

Government of Lebanon

Capital Investment Program

- C E D R E -

**Conférence Economique pour le Développement
par les Reformes avec les Entreprises**

APRIL 6, 2018

TRANSPORT SECTOR CAPITAL INVESTMENT PROGRAMME

Ref	Project	Region	Description	Estimated Investment Cost (MUSD)	Estimated Land Expropriation Cost (MUS\$)	Status	Impact	Implementation Cycle
TP1-1	Dbaye - Nahr Ibrahim Motorway (A2) - Phase 1	National	Design and Construction for Development works	247	125	Design partially available		1
TP2-1	Beirut Peripherique - Phase 1	National	Design and Construction for Development works	232	254	Design partially available		1
TP5	Northern Coastal Highway - Akkar	National	Pan Arab Highway - Akkar	150	50	Design available		1
TP10	Bus Rapid Transit System - Greater Beirut Public Transport Project	National	Design and Construction of dedicated routes and Stations in addition to dedicated Bus Routes within Greater Beirut	500		Feasibility & ESIA available		1
TP16	Rehabilitation and Development of Beirut Rafic Hariri Airport - Phase 1	National	Design and Construction of Rehabilitation and Development Works- Includes Various works expected for the development goals of BRHIA	500		Design under preparation		1
TP8/8a	Rehabilitation of classified Roads and Municipal Roads	Multi-Regional	Design and Construction for Road Rehabilitation and Expansion in addition to urban facilities projects within the responsibilities of Municipalities	509		Design available		1
TP6	Toufiqiyeh- Ras Baalbak- Syrian Border Highway	National	Design and construction of 35 km highway from Toufikia connecting to Ras Baalbek and leading to the Syrian border	110	55	Design under preparation		1
TP18-1	Service road for Coastal Highway – Phase 1	National	Providing safe exit roads for cars and passengers from cities and major town. Service road section 1 from Jounieh to Jbeil, and section 2 from Khalde to Damour	38	68	Design under preparation		1
TP19	Feasibility Studies for Major Projects	National	Conducting technical and financial appraisals for projects not included in CIP	25	-	Studies		1
TP1-2	Dbaye - Nahr Ibrahim Motorway (A2) - Phase 2	National	Design and Construction for Development works	330	166	Design partially available		2
TP2-2	Beirut Peripherique - Phase 2	National	Design and Construction for Development works	310	338	Design partially available		2
TP4	Northern Coastal Highway - Beirut Entrance	National	Antelias- Nahr Beirut Seaside Highway	180		No design		2
TP7	Beirut-Damascus Highway Completion	National	Providing a safer and faster road from Beirut through Mount Lebanon and Bekaa Valley to connect to Damascus.	400	100	No design		2
TP9	New and Upgrading of Road Network at multiregional scale	Multi-Regional	Various connections, road rehabilitations and upgrades, parkings, and other infrastructure works	380	50	Design partially available		2
TP11	Tripoli-Syrian Border Railway	National	Design and Construction Works for Railway Tracks. Includes both phases 1 and 2 of the Tripoli-Syrian Border Railway in addition to a rehabilitation of the seaside Railway track across Lebanon to be used for Public Transport	90	0	Design partially available		2
TP12	Touristic Port in Jounieh	National	Design and Construction Works for Touristic Port	62		Design available		2

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TP16a	Rehabilitation and Development of Rene Mouawad Airpot in Akkar	National	Design and Construction of Rehabilitation and Development Works to meet development goals of Rene Mouawad Airport	100		No design		2
TP18-2	Service road for Coastal Highway – Phase 2	National	Providing safe exit roads for cars and passengers from cities and major town. Service road section 1 from Jounieh to Jbeil, and section 2 from Khalde to Damour	112	202	No design		2
TP1-3	Dbaye - Nahr Ibrahim Motorway (A2) - Phase 3	National		247	125	No design		3
TP2-3	Beirut Peripherique - Phase 3	National		232	254	No design		3
TP3	Southern Coastal Highway (Saida Bypass and Sour Link)	National	Completion of a missing 7.5km Link on the Souther Coastal Highway through Saida. South Highway Road- Phase 5 Section 2 - 3 km from Bourj Rahhal-Abbasiya in Sour	450	150	Design partially available		3
TP14	Expansion of Saida Port	National	Design and Construction of Port Extension	60		Design available		3
TP15	Touristic Port in Sour	National	Design and Construction Works for Touristic Port	30		No design		3
TP20	Rehabilitation of Tripoli Port-Phase 2	National		150		No design		3

