104	103	180	382
Business - large	RSD / m3	-	-	-	59	58	59	59	61	63	65	108	209
Business - large discharged wastewater	RSD / m3	-	-	-	65	65	65	65	68	70	72	119	232
Total W&WW (€)													
Domestic	€/ m3	0.44	0.45	0.46	0.70	0.76	0.80	0.84	0.90	0.95	1.01	1.58	2.83
Institutional users	€/ m3	0.44	0.45	0.46	0.70	0.76	0.80	0.84	0.90	0.95	1.01	1.58	2.83
Business - small	€/ m3	0.87	0.90	0.92	1.18	1.18	1.15	1.12	1.10	1.08	1.06	1.58	2.83
Business - large	€/ m3	-	-	-	0.65	0.64	0.63	0.64	0.65	0.66	0.66	0.95	1.54
Business - large discharged wastewater	€/ m3	-	-	-	0.73	0.71	0.71	0.70	0.71	0.72	0.73	1.05	1.72

Tariff & affordability

Financial year ending	Units	1 2008	2 2009	3 2010	4 2011	5 2012	6 2013	7 2014	8 2015	9 2016	10 2017	20 2027	32 2039
Tariff summary - % increase year-on-year avg													
Drinking water													
Domestic	%	6%	5%	5%	5%	15%	10%	8%	8%	7%	7%	7%	7%
Institutional users	%	6%	5%	5%	5%	15%	10%	8%	8%	7%	7%	7%	7%
Business - small	%	6%	5%	5%	5%	4%	-1%	-3%	-2%	-3%	-3%	7%	7%
Business - large	%												
Waste water treatment													
Domestic	%					5%	5%	5%	5%	5%	5%	5%	5%
Institutional users	%					5%	5%	5%	5%	5%	5%	5%	5%
Business - small	%					5%	5%	5%	5%	5%	5%	5%	5%
Business - large	%					5%	5%	5%	5%	5%	5%	5%	5%
Sewerage													
Domestic	%	6%	5%	5%	5%	5%	5%	5%	13%	11%	11%	6%	7%
Institutional users	%	6%	5%	5%	5%	5%	5%	5%	13%	11%	11%	6%	7%
Business - small	%	6%	5%	5%	5%	-6%	-6%	-6%	2%	0%	0%	6%	7%
Business - large	%					-6%	-6%	-6%	2%	0%	0%	6%	7%
Total W&WW													
Domestic	%	6%	5%	5%	54%	10%	8%	7%	8%	7%	7%	6%	7%
Institutional users	%	6%	5%	5%	54%	10%	8%	7%	8%	7%	7%	6%	7%
Business - small	%	6%	5%	5%	30%	1%	-1%	-2%	0%	-1%	-1%	6%	7%
Business - large	%					0%	0%	0%	4%	3%	3%	5%	6%
Tariff summary (excl. VAT, 2007 constant prices)													
Drinking water													
Domestic	RSD / m3	24	24	24	24	26	27	28	29	29	30	35	45
Institutional users	RSD / m3	24	24	24	24	26	27	28	29	29	30	35	45
Business - small	RSD / m3	47	47	47	47	46	44	41	38	35	32	35	45
Business - large	RSD / m3												
Waste water treatment													
Domestic	RSD / m3	-	-	-	16	16	16	16	16	16	16	16	16
Institutional users	RSD / m3	-	-	-	16	16	16	16	16	16	16	16	16
Business - small	RSD / m3	-	-	-	16	16	16	16	16	16	16	16	16
Business - large	RSD / m3	-	-	-	25	25	25	25	25	25	25	25	25
Sewerage													
Domestic	RSD / m3	12	12	12	12	12	12	12	13	13	14	16	19
Institutional users	RSD / m3	12	12	12	12	12	12	12	13	13	14	16	19
Business - small	RSD / m3	24	24	24	23	21	19	17	17	16	15	16	19
Business - large	RSD / m3	-	-	-	23	21	19	17	17	16	15	16	19
Total W&WW (RSD)													
Domestic	RSD / m3	35	35	35	52	54	55	56	58	59	61	68	80
Institutional users	RSD / m3	35	35	35	52	54	55	56	58	59	61	68	80
Business - small	RSD / m3	71	71	71	87	84	79	74	71	67	63	68	80
Business - large	RSD / m3	-	-	-	48	46	44	42	41	40	40	41	44

Tariff & affordability

Financial year ending	Units	1 2008	2 2009	3 2010	4 2011	5 2012	6 2013	7 2014	8 2015	9 2016	10 2017	20 2027	32 2039
Tariff summary - % increase year-on-year avg constant 2007 prices													
Drinking water													
Domestic	%	1%	0%	0%	0%	10%	5%	3%	3%	2%	2%	2%	2%
Institutional users	%	1%	0%	0%	0%	10%	5%	3%	3%	2%	2%	2%	2%
Business - small	%	1%	0%	0%	0%	-1%	-5%	-7%	-7%	-8%	-8%	2%	2%
Business - large	%												
Waste water treatment													
Domestic	%					0%	0%	0%	0%	0%	0%	0%	0%
Institutional users	%					0%	0%	0%	0%	0%	0%	0%	0%
Business - small	%					0%	0%	0%	0%	0%	0%	0%	0%
Business - large	%					0%	0%	0%	0%	0%	0%	0%	0%
Sewerage													
Domestic	%	1%	0%	0%	0%	0%	0%	0%	8%	6%	5%	1%	2%
Institutional users	%	1%	0%	0%	0%	0%	0%	0%	8%	6%	5%	1%	2%
Business - small	%	1%	0%	0%	0%	-10%	-10%	-10%	-3%	-5%	-5%	1%	2%
Business - large	%					-10%	-10%	-10%	-3%	-5%	-5%	1%	2%
Total W&WW													
Domestic	%	1%	0%	0%	47%	4%	2%	1%	3%	2%	2%	1%	2%
Institutional users	%	1%	0%	0%	47%	4%	2%	1%	3%	2%	2%	1%	2%
Business - small	%	1%	0%	0%	23%	-3%	-6%	-6%	-5%	-5%	-5%	1%	2%
Business - large	%					-5%	-5%	-4%	-1%	-2%	-2%	0%	1%
Tariff summary - cumulative % increase year-on-year avg constant 2007 prices													
Total W&WW													
Domestic	%	1%	1%	1%	48%	52%	55%	56%	59%	62%	64%	75%	92%
Institutional users	%	1%	1%	1%	48%	52%	55%	56%	59%	62%	64%	75%	92%
Business - small	%	1%	1%	1%	25%	21%	16%	9%	5%	-1%	-6%	0%	18%
Business - large (discharged WW)	%	0%	0%	0%	0%	-5%	-9%	-14%	-15%	-17%	-19%	-17%	-9%
Tariff calculation water Vrbas municipality (town + villages)													
Cost to cover - water													
operating costs & depreciation	RSD m	65	70	75	84	91	99	108	118	127	137	284	691
increase in working capital	RSD m	0	2	(3)	(4)	0	1	1	1	1	1	2	4
bad debt	RSD m	6	6	4	4	4	5	5	6	6	7	14	34
Interest and fee payment	RSD m	-	-	-	-	-	-	-	-	-	-	-	-
DSCR over depreciation	RSD m	-	-	-	-	-	-	-	-	-	-	-	-
Loan repayment over depreciation	RSD m	-	-	-	-	-	-	-	-	-	-	-	-
Total Water Costs to cover	RSD m	72	77	75	84	96	106	115	124	134	144	300	729
Volume produced	'000 m3	3,638	3,685	3,732	3,780	3,828	3,871	3,914	3,958	4,002	4,046	4,406	4,743
Volume billed													
Domestic	'000 m3	2,298	2,314	2,330	2,346	2,362	2,374	2,385	2,397	2,408	2,420	2,530	2,656
Institutional users	'000 m3	186	197	208	219	230	240	251	262	273	284	370	443
Business	'000 m3	146	153	160	168	175	184	193	202	211	220	285	330
Total	'000 m3	2,630	2,664	2,698	2,732	2,767	2,798	2,830	2,861	2,893	2,925	3,185	3,428
Allow reductions in nominal tariffs?													
Unit cost of water produced	RSD / m3	20	21	20	22	25	27	29	31	33	36	68	154
Unit cost of water billed	RSD / m3	27	29	28	31	35	38	41	44	46	49	94	213
Increase unit cost water	%	16%	6%	-3%	10%	12%	9%	7%	7%	6%	6%	7%	7%
Average tariff charged	RSD / m3	26	27	29	30	35	38	41	44	46	49	94	213
% of cost recovery - domestic	%	95%	95%	94%	94%	95%	96%	97%	98%	99%	100%	100%	100%
% of cost recovery - institutional users	%	95%	95%	94%	94%	95%	96%	97%	98%	99%	100%	100%	100%
% of cost recovery - business users	%	189%	189%	189%	188%	171%	156%	141%	128%	117%	106%	100%	100%

Tariff & affordability

Financial year ending	Units	1 2008	2 2009	3 2010	4 2011	5 2012	6 2013	7 2014	8 2015	9 2016	10 2017	20 2027	32 2039
Calculated tariff for water													
Domestic	RSD / m3	25.77	27.25	26.37	29.02	32.92	36.31	39.28	42.58	45.73	49.05	94.05	212.66
Institutional users	RSD / m3	25.77	27.25	26.37	29.02	32.92	36.31	39.28	42.58	45.73	49.05	94.05	212.66
Business	RSD / m3	51.54	54.50	52.74	58.05	59.26	58.82	57.27	55.87	54.00	52.14	94.05	212.66
Proposed tariff for water													
Domestic	RSD / m3	24.68	25.91	27.20	28.56	32.92	36.31	39.28	42.58	45.73	49.05	94.05	212.66
Institutional users	RSD / m3	24.68	25.91	27.20	28.56	32.92	36.31	39.28	42.58	45.73	49.05	94.05	212.66
Business	RSD / m3	49.35	51.82	54.41	57.13	59.26	58.82	57.27	55.87	54.00	52.14	94.05	212.66
		2.00	2.00	2.00	2.00	1.80	1.62	1.46	1.31	1.18	1.06	1.00	1.00
Tariff increases (nominal)													
Domestic	%	6.2%	5.0%	5.0%	5.0%	15.3%	10.3%	8.2%	8.4%	7.4%	7.3%	6.9%	7.1%
Institutional users	%	6.2%	5.0%	5.0%	5.0%	15.3%	10.3%	8.2%	8.4%	7.4%	7.3%	6.9%	7.1%
Business	%	6.2%	5.0%	5.0%	5.0%	3.7%	-0.8%	-2.6%	-2.4%	-3.3%	-3.5%	6.9%	7.1%
Total revenue with proposed tariff	RSD m	68	73	78	83	96	106	115	124	134	144	300	729
Tariff calculation for wastewater treatment plant													
Cost to cover waste water treatment													
operating costs & depreciation	RSD m	-	-	-	107	112	117	122	128	133	139	252	473
increase in working capital	RSD m	-	-	-	-	13	0	0	0	0	0	5	2
bad debt	RSD m	-	-	-	-	6	6	6	7	7	7	12	23
Interest and fee payment	RSD m	-	-	-	-	-	-	-	-	-	-	-	-
DSCR over depreciation	RSD m	-	-	-	-	-	-	-	-	-	-	-	-
CAPEX injection	RSD m	-	-	-	-	-	-	-	-	-	-	-	-
Total Waste Water costs to cover	RSD m	-	-	-	107	131	123	129	135	141	147	270	498
Volume billed													
Domestic	'000 m3	-	-	-	2,111	2,126	2,136	2,147	2,157	2,168	2,178	2,277	2,390
Institutional users	'000 m3	-	-	-	151	157	166	174	182	190	198	257	297
Business - small	'000 m3	-	-	-	197	207	216	226	236	246	256	333	398
Business - large	'000 m3	-	-	-	1,697	1,697	1,697	1,697	1,697	1,697	1,697	1,697	1,697
Total	'000 m3	-	-	-	4,156	4,187	4,216	4,244	4,272	4,301	4,330	4,564	4,783
Unit cost of wastewater treated (incl. infiltration)	RSD / m3	-	-	-	19	23	22	22	23	24	25	44	78
Unit cost of wastewater delivered to collection system	RSD / m3	-	-	-	26	31	29	30	32	33	34	59	104
Unit cost of wastewater of drinking water supplied	RSD / m3	-	-	-	23	28	26	27	28	29	31	53	94
Increase unit cost waste water	%	-	-	-	-	21%	-6%	4%	4%	4%	4%	6%	5%
Average tariff charged	RSD / m3	-	-	-	27	28	29	31	32	34	36	58	103
Average tariff charged expressed in drinking water	RSD / m3	-	-	-	24	25	26	28	29	31	32	52	92
% of cost recovery - domestic	%	-	-	-	83%	83%	83%	83%	83%	84%	84%	84%	85%
% of cost recovery - institutional users	%	-	-	-	83%	83%	83%	83%	83%	84%	84%	84%	85%
% of cost recovery - business small	%	-	-	-	83%	83%	83%	83%	83%	84%	84%	84%	85%
% of cost recovery - business large	%	-	-	-	125%	125%	125%	125%	125%	125%	125%	126%	127%

Tariff & affordability

Financial year ending	Units	1 2008	2 2009	3 2010	4 2011	5 2012	6 2013	7 2014	8 2015	9 2016	10 2017	20 2027	32 2039
Calculated tariff													
Of waste water delivered to sewerage system													
Domestic	RSD / m3				21.38	25.96	24.34	25.30	26.34	27.34	28.39	49.80	88.45
Institutional users	RSD / m3				21.38	25.96	24.34	25.30	26.34	27.34	28.39	49.80	88.45
Business - small	RSD / m3				21.38	25.96	24.34	25.30	26.34	27.34	28.39	49.80	88.45
Business - large	RSD / m3				32.07	38.93	36.51	37.95	39.51	41.01	42.59	74.70	132.67
					1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Of drinking water invoiced													
Domestic	RSD / m3				19.24	23.36	21.90	22.77	23.71	24.60	25.55	44.82	79.60
Institutional users	RSD / m3				19.24	23.36	21.90	22.77	23.71	24.60	25.55	44.82	79.60
Business - small	RSD / m3				19.24	23.36	21.90	22.77	23.71	24.60	25.55	44.82	79.60
Business - large	RSD / m3												
Proposed tariff													
Of waste water delivered to sewerage system													
Domestic	RSD / m3				22.22	23.33	24.50	25.73	27.01	28.36	29.78	48.51	87.11
Institutional users	RSD / m3				22.22	23.33	24.50	25.73	27.01	28.36	29.78	48.51	87.11
Business - small	RSD / m3				22.22	23.33	24.50	25.73	27.01	28.36	29.78	48.51	87.11
Of drinking water invoiced													
Domestic	RSD / m3				20.00	21.00	22.05	23.15	24.31	25.53	26.80	43.66	78.40
Institutional users	RSD / m3				20.00	21.00	22.05	23.15	24.31	25.53	26.80	43.66	78.40
Business - small	RSD / m3				20.00	21.00	22.05	23.15	24.31	25.53	26.80	43.66	78.40
Business - large	RSD / m3				30.00	31.50	33.08	34.73	36.47	38.29	40.20	65.49	117.60
					1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Tariff increases (nominal)													
Domestic	%					5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Institutional users	%					5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Business - small	%					5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Business - large	%					5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Total revenue with proposed tariff	RSD m				111	118	124	131	138	146	154	263	491
Tariff calculation for extension sewerage services in Vrbas villages													
Cost to cover													
operating costs & depreciation	RSD m	-	8	25	45	47	49	52	54	57	59	99	205
increase in working capital	RSD m	-	-	1	1	2	0	0	0	0	0	0	1
bad debt	RSD m	-	-	0	1	3	3	3	3	3	3	5	10
Interest and fee payment	RSD m	-	-	-	-	-	-	-	-	-	-	-	-
DSCR over depreciation	RSD m												
CAPEX injection	RSD m												
Total Waste Water costs to cover	RSD m	-	8	27	48	53	52	55	57	60	62	105	216
Volume billed (Vrbas town + villages)													
Domestic	'000 m3		1,729	2,097	2,111	2,126	2,136	2,147	2,157	2,168	2,178	2,277	2,390
Institutional users	'000 m3		130	144	151	157	166	174	182	190	198	257	297
Business - small	'000 m3		153	187	197	207	216	226	236	246	256	333	398
Business - large	'000 m3		-	-	1,697	1,697	1,697	1,697	1,697	1,697	1,697	1,697	1,697
Total	'000 m3	-	2,012	2,428	4,156	4,187	4,216	4,244	4,272	4,301	4,330	4,564	4,783
Unit cost of wastewater discharged	RSD / m3		4	11	11	13	12	13	13	14	14	23	45
Unit cost of wastewater of drinking water supplied	RSD / m3		4	10	10	11	11	12	12	12	13	21	41
Increase unit cost water	%			172%	4%	10%	-1%	3%	4%	4%	4%	5%	6%
Average tariff charged	RSD / m3		4	9	14	14	13	13	13	14	14	23	45