1	2,311	552
2	1,964	856
3	1,169	529
Total	5,444	1,937
Grand Total	7,381	

WATER SECTOR CAPITAL INVESTMENT PROGRAMME

Ref	Project	Region	Description	Estimated Investment Cost (MUSD)	Estimated Land Expropriation Cost (MUS\$)	Status	Impact	Implementation Cycle
W1	Water supply system for Mseilha Dam.	North/Batroun	Construction of Water Treatment plant, transmission lines, and reservoirs for Mseilha DAM (water supply 6 MCM).	14.5	5	Tender documents available	Enable exploitation of Mseilha Dam. Increase the water supply.	1
W2	Water supply system for Balaa Lake.	North/Batroun	Construction of Water Treatment plant, transmission lines, and reservoirs for Balaa DAM (water supply 1.5 MCM).	10.5	3	Dam under construction. Tender documents for the plant and transmission pipe available	Enable exploitation of Balaa lake. Increase the water supply	1
W3	Hydropower plant for Janneh Dam.	Mount Lebanon/Jbeil	Expansion of the Hydropower plant associated to Janneh DAM (current plan 50MW) to produce additional 100MW (totaling 150MW).	100	-	Dam under construction. Design required for the plant.	Increase power production and reduce deficit in electric power at the national level and specifically for Jbeil and surrounding villages.	1
W3A	Transmission line from Janneh Dam to Greater Beirut	Greater Beirut and Mount Lebanon	Construction of a transmission line from Janneh Dam to Beirut region to provide additional water supply	60	-	Dam under construction. Design required for the transmission pipe	Increase water supply for Beirut and Suburbs	1
W4	Water treatment plant and water supply system for Beqaata Dam.	Mount Lebanon/Metn	Construction of Water Treatment plant, transmission lines, and reservoirs for Beqaata DAM (water supply 6 MCM).	35	2	Dam under construction. Design required for the plant and transmission pipe	Enable exploitation of Beqaata Dam. Increase water supply, reduce deficit and improve hygienic conditions. Conserve and recharge groundwater	1
W5	IRRIGATION - Litani - Conveyor 800 Phase 2 - Irrigation and Water networks	South/Nabatiye	Construction of distribution networks from the Conveyor 800 system for Irrigation and water supply	300	-	The main conveyor under construction; expected to be completed by mid 2018. Irrigation networks downstream conveyor are required	Allows irrigation of 14,000 ha in the region, increase agricultural production and food security, improve social and economic wellbeing and stabilise population. Provides water supply of 20,000m3/day	1
W6	Water supply system for El Bared Dam DAM	North/Akkar	Construction of Water transmission lines and reservoirs from El Bared Dams to the localities served.	20	0.5	Design not available	Enable exploitation of El Bared Dam. Response to Syrian crisis through generated employment.	2
W6A	Water supply system for Chabrouh Dam	Mount Lebanon	Chabrouh Dam System - Networks required: 60km for Kfardebian, 28km for Faraya, and new networks for other villages.	40	2		Increase exploitation of Chabrouh Dam.	1
W7	Water supply system rehabilitation in Beirut area	Greater Beirut	Increasing supply sources, and extension of transmission lines and distribution networks	100	-	-	Reduce the extensive water losses in Greater Beirut network and increase water availability at the national scale.	1
W8	Water Supply Projects for Mount Lebanon	Mount Lebanon / Metn, Chouf, Aley & Kesrouane	Increasing supply sources, and extension of transmission lines and distribution networks	100	-	-	Increase water supply and reduce the significant deficit in Metn.	1