Tariff & affordability

Financial year ending	Units	1 2008	2 2009	3 2010	4 2011	5 2012	6 2013	7 2014	8 2015	9 2016	10 2017	20 2027	32 2039
% of cost recovery - domestic	%		93%	93%	69%	73%	78%	83%	88%	92%	97%	100%	100%
% of cost recovery - institutional users	%		93%	93%	69%	73%	78%	83%	88%	92%	97%	100%	100%
% of cost recovery - business small	%		186%	186%	137%	132%	126%	121%	115%	109%	103%	100%	100%
% of cost recovery - business large	%		186%	186%	137%	132%	126%	121%	115%	109%	103%	100%	100%
Calculated tariff													
Of waste water delivered to sewerage system													
Domestic	RSD / m3		3.75	10.21	7.85	9.22	9.72	10.66	11.70	12.80	13.97	22.91	45.19
Institutional users	RSD / m3		3.75	10.21	7.85	9.22	9.72	10.66	11.70	12.80	13.97	22.91	45.19
Business - small	RSD / m3		7.50	20.42	15.71	16.59	15.74	15.55	15.36	15.12	14.85	22.91	45.19
Business - large	RSD / m3		-	-	15.71	16.59	15.74	15.55	15.36	15.12	14.85	22.91	45.19
Of drinking water invoiced			2.00	2.00	2.00	1.80	1.62	1.46	1.31	1.18	1.06	1.00	1.00
Domestic	RSD / m3		3.38	9.19	7.07	8.30	8.75	9.60	10.53	11.52	12.58	20.62	40.67
Institutional users	RSD / m3		3.38	9.19	7.07	8.30	8.75	9.60	10.53	11.52	12.58	20.62	40.67
Business - small	RSD / m3		6.75	18.37	14.14	14.93	14.17	13.99	13.82	13.61	13.37	20.62	40.67
Business - large	RSD / m3												
Proposed tariff													
Of waste water delivered to sewerage system													
Domestic	RSD / m3		3.75	8.11	9.83	10.08	10.25	10.53	11.70	12.80	13.97	22.91	45.19
Institutional users	RSD / m3		3.75	8.11	9.83	10.08	10.25	10.53	11.70	12.80	13.97	22.91	45.19
Business - small	RSD / m3		7.49	16.23	19.67	18.14	16.60	15.36	15.36	15.12	14.85	22.91	45.19
Business - large	RSD / m3		-	-	19.67	18.14	16.60	15.36	15.36	15.12	14.85	22.91	45.19
Of drinking water invoiced			2.00	2.00	2.00	1.80	1.62	1.46	1.31	1.18	1.06	1.00	1.00
Domestic	RSD / m3		3.37	7.30	8.85	9.07	9.22	9.48	10.53	11.52	12.58	20.62	40.67
Institutional users	RSD / m3		3.37	7.30	8.85	9.07	9.22	9.48	10.53	11.52	12.58	20.62	40.67
Business - small	RSD / m3		6.74	14.60	17.70	16.32	14.94	13.82	13.82	13.61	13.37	20.62	40.67
Business - large	RSD / m3				17.70	16.32	14.94	13.82	13.82	13.61	13.37	20.62	40.67
Tariff increases (nominal)													
Domestic	%			116.6%	21.2%	2.5%	1.7%	2.8%	11.1%	9.4%	9.1%	5.0%	6.3%
Institutional users	%			116.6%	21.2%	2.5%	1.7%	2.8%	11.1%	9.4%	9.1%	5.0%	6.3%
Business - small	%			116.6%	21.2%	-7.8%	-8.5%	-7.5%	0.0%	-1.5%	-1.8%	5.0%	6.3%
Business - large	%												
Total revenue with proposed tariff	RSD m	-	8	21	59	58	55	54	57	60	62	105	216
Tariff calculation for existing sewerage services in Vrbas city													
Cost to cover													
operating costs & depreciation	RSD m	19	21	22	29	32	35	38	42	45	49	103	255
increase in working capital	RSD m	(1)	1	(0)	(1)	1	0	0	0	0	0	1	2
bad debt	RSD m	1	2	1	1	2	2	2	2	2	2	5	12
Total Waste Water costs to cover	RSD m	19	23	23	29	34	37	41	44	48	51	108	269
Volume billed (Vrbas town + villages)													
Domestic	'000 m3	1,272	1,729	2,097	2,111	2,126	2,136	2,147	2,157	2,168	2,178	2,277	2,390
Institutional users	'000 m3	102	130	144	151	157	166	174	182	190	198	257	297
Business - small	'000 m3	113	153	187	197	207	216	226	236	246	256	333	398
Business - large	'000 m3	-	-	-	1,697	1,697	1,697	1,697	1,697	1,697	1,697	1,697	1,697
Total	'000 m3	1,487	2,012	2,428	4,156	4,187	4,216	4,244	4,272	4,301	4,330	4,564	4,783