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W8A	Expropriations for Beirut Storage Tanks	Greater Beirut	Expropriations for Hazmieh and Ashrafiieh storage tanks.	-	35	-		1
W9	Qobayat Water Supply Systems, Phase 1	Akkar	Completion, expansion and upgrade of Qobayat water supply networks including construction of 60 wells (number may change depending on available safe yield), 2 intake structures on springs, 13 pump stations and upgrade of 7 existing pump stations, 10 reservoirs, and 100km of pipelines.	51	0.5	Detailed Design is required.	Reduce the significant shortage in water supply in the Region. Response to Syrian crisis through generated employment.	1
W10	Halba Water Supply Systems, Phase 1	Akkar	Expansion and upgrade of Halba water supply networks including construction of 47 wells (number may change depending on available safe yield), 2 intake structures on springs, 1 pump station and upgrade of 8 existing pump stations, 14 reservoirs, 35km of transmission lines and 116km of distribution lines.	92	0.5	Detailed Design is required.	Reduce the significant shortage in water supply in the Region. Response to Syrian crisis through generated employment.	1
W11	Danniyeh Water Supply Systems, Phase 1	North / Meniyeh-Danniyeh	Expansion and upgrade of Danniyeh water supply networks including construction of 22 wells, 2 intake structures on springs, 8 pump stations and upgrade of 7 existing pump stations, 12 reservoirs and 132km of distribution lines.	27	0.5	Detailed Design is required.	Reduce the significant shortage in water supply in the Region. Response to Syrian crisis through generated employment.	1
W12	Minieh Water Supply Systems, Phase 1	North / Meniyeh-Danniyeh	Expansion and upgrade of Minieh water supply networks including construction of 54 wells, 1 intake structure on spring, 2 pump stations, 2 reservoirs and 19km of distribution lines.	12	0.5	Detailed Design is required.	Reduce the significant shortage in water supply in the Region. Response to Syrian crisis through generated employment.	1
W13	Tripoli Water Supply Systems, Phase 1	North / Tripoli	Expansion and upgrade of Tripoli water supply networks including construction of 8 wells, 1 intake structure on springs, 1 pump station, 2 reservoirs and 4km of transmission lines.	25	0.5	Detailed Design is required.	Reduce the shortage in water supply in the Region. Response to Syrian crisis through generated employment.	1
W14	Zgharta Water Supply Systems, Phase 1	North / Zgharta	Expansion and upgrade of Zgharta water supply networks including construction of 26 wells, 22 reservoirs and 108km of pipelines.	24	1	Detailed Design is required.	Reduce the shortage in water supply in the Region. Response to Syrian crisis through generated employment.	1
W15	Bcharre Water Supply Systems, Phase 1	North / Bcharre	Expansion and upgrade of Bcharre water supply networks including construction of 3 intake structures on springs, 50km of distribution lines and 3km of transmission lines.	10	0	Detailed Design is required.	Reduce the shortage in water supply in the Region. Response to Syrian crisis through generated employment.	1
W16	Koura Water Supply Systems, Phase 1	North / Koura	Expansion and upgrade of Koura water supply networks including construction of 26 wells, 6 pump stations, 13 reservoirs 42km of transmission lines and 120km of distribution lines.	55	0.5	Detailed Design is required.	Reduce the shortage in water supply in the Region. Response to Syrian crisis through generated employment.	1

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W17	Batroun Water Supply Systems, Phase 1	North / Batroun	Expansion and upgrade of Batroun water supply networks including construction of 1 well, 1 pump station, 13 reservoirs, 148km of distribution lines and 4km of transmission lines.	25	0.5	Detailed Design is required.	Reduce the shortage in water supply in the Region. Response to Syrian crisis through generated employment.	1
W9-1	Qobayat Water Supply Systems, Phase 2	Akkar	Expansion and upgrade of Qobayat water supply networks including upgrade of 12 existing pump stations, 11 reservoirs, and 7km of pipelines.	5	0.5	Master plan level; subject to change during phase 1	Improve supply to meet demand growth	2
W10-1	Halba Water Supply Systems, Phase 2	Akkar	Expansion and upgrade of Halba water supply networks including construction of 14 wells, 2 intake structures on springs, upgrade of 14 existing pump stations, 17 reservoirs, 0.6km of transmission lines.	7	0.5	Master plan level; subject to change during phase 1	Improve supply to meet demand growth	2
W11-1	Danniyeh Water Supply Systems, Phase 2	North / Meniyeh-Danniyeh	Expansion and upgrade of Danniyeh water supply networks including construction of 3 wells, 11 reservoirs and 30km of pipelines.	7	0.5	Master plan level; subject to change during phase 1	Improve supply to meet demand growth	2
W12-1	Minieh Water Supply Systems, Phase 2	North / Meniyeh-Danniyeh	Expansion and upgrade of Minieh water supply networks including construction of 7 wells, 2 reservoirs and upgrade of 1 pump station.	1	0	Master plan level; subject to change during phase 1	Improve supply to meet demand growth	2
W13-1	Tripoli Water Supply Systems, Phase 2	North / Tripoli	Expansion and upgrade of Tripoli water supply networks including construction of 3 wells, 1 reservoir and 1km of transmission lines.	6	0.5	Master plan level; subject to change during phase 1	Improve supply to meet demand growth	2
W14-1	Zgharta Water Supply Systems, Phase 2	North / Zgharta	Expansion and upgrade of Zgharta water supply networks including construction of 30 wells and 13 reservoirs.	9	1	Master plan level; subject to change during phase 1	Improve supply to meet demand growth	2
W15-1	Bcharre Water Supply Systems, Phase 2	North / Bcharre	Expansion and upgrade of Bcharre water supply networks including construction of 6 pump stations, 6 reservoirs and upgrade of 1 existing pump station.	4	0.5	Master plan level; subject to change during phase 1	Improve supply to meet demand growth	2
W16-1	Koura Water Supply Systems, Phase 2	North / Koura	Expansion and upgrade of Koura water supply networks including construction of 10 wells, 1 pump station, 13 reservoirs and upgrade of 1 pump stations.	10	0.5	Master plan level; subject to change during phase 1	Improve supply to meet demand growth	2
W17-1	Batroun Water Supply Systems, Phase 2	North / Batroun	Expansion and upgrade of Batroun water supply networks including construction of 1 well, 1 pump station and 11 reservoirs.	3	0.5	Master plan level; subject to change during phase 1	Improve supply to meet demand growth	2
W18	Ain El Hawr - Ras El Meil Systems	Baalbek-Hermel / Hermel	Expansion and upgrade of Ain El Hawr (Merjhine), Ras El Meil water supply networks including construction of 21 ground reservoirs, 7 elevated tanks, 2 pump stations, 66km of gravity pipes and 19km of pressure pipes.	18	1	Detailed Design is required.	Reduce the shortage in water supply in the Region. Response to Syrian crisis through generated employment.	1