Tariff & affordability

Financial year ending	Units	1 2008	2 2009	3 2010	4 2011	5 2012	6 2013	7 2014	8 2015	9 2016	10 2017	20 2027	32 2039
Unit cost of wastewater	RSD / m3	13	11	9	7	8	9	10	10	11	12	24	56
Unit cost of wastewater of drinking water supplied	RSD / m3	12	10	9	6	7	8	9	9	10	11	21	51
Increase unit cost water	%		-12%	-17%	-26%	17%	7%	9%	8%	7%	7%	7%	7%
Average tariff charged	RSD / m3	15	11	8	9	9	9	9	10	11	12	24	56
% of cost recovery - domestic	%	93%	93%	93%	69%	73%	78%	83%	88%	92%	97%	100%	100%
% of cost recovery - institutional users	%	93%	93%	93%	69%	73%	78%	83%	88%	92%	97%	100%	100%
% of cost recovery - business small	%	186%	186%	186%	137%	132%	126%	121%	115%	109%	103%	100%	100%
% of cost recovery - business large	%	186%	186%	186%	137%	132%	126%	121%	115%	109%	103%	100%	100%
Calculated tariff													
Of waste water delivered to sewerage system													
Domestic	RSD / m3	12.10	10.67	8.81	4.82	6.03	6.87	7.93	9.09	10.27	11.54	23.77	56.18
Institutional users	RSD / m3	12.10	10.67	8.81	4.82	6.03	6.87	7.93	9.09	10.27	11.54	23.77	56.18
Business - small	RSD / m3	24.19	21.33	17.62	9.64	10.85	11.14	11.56	11.93	12.13	12.27	23.77	56.18
Business - large	RSD / m3	-	-	-	9.64	10.85	11.14	11.56	11.93	12.13	12.27	23.77	56.18
		2.00	2.00	2.00	2.00	1.80	1.62	1.46	1.31	1.18	1.06	1.00	1.00
Of drinking water invoiced													
Domestic	RSD / m3	10.89	9.60	7.93	4.34	5.42	6.19	7.14	8.18	9.24	10.39	21.40	50.57
Institutional users	RSD / m3	10.89	9.60	7.93	4.34	5.42	6.19	7.14	8.18	9.24	10.39	21.40	50.57
Business - small	RSD / m3	21.78	19.20	15.85	8.68	9.76	10.02	10.41	10.74	10.91	11.04	21.40	50.57
Business - large	RSD / m3												
Proposed tariff													
Of waste water delivered to sewerage system													
Domestic	RSD / m3	13.71	10.65	7.00	6.04	6.59	7.25	7.84	9.09	10.27	11.54	23.77	56.18
Institutional users	RSD / m3	13.71	10.65	7.00	6.04	6.59	7.25	7.84	9.09	10.27	11.54	23.77	56.18
Business - small	RSD / m3	27.42	21.30	14.00	12.07	11.86	11.74	11.43	11.93	12.13	12.27	23.77	56.18
Business - large	RSD / m3	-	-	-	12.07	11.86	11.74	11.43	11.93	12.13	12.27	23.77	56.18
		2.00	2.00	2.00	2.00	1.80	1.62	1.46	1.31	1.18	1.06	1.00	1.00
Of drinking water invoiced													
Domestic	RSD / m3	12.34	9.58	6.30	5.43	5.93	6.52	7.05	8.18	9.24	10.39	21.40	50.57
Institutional users	RSD / m3	12.34	9.58	6.30	5.43	5.93	6.52	7.05	8.18	9.24	10.39	21.40	50.57
Business - small	RSD / m3	24.68	19.17	12.60	10.86	10.67	10.57	10.28	10.74	10.91	11.04	21.40	50.57
Business - large	RSD / m3				10.86	10.67	10.57	10.28	10.74	10.91	11.04	21.40	50.57
Tariff increases (nominal)													
Domestic	%	6.2%	-22.3%	-34.3%	-13.8%	9.1%	10.1%	8.1%	16.1%	12.9%	12.4%	7.4%	7.5%
Institutional users	%	6.2%	-22.3%	-34.3%	-13.8%	9.1%	10.1%	8.1%	16.1%	12.9%	12.4%	7.4%	7.5%
Business - small	%	6.2%	-22.3%	-34.3%	-13.8%	-1.8%	-1.0%	-2.7%	4.4%	1.6%	1.2%	7.4%	7.5%
Business - large	%												
Total revenue with proposed tariff	RSD m	22	23	18	37	38	39	40	44	48	51	108	269
Tariff calculation for all sewerage services in Vrbas city and village													
Cost to cover waste water treatment													
operating costs & depreciation	RSD m	19	29	47	74	79	84	90	96	102	108	202	460
increase in working capital	RSD m	(1)	1	1	1	3	0	0	0	0	0	1	2
bad debt	RSD m	1	2	2	2	5	5	5	5	5	5	10	23
Interest and fee payment	RSD m	-	-	-	-	-	-	-	-	-	-	-	-
DSCR over depreciation	RSD m	-	-	-	-	-	-	-	-	-	-	-	-
CAPEX injection	RSD m	-	-	-	-	-	-	-	-	-	-	-	-
Total Waste Water costs to cover	RSD m	19	31	50	77	87	90	95	101	107	114	213	485

Tariff & affordability

Financial year ending	Units	1 2008	2 2009	3 2010	4 2011	5 2012	6 2013	7 2014	8 2015	9 2016	10 2017	20 2027	32 2039
Volume billed (Vrbas town + villages)													
Domestic	'000 m3	1,272	1,729	2,097	2,111	2,126	2,136	2,147	2,157	2,168	2,178	2,277	2,390
Institutional users	'000 m3	102	130	144	151	157	166	174	182	190	198	257	297
Business - small	'000 m3	113	153	187	197	207	216	226	236	246	256	333	398
Business - large	'000 m3	-	-	-	1,697	1,697	1,697	1,697	1,697	1,697	1,697	1,697	1,697
Total	'000 m3	1,487	2,012	2,428	4,156	4,187	4,216	4,244	4,272	4,301	4,330	4,564	4,783
Unit cost of wastewater	RSD / m3	13	16	20	18	21	21	22	24	25	26	47	101
Unit cost of wastewater of drinking water supplied	RSD / m3	12	14	18	17	19	19	20	21	22	24	42	91
Average tariff charged wastewater	RSD / m3	15	15	16	23	23	22	22	24	25	26	47	101
Average tariff charged expressed as drinking water	RSD / m3	13	14	15	21	20	20	20	21	22	24	42	91
% of cost recovery - domestic	%	93%	93%	93%	69%	73%	78%	83%	88%	92%	97%	100%	100%
% of cost recovery - institutional users	%	93%	93%	93%	69%	73%	78%	83%	88%	92%	97%	100%	100%
% of cost recovery - business small	%	186%	186%	186%	137%	132%	126%	121%	115%	109%	103%	100%	100%
% of cost recovery - business large	%	186%	186%	186%	137%	132%	126%	121%	115%	109%	103%	100%	100%
Calculated tariff													
Of waste water delivered to sewerage system													
Domestic	RSD / m3	12.10	14.41	16.92	14.65	16.10	17.12	18.47	20.80	23.07	25.52	46.68	101.37
Institutional users	RSD / m3	12.10	14.41	16.92	14.65	16.10	17.12	18.47	20.80	23.07	25.52	46.68	101.37
Business - small	RSD / m3	24.19	28.83	33.84	29.31	28.98	27.74	26.92	27.29	27.25	27.12	46.68	101.37
Business - large	RSD / m3	-	-	-	29.31	28.98	27.74	26.92	27.29	27.25	27.12	46.68	101.37
		2.00	2.00	2.00	2.00	1.80	1.62	1.46	1.31	1.18	1.06	1.00	1.00
Of drinking water invoiced													
Domestic	RSD / m3	10.89	12.98	17.11	11.41	13.72	14.93	16.74	18.72	20.77	22.96	42.02	91.23
Institutional users	RSD / m3	10.89	12.98	17.11	11.41	13.72	14.93	16.74	18.72	20.77	22.96	42.02	91.23
Business - small	RSD / m3	21.78	25.95	34.23	22.81	24.69	24.19	24.40	24.56	24.52	24.41	42.02	91.23
Business - large	RSD / m3	-	-	-	-	-	-	-	-	-	-	-	-
Proposed tariff													
Of waste water delivered to sewerage system													
Domestic	RSD / m3	13.71	14.39	15.11	15.87	16.66	17.50	18.37	20.80	23.07	25.52	46.68	101.37
Institutional users	RSD / m3	13.71	14.39	15.11	15.87	16.66	17.50	18.37	20.80	23.07	25.52	46.68	101.37
Business - small	RSD / m3	27.42	28.79	30.23	31.74	29.99	28.34	26.78	27.29	27.25	27.12	46.68	101.37
Business - large	RSD / m3	-	-	-	31.74	29.99	28.34	26.78	27.29	27.25	27.12	46.68	101.37
		2.00	2.00	2.00	2.00	1.80	1.62	1.46	1.31	1.18	1.06	1.00	1.00
Of drinking water invoiced													
Domestic	RSD / m3	12.34	12.95	13.60	14.28	15.00	15.75	16.53	18.72	20.77	22.96	42.02	91.23
Institutional users	RSD / m3	12.34	12.95	13.60	14.28	15.00	15.75	16.53	18.72	20.77	22.96	42.02	91.23
Business - small	RSD / m3	24.68	25.91	27.20	28.56	26.99	25.51	24.11	24.56	24.52	24.41	42.02	91.23
Business - large	RSD / m3	-	-	-	28.56	26.99	25.51	24.11	24.56	24.52	24.41	42.02	91.23
Tariff increases (nominal)													
Domestic	%	6.2%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	13.2%	10.9%	10.6%	6.2%	7.0%
Institutional users	%	6.2%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	13.2%	10.9%	10.6%	6.2%	7.0%
Business - small	%	6.2%	5.0%	5.0%	5.0%	-5.5%	-5.5%	-5.5%	1.9%	-0.1%	-0.5%	6.2%	7.0%
Business - large	%												
Total revenue with proposed tariff	RSD m	22	31	40	96	95	95	94	101	107	114	213	485

Profit and Loss - RSD (millions)												
Financial year ending	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2027	2039
Revenue												
Drinking water	69	74	79	84	97	107	116	125	135	144	300	729
Sewerage service	22	31	40	96	95	95	94	101	107	114	213	485
Waste water treatment	-	-	-	111	118	124	131	138	146	154	263	491
Other	-	-	-	-	-	-	-	-	-	-	-	-
Subsidies	-	-	-	-	-	-	-	-	-	-	-	-
Total	91	105	119	292	310	326	341	365	388	412	775	1,705
Expenditure												
Variable costs	14	17	21	60	66	72	78	84	91	98	207	511
Chemicals	1	1	1	4	5	5	5	6	6	6	11	21
Electricity	11	13	18	34	39	43	47	52	57	62	145	392
Fuel & lubricant	3	3	3	3	3	4	4	4	4	4	8	15
Sludge transport	-	-	-	4	4	4	5	5	6	6	12	27
Effluent discharge fee	-	-	-	14	15	16	16	17	18	19	31	57
Fixed costs	64	71	81	129	140	152	165	180	193	207	418	991
Wages and Salaries	27	30	34	47	52	57	63	70	75	82	179	458
Employee benefits	5	6	6	9	10	11	12	13	14	15	34	87
Other materials	4	4	4	4	4	4	5	5	5	5	9	16
Transport services	0	0	0	0	0	0	0	0	0	0	0	0
Repair services	13	15	19	39	41	44	47	50	53	56	98	192
Other services	3	3	4	9	9	10	10	11	12	12	22	43
Taxes and fees	-	-	-	-	-	-	-	-	-	-	-	-
Other costs	-	-	-	-	-	-	-	-	-	-	-	-
Overhead costs	12	13	14	21	23	26	28	31	33	36	77	196
Operating costs	78	88	103	189	206	224	243	264	283	305	626	1,502
Depreciation	6	11	19	76	76	77	78	78	79	79	113	122
Bad debt	7	5	6	15	15	16	17	18	19	21	39	85
Total costs	91	104	128	280	298	317	338	360	382	404	777	1,709
Net Operating Income	0	2	(9)	12	12	8	3	5	6	8	(2)	(5)
Interest charges	-	-	-	-	-	-	-	-	-	-	-	-
FX loss (gain)	-	-	-	-	-	-	-	-	-	-	-	-
Net Income before Tax	0	2	(9)	12	12	8	3	5	6	8	(2)	(5)
Income tax	-	0	-	0	1	1	0	0	1	1	-	-
Net Income after Tax	0	1	(9)	12	11	8	3	4	6	7	(2)	(5)

Profit and Loss - EURO (millions)

Financial year ending	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2027	2039
Revenue													
Drinking water	0.8	0.8	0.9	0.9	0.9	1.1	1.2	1.2	1.3	1.4	1.5	2.6	5.4
Sewerage service	0.2	0.3	0.4	0.4	1.1	1.0	1.0	1.0	1.1	1.1	1.2	1.9	3.6
Waste water treatment	-	-	-	-	1.2	1.3	1.3	1.4	1.5	1.5	1.6	2.3	3.6
Other	-	-	-	-	-	-	-	-	-	-	-	-	-
Subsidies	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	0.9	1.1	1.2	1.3	3.3	3.4	3.5	3.6	3.8	4.0	4.2	6.8	12.6
Expenditure													
Variable costs	0.2	0.2	0.2	0.2	0.7	0.7	0.8	0.8	0.9	0.9	1.0	1.8	3.8
Chemicals	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Electricity	0.1	0.1	0.2	0.2	0.4	0.4	0.5	0.5	0.5	0.6	0.6	1.3	2.9
Fuel & lubricant	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Sludge transport	-	-	-	-	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2
Effluent discharge fee	-	-	-	-	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4
Fixed costs	0.7	0.7	0.8	0.9	1.4	1.5	1.6	1.8	1.9	2.0	2.1	3.7	7.3
Wages and Salaries	0.3	0.3	0.3	0.4	0.5	0.6	0.6	0.7	0.7	0.8	0.8	1.6	3.4
Employee benefits	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.6
Other materials	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
Transport services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Repair services	0.1	0.2	0.2	0.2	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.9	1.4
Other services	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3
Taxes and fees	-	-	-	-	-	-	-	-	-	-	-	-	-
Other costs	-	-	-	-	-	-	-	-	-	-	-	-	-
Overhead costs	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.7	1.4
Operating costs	0.8	0.9	1.0	1.2	2.1	2.3	2.4	2.6	2.8	2.9	3.1	5.5	11.1
Depreciation	0.0	0.1	0.1	0.2	0.9	0.8	0.8	0.8	0.8	0.8	0.8	1.0	0.9
Bad debt	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.6
Total costs	1.0	1.1	1.2	1.4	3.1	3.3	3.4	3.6	3.8	4.0	4.1	6.9	12.6
Net Operating Income	(0.0)	0.0	0.0	(0.1)	0.1	0.1	0.1	0.0	0.0	0.1	0.1	(0.0)	(0.0)
Interest charges	-	-	-	-	-	-	-	-	-	-	-	-	-
FX loss (gain)	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Income before Tax	(0.0)	0.0	0.0	(0.1)	0.1	0.1	0.1	0.0	0.0	0.1	0.1	(0.0)	(0.0)
Income tax	-	-	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Net Income after Tax	(0.0)	0.0	0.0	(0.1)	0.1	0.1	0.1	0.0	0.0	0.1	0.1	(0.0)	(0.0)

Balance Sheet - RSD (millions)

Financial year ending	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2027	2039
Fixed assets	379	1,358	2,346	2,274	2,209	2,145	2,079	2,010	1,941	1,871	2,071	861
Current assets												
Inventories	0	1	1	1	1	1	1	2	2	2	4	8
Receivables	24	23	21	44	47	51	54	57	61	64	124	273
Cash	4	15	24	92	166	236	304	376	450	526	419	1,561
Total	28	38	45	137	214	288	359	435	513	592	546	1,842
Non-operating	-	-	-	-	-	-	-	-	-	-	-	-
Total assets	408	1,396	2,391	2,410	2,423	2,434	2,438	2,445	2,453	2,463	2,617	2,704
Equity bf	185	395	1,382	2,376	2,388	2,400	2,408	2,411	2,416	2,422	2,556	2,564
Retained earnings	0	2	(9)	12	12	8	3	5	6	8	(2)	(5)
Grants	209	986	1,003	-	-	-	-	-	-	-	-	-
Equity cf	395	1,382	2,376	2,388	2,400	2,408	2,411	2,416	2,422	2,430	2,555	2,560
Long term liabilities												
Equity	395	1,382	2,376	2,388	2,400	2,408	2,411	2,416	2,422	2,430	2,555	2,560
Long-term liabilities	5	5	5	5	5	5	5	5	5	5	5	5
Total	400	1,387	2,381	2,393	2,405	2,413	2,416	2,421	2,427	2,435	2,560	2,565
Current liabilities												
Payables	8	9	10	17	19	20	22	24	26	28	57	139
Overdraft	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-
Total	8	9	10	17	19	20	22	24	26	28	57	139
Non-operating	-	-	-	-	-	-	-	-	-	-	-	-
Total liabilities	408	1,396	2,391	2,410	2,423	2,434	2,438	2,445	2,453	2,463	2,617	2,704
Key ratios												
Current ratio	3.6	4.4	4.6	8.0	11.4	14.2	16.3	18.1	19.9	21.3	9.5	13.2
Leverage	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Balance Sheet - EURO (millions)

Financial year ending	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2027	2039
Fixed assets	2.1	4.5	15.7	26.5	25.3	24.3	23.2	22.2	21.1	20.1	19.1	18.3	6.4
	2.1	4.5	15.7	26.5	25.3	24.3	23.2	22.2	21.1	20.1	19.1	18.3	6.4
Current assets													
Inventories	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Receivables	0.3	0.3	0.3	0.2	0.5	0.5	0.5	0.6	0.6	0.6	0.7	1.1	2.0
Cash	0.0	0.0	0.2	0.3	1.0	1.8	2.6	3.2	4.0	4.7	5.4	3.7	11.5
Total	0.3	0.3	0.4	0.5	1.5	2.4	3.1	3.8	4.6	5.3	6.0	4.8	13.6
	0.3	0.3	0.4	0.5	1.5	2.4	3.1	3.8	4.6	5.3	6.0	4.8	13.6
Non-operating	-	-	-	-	-	-	-	-	-	-	-	-	-
Total assets	2.4	4.8	16.1	27.0	26.9	26.6	26.4	26.0	25.7	25.4	25.2	23.1	20.0
Equity bf	0.9	2.2	4.6	15.6	26.5	26.2	26.0	25.7	25.4	25.0	24.7	22.5	19.0
Retained earnings	(0.0)	0.0	0.0	(0.1)	0.1	0.1	0.1	0.0	0.0	0.1	0.1	(0.0)	(0.0)
Grants	1.4	2.5	11.4	11.4	-	-	-	-	-	-	-	-	-
Equity cf	2.2	4.6	15.9	26.9	26.6	26.4	26.1	25.7	25.4	25.1	24.8	22.5	18.9
Long term liabilities	2.2	4.6	15.9	26.9	26.6	26.4	26.1	25.7	25.4	25.1	24.8	22.5	18.9
Equity	2.2	4.6	15.9	26.9	26.6	26.4	26.1	25.7	25.4	25.1	24.8	22.5	18.9
Long-term liabilities	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
Total	2.3	4.7	16.0	26.9	26.7	26.4	26.1	25.8	25.5	25.2	24.9	22.6	19.0
Current liabilities													
Payables	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.5	1.0
Overdraft	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.5	1.0
Non-operating	-	-	-	-	-	-	-	-	-	-	-	-	-
Total liabilities	2.4	4.8	16.1	27.0	26.9	26.6	26.4	26.0	25.7	25.4	25.2	23.1	20.0
Key ratios													
Current ratio	2.4	3.6	4.4	4.6	8.0	11.4	14.2	16.3	18.1	19.9	21.3	9.5	13.2
Leverage	2.6%	1.3%	0.4%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%

Cash Flow - RSD (millions)

Financial year ending	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2024	2025	2026	2027	2039
Cash bf	2	4	15	24	92	166	236	304	376	450	1,022	1,054	236	325	1,473
Overdraft bf	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net cash bf	2	4	15	24	92	166	236	304	376	450	1,022	1,054	236	325	1,473
Revenue															
Water sales	69	74	79	84	97	107	116	125	135	144	241	259	278	300	729
Sewerage service	22	31	40	96	95	95	94	101	107	114	175	187	200	213	485
Waste water treatment	-	-	-	111	118	124	131	138	146	154	225	237	249	263	491
Less bad debt	(7)	(5)	(6)	(15)	(15)	(16)	(17)	(18)	(19)	(21)	(32)	(34)	(36)	(39)	(85)
Total	84	100	113	277	294	309	324	347	369	392	608	649	691	736	1,619
Costs															
Variable costs	14	17	21	60	66	72	78	84	91	98	166	179	192	207	511
Chemicals	1	1	1	4	5	5	5	6	6	6	9	10	10	11	21
Electricity	11	13	18	34	39	43	47	52	57	62	113	123	134	145	392
Fuel & lubricant	3	3	3	3	3	4	4	4	4	4	7	7	8	8	15
Sludge transport	-	-	-	4	4	4	5	5	6	6	10	10	11	12	27
Effluent discharge fee	-	-	-	14	15	16	16	17	18	19	27	28	30	31	57
Fixed costs	64	71	81	129	140	152	165	180	193	207	338	363	390	418	991
Wages and Salaries	27	30	34	47	52	57	63	70	75	82	141	153	165	179	458
Employee benefits	5	6	6	9	10	11	12	13	14	15	27	29	31	34	87
Other materials	4	4	4	4	4	4	5	5	5	5	8	8	8	9	16
Transport services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Repair services	13	15	19	39	41	44	47	50	53	56	83	87	92	98	192
Other services	3	3	4	9	9	10	10	11	12	12	18	19	21	22	43
Taxes and fees	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other costs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Overhead costs	12	13	14	21	23	26	28	31	33	36	61	66	72	77	196
Total	78	88	103	189	206	224	243	264	283	305	504	542	582	626	1,502
Working capital required	(2)	2	3	(16)	(2)	(2)	(2)	(2)	(2)	(2)	(3)	(3)	(8)	(4)	(9)
Operating cash flow	4	15	13	72	86	84	79	81	83	85	101	104	101	107	109
Capex subsidy	209	15	12	-	-	-	-	-	-	-	-	-	-	-	-
Capex	209	986	1,003	-	-	-	-	-	-	-	58	910	-	-	-
Discretionary capex	2	4	4	4	12	13	11	9	10	10	12	12	13	13	20
Investment cash flow	2	974	995	4	12	13	11	9	10	10	69	922	13	13	20
Credit / overdraft interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Debt drawdown	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Grants	-	971	991	-	-	-	-	-	-	-	-	-	-	-	-
Financing cash flow	-	971	991	-	-	-	-	-	-	-	-	-	-	-	-
Cash for debt service	2	11	9	68	74	71	68	72	74	75	32	(818)	89	94	88
Capital repayment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest and fee payment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total debt service	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net change in cash	2	11	9	68	74	71	68	72	74	75	32	(818)	89	94	88
Cash cf	4	15	24	92	166	236	304	376	450	526	1,054	236	325	419	1,561
Overdraft cf	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net cash cf	4	15	24	92	166	236	304	376	450	526	1,054	236	325	419	1,561

Cash Flow - EURO (millions)

Financial year ending	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2024	2025	2026	2027	2039
Cash bf	0.0	0.0	0.2	0.3	1.0	1.8	2.5	3.2	3.9	4.6	9.4	9.6	2.1	2.9	10.9
Overdraft bf	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net cash bf	0.0	0.0	0.2	0.3	1.0	1.8	2.5	3.2	3.9	4.6	9.4	9.6	2.1	2.9	10.9
Revenue															
Water sales	0.8	0.9	0.9	0.9	1.1	1.2	1.2	1.3	1.4	1.5	2.2	2.4	2.5	2.6	5.4
Sewerage service	0.3	0.4	0.4	1.1	1.0	1.0	1.0	1.1	1.1	1.2	1.6	1.7	1.8	1.9	3.6
Waste water treatment	-	-	-	1.2	1.3	1.3	1.4	1.5	1.5	1.6	2.1	2.1	2.2	2.3	3.6
Less bad debt	(0.1)	(0.1)	(0.1)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.3)	(0.3)	(0.3)	(0.3)	(0.6)
Total	1.0	1.2	1.3	3.1	3.2	3.4	3.5	3.6	3.8	4.0	5.6	5.9	6.2	6.5	12.0
Costs															
Variable costs	0.2	0.2	0.2	0.7	0.7	0.8	0.8	0.9	0.9	1.0	1.5	1.6	1.7	1.8	3.8
Chemicals	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Electricity	0.1	0.2	0.2	0.4	0.4	0.5	0.5	0.5	0.6	0.6	1.0	1.1	1.2	1.3	2.9
Fuel & lubricant	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Sludge transport	-	-	-	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Effluent discharge fee	-	-	-	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4
Fixed costs	0.7	0.8	0.9	1.4	1.5	1.6	1.8	1.9	2.0	2.1	3.1	3.3	3.5	3.7	7.3
Wages and Salaries	0.3	0.3	0.4	0.5	0.6	0.6	0.7	0.7	0.8	0.8	1.3	1.4	1.5	1.6	3.4
Employee benefits	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.6
Other materials	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Transport services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Repair services	0.2	0.2	0.2	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.8	0.8	0.8	0.9	1.4
Other services	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3
Taxes and fees	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other costs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Overhead costs	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.6	0.6	0.6	0.7	1.4
Total	0.9	1.0	1.2	2.1	2.3	2.4	2.6	2.8	2.9	3.1	4.6	4.9	5.2	5.5	11.1
Working capital required	(0.0)	0.0	0.0	(0.2)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.1)	(0.0)	(0.1)
Operating cash flow	0.0	0.2	0.1	0.8	0.9	0.9	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8
Capex subsidy	2.5	0.2	0.1	-	-	-	-	-	-	-	-	-	-	-	-
Capex	2.5	11.4	11.4	-	-	-	-	-	-	-	0.5	8.3	-	-	-
Discretionary capex	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Investment cash flow	0.0	11.2	11.3	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.6	8.4	0.1	0.1	0.1
Credit / overdraft interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Debt drawdown	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Grants	-	11.2	11.2	-	-	-	-	-	-	-	-	-	-	-	-
Financing cash flow	-	11.2	11.2	-	-	-	-	-	-	-	-	-	-	-	-
Cash available for debt service	0.0	0.1	0.1	0.8	0.8	0.8	0.7	0.8	0.8	0.8	0.3	(7.4)	0.8	0.8	0.7
Capital repayment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest and fee payment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total debt service	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net change in cash	0.0	0.1	0.1	0.8	0.8	0.8	0.7	0.8	0.8	0.8	0.3	(7.4)	0.8	0.8	0.7
Cash cf	0.0	0.2	0.3	1.0	1.8	2.6	3.2	4.0	4.7	5.4	9.7	2.1	2.9	3.7	11.5
Overdraft cf	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net cash cf	0.0	0.2	0.3	1.0	1.8	2.6	3.2	4.0	4.7	5.4	9.7	2.1	2.9	3.7	11.5

Financial and economic cost benefit analysis

		1	2	3	4	5	6	7	8	9	10	17	18	19	20	32
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2024	2025	2026	2027	2039
Incremental demand analysis																
Without project																
domestic	000 m3/y	1,008	1,199	1,213	1,226	1,240	1,249	1,259	1,268	1,278	1,288	1,353	1,361	1,369	1,377	1,480
institutional users	000 m3/y	96	118	123	128	133	140	147	155	162	169	212	214	216	218	247
Industry -small	000 m3/y	96	118	123	128	133	140	147	155	162	169	212	214	216	218	247
industry - big	000 m3/y															
Total without project	000 m3/y	1,200	1,435	1,459	1,482	1,506	1,530	1,553	1,578	1,602	1,626	1,776	1,789	1,802	1,814	1,973
With project																
domestic	000 m3/y	1,272	1,729	2,097	2,111	2,126	2,136	2,147	2,157	2,168	2,178	2,250	2,259	2,268	2,277	2,390
institutional users	000 m3/y	102	130	144	151	157	166	174	182	190	198	247	250	253	257	297
Industry -small	000 m3/y	113	153	187	197	207	216	226	236	246	256	317	323	328	333	398
industry - big	000 m3/y	-	-	-	1,697	1,697	1,697	1,697	1,697	1,697	1,697	1,697	1,697	1,697	1,697	1,697
Total with project	000 m3/y	1,487	2,012	2,428	4,156	4,187	4,216	4,244	4,272	4,301	4,330	4,511	4,529	4,546	4,564	4,783
Incremental demand																
domestic	000 m3/y	265	530	884	885	886	887	888	889	890	891	897	898	899	899	910
institutional users	000 m3/y	5	12	21	23	25	25	26	27	28	29	35	36	37	38	51
Industry -small	000 m3/y	16	35	64	69	74	76	79	81	84	87	106	109	112	115	152
industry - big	000 m3/y	-	-	-	1,697	1,697	1,697	1,697	1,697	1,697	1,697	1,697	1,697	1,697	1,697	1,697
Total incremental demand	000 m3/y	286	577	969	2,674	2,682	2,686	2,690	2,695	2,699	2,703	2,735	2,740	2,745	2,750	2,810
Revenues																
Sewage existing	RSD m	18	22	24	26	27	28	30	34	38	42	69	74	79	85	200
Sewage incremental	RSD m	4	9	16	70	68	66	64	68	70	72	106	113	121	128	285
Total revenues	RSD m	22	31	40	96	95	95	94	101	107	114	175	187	200	213	485
Incremental revenues																
Sewerage	€ 000	49	102	177	786	750	718	687	711	722	734	976	1,029	1,080	1,132	2,105
Waste water treatment	€ 000	-	-	-	1,240	1,291	1,344	1,398	1,454	1,513	1,575	2,070	2,149	2,231	2,315	3,626
Total incremental revenues	€ 000	49	102	177	2,025	2,042	2,062	2,085	2,165	2,236	2,309	3,046	3,178	3,312	3,447	5,731
Financial internal rate of return of the total investment																
Sewage collection	€ 000	49	102	177	786	750	718	687	711	722	734	976	1,029	1,080	1,132	2,105
Waste water treatment	€ 000	-	-	-	1,240	1,291	1,344	1,398	1,454	1,513	1,575	2,070	2,149	2,231	2,315	3,626
Residual value	€ 000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8,600
Incremental revenues	€ 000	49	102	177	2,025	2,042	2,062	2,085	2,165	2,236	2,309	3,046	3,178	3,312	3,447	14,331
Sewage collection	€ 000	-	49	150	309	333	353	375	401	424	449	673	714	756	801	1,624
Waste water treatment	€ 000	-	-	-	740	788	834	881	932	979	1,029	1,460	1,535	1,614	1,697	3,140
Incremental operational costs	€ 000	-	49	150	1,049	1,122	1,187	1,256	1,333	1,404	1,479	2,134	2,249	2,371	2,498	4,763
Sewage collection	€ 000	2,341	4,770	4,770												
Waste water treatment plant	€ 000	-	5,906	5,886												
Supervision	€ 000	122	695	695												
Subtotal investment costs	€ 000	2,462	11,371	11,351	-	-	-	-	-	-	-	-	-	-	-	-
Re-investment costs	€ 000	-	-	-	-	-	-	-	-	-	-	531	8,263	-	-	-
Incremental investment costs	€ 000	2,462	11,371	11,351	-	-	-	-	-	-	-	531	8,263	-	-	-
Net cash flow	€ 000	(2,413)	(11,318)	(11,324)	977	920	875	829	832	832	830	382	(7,334)	941	950	9,568
Cumulative cash flow	€ 000	(2,413)	(13,732)	(25,056)	(24,079)	(23,159)	(22,284)	(21,456)	(20,623)	(19,791)	(18,961)	(13,377)	(20,710)	(19,769)	(18,820)	1,530
Discount rate (nominal)	%		8.0%													
FNPI/C	€ 000		(14,444)													
FRR/C	%		0.3%													

Financial and economic cost benefit analysis

	1	2	3	4	5	6	7	8	9	10	17	18	19	20	32
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2024	2025	2026	2027	2039
Modified formula															
NPV incremental revenues															
Sewage collection	€ 000	8,556													
Waste water treatment	€ 000	16,337													
Residual value	€ 000	733													
Subtotal incremental revenues	€ 000	25,626													
NPV incremental operational costs															
Sewage collection	€ 000	5,403													
Waste water treatment	€ 000	11,417													
Re-investment	€ 000	2,211													
Subtotal incremental operational costs	€ 000	19,031													
Discounted net revenues (DNR)	€ 000	6,595													
NPV investment costs (DIC)															
Sewage collection	€ 000	10,043													
Waste water treatment plant	€ 000	9,736													
Supervision	€ 000	1,260													
Subtotal investment costs (DIC)	€ 000	21,039													
Grant rate, calculated DIC/(DIC+DNR)	%	76.1%													
Grant rate, applied (max 75%)	%	75.0%													
Eligible investment cost (current prices)	€ 000	24,747													
EU grant (maximum)	€ 000	18,560													
New definition SF/CF															
Step 1: funding gap rate															
Discounted net revenues (DNR)	€ 000	6,595													
Discounted investment costs (DIC)	€ 000	21,039													
Eligible expenditure EE (DCI-DNR)	€ 000	14,444													
Funding gap rate R (EE/DIC)	%	68.7%													
Step 2: decision amount															
Eligible investment costs EC (current prices)	€ 000	24,747													
Decision amount DA (R x EC)	€ 000	16,990													
Step 3: maximum EU grant															
Maximum co-funding rate Crpa	%	75%													
EU grant (maximum)	€ 000	12,742													
Financial sustainability															
Total financial sources	2,462	11,371	11,351	-	-	-	-	-	-	-	-	-	-	-	-
Revenues	49	102	177	2,025	2,042	2,062	2,085	2,165	2,236	2,309	3,046	3,178	3,312	3,447	5,731
Total inflows	2,511	11,473	11,528	2,025	2,042	2,062	2,085	2,165	2,236	2,309	3,046	3,178	3,312	3,447	5,731
Total operating costs	-	49	150	1,049	1,122	1,187	1,256	1,333	1,404	1,479	2,134	2,249	2,371	2,498	4,763
Total investment costs	2,462	11,371	11,351	-	-	-	-	-	-	-	531	8,263	-	-	-
Interest on loans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Retirement bonus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Loan principal repayment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Taxes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total outflows	2,462	11,420	11,501	1,049	1,122	1,187	1,256	1,333	1,404	1,479	2,664	10,512	2,371	2,498	4,763
Total cash flow	49	53	27	977	920	875	829	832	832	830	382	(7,334)	941	950	968
Cumulative cash flow	49	102	128	1,105	2,025	2,900	3,728	4,561	5,393	6,223	11,807	4,474	5,415	6,364	18,114

Financial and economic cost benefit analysis

	1	2	3	4	5	6	7	8	9	10	17	18	19	20	32
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2024	2025	2026	2027	2039
Financial internal rate on invested capital															
Revenues	49	102	177	2,025	2,042	2,062	2,085	2,165	2,236	2,309	3,046	3,178	3,312	3,447	5,731
Residual value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8,600
Total revenues	49	102	177	2,025	2,042	2,062	2,085	2,165	2,236	2,309	3,046	3,178	3,312	3,447	14,331
Total operating costs	-	49	150	1,049	1,122	1,187	1,256	1,333	1,404	1,479	2,134	2,249	2,371	2,498	4,763
Re-investment financed from internal cash flow	-	-	-	-	-	-	-	-	-	-	531	8,263	-	-	-
Interest on loans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Retirement bonus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Loan principal repayment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Private equity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total national public contribution	2,462	2,091	2,071	-	-	-	-	-	-	-	-	-	-	-	-
Total expenditures	2,462	2,140	2,221	1,049	1,122	1,187	1,256	1,333	1,404	1,479	2,664	10,512	2,371	2,498	4,763
Net cash flow	(2,413)	(2,038)	(2,044)	977	920	875	829	832	832	830	382	(7,334)	941	950	9,568
Cumulative cash flow	(2,413)	(4,451)	(6,495)	(5,519)	(4,599)	(3,724)	(2,895)	(2,063)	(1,231)	(401)	5,184	(2,150)	(1,209)	(259)	20,090
Discount rate	%	8.0%													
FNPV/K	€ 000	879													
FIRR/K	%	9.4%													
Economic cost benefit analysis	CF	NPV 7.0%													
BOD loading HH, institutions, small business	000 kg			736	745	753	762	770	779	787	843	848	854	859	925
BOD loading large industries	000 kg			764	764	764	764	764	764	764	764	764	764	764	764
BOD loading infiltration	000 kg			39	39	39	39	46	53	60	76	77	77	78	81
Total BOD influent	000 kg			1,539	1,548	1,556	1,565	1,580	1,596	1,611	1,683	1,689	1,695	1,701	1,769
Total BOD abated	000 kg			1,400	1,409	1,416	1,424	1,438	1,452	1,466	1,532	1,537	1,542	1,548	1,610
Total BOD effluent	000 kg			139	139	140	141	142	144	145	152	152	153	153	159
External benefit abated BOD	€000			910	933	957	981	1,011	1,041	1,072	1,287	1,317	1,348	1,380	1,820
correction VAT on investment	362	106	155	155	-	-	-	-	-	-	-	-	-	-	-
Fiscal corrections	362	106	155	155	-	-	-	-	-	-	-	-	-	-	-
Environmental effects of BOD reduction	11,924	-	-	910	933	957	981	1,011	1,041	1,072	1,287	1,317	1,348	1,380	1,820
Prevention of transport costs of septic tanks	12,221	234	480	823	846	870	891	913	935	958	1,162	1,191	1,221	1,251	1,677
External benefits	24,145	234	480	823	1,756	1,803	1,848	1,894	1,946	1,999	2,053	2,449	2,508	2,569	3,498
Revenues	0.97	28,858	47	99	171	1,965	1,981	2,000	2,023	2,100	2,169	2,240	2,955	3,083	13,901
Residual value	0.97	957	-	-	-	-	-	-	-	-	-	-	-	-	8,342
Operational costs	0.97	(19,031)	-	(47)	(145)	(1,018)	(1,088)	(1,151)	(1,219)	(1,293)	(1,362)	(1,434)	(2,070)	(2,181)	(4,620)
Investments, domestic	0.97	(16,841)	(2,283)	(8,713)	(8,694)	-	-	-	-	-	-	-	-	-	-
Investments, imported	1.00	(4,137)	(108)	(2,388)	(2,388)	-	-	-	-	-	-	-	-	-	-
Reinvestment, domestic	0.97	(1,023)	-	-	-	-	-	-	-	-	(206)	(3,237)	-	-	-
Reinvestment, imported	1.00	(1,511)	-	-	-	-	-	-	-	-	(309)	(4,778)	-	-	-
correction unskilled labour during construction	2,320	369	1,169	1,169	-	-	-	-	-	-	-	-	-	-	-
correction unskilled labour during operations	760	-	4	14	33	36	39	42	46	49	82	87	93	99	213
Conversion from market to economic prices	(9,648)	(1,975)	(9,877)	(9,873)	980	928	888	846	853	856	858	452	(7,026)	1,006	17,836
Total cash flow	14,858	(1,635)	(9,241)	(8,895)	2,736	2,731	2,735	2,740	2,799	2,855	2,911	2,901	(4,518)	3,575	21,334
Cumulative cash flow	(1,635)	(10,876)	(19,771)	(17,035)	(14,304)	(11,568)	(8,828)	(6,029)	(3,173)	(262)	21,580	17,062	20,637	24,288	91,176
Discount rate	7.0%														
ENPV	14,858														
EIRR	13.2%														
B/C ratio	1.39														