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W19	Ein El Zarqa	Baalbek-Hermel / Hermel	Expansion and upgrade of Ein El Zarqa water supply networks including construction of 1 pump station and 7km of pipes.	8	1	Detailed Design is required.	Reduce the shortage in water supply in the Region. Response to Syrian crisis through generated employment.	1
W20	Laboue Water Supply System	Baalbek-Hermel / Baalbek	Expansion and upgrade of Laboue water supply system including construction of 5 ground reservoirs, 2 elevated tanks, 8 pump stations, 47km of gravity pipes and 30km of pressure pipes.	17	0.5	Detailed Design is required.	Reduce the shortage in water supply in the Region. Response to Syrian crisis through generated employment.	1
W21	Ouyoun Orghosh Water Supply System	Baalbek-Hermel / Baalbek	Expansion and upgrade of Ouyoun Orghosh water supply system including construction of 6 ground reservoirs and 80km of gravity pipes.	9	0.5	Detailed Design is required.	Reduce the shortage in water supply in the Region. Response to Syrian crisis through generated employment.	1
W22	Younine, Maqne and Nahle water supply systems	Baalbek-Hermel / Baalbek	Expansion and upgrade of Younine, Maqne and Nahle water supply networks including construction of 2 ground reservoirs, 1 well and 20km of pipes.	5	0.5	Detailed Design is required.	Reduce the shortage in water supply in the Region. Response to Syrian crisis through generated employment.	1
W23	Yamoune Water Supply System	Baalbek-Hermel / Baalbek	Expansion and upgrade of Yamoune water supply system including construction of 16 ground reservoirs, 5 elevated tanks, 90km of gravity pipes, 7km of pressure pipes and 4 pump stations.	50	0.5	Detailed Design is required.	Reduce the shortage in water supply in the Region. Response to Syrian crisis through generated employment.	1
W24	Yahfoufa Water Supply System	Baalbek-Hermel Bekaa / Baalbek and Zahle	Expansion and upgrade of Yahfoufa water supply networks including construction of 10 ground reservoirs, 1 elevated tank, 1 pump station, 42km of gravity pipes and 1km of pressure pipes.	12	0.5	Detailed Design is required.	Reduce the shortage in water supply in the Region. Response to Syrian crisis through generated employment.	1
W25	Qaa El Rim System	Bekaa / Zahle	Expansion and upgrade of Qaa el Rim water supply system including construction of 11 ground reservoirs, 1 elevated tank, 2 pump stations, 20km of gravity pipes and 7km of pressure pipes.	28	0.5	Detailed Design is required.	Reduce the shortage in water supply in the Region. Response to Syrian crisis through generated employment.	1
W26	Qab Elias, Jdita and Zebdol Water Supply systems	Bekaa / Zahle	Expansion and upgrade of Qab Elias, Jdita and Zebdol water supply networks including construction of 8 ground reservoirs, 2 pump stations, 16km of gravity pipes and 3km of pressure pipes.	9	0.5	Detailed Design is required.	Reduce the shortage in water supply in the Region. Response to Syrian crisis through generated employment.	1
W27	Aanjar Water Supply System	Bekaa / Zahle	Expansion and upgrade of Aanjar water supply system including construction of 8 ground reservoirs, 1 elevated tank, 2 pump stations, 20km of gravity pipes and 11km of pressure pipes.	24	0.5	Detailed Design is required.	Reduce the shortage in water supply in the Region. Response to Syrian crisis through generated employment.	1
W28	Chamsine Water Supply System	Bekaa / Zahle and West Bekaa	Expansion and upgrade of Chamsine water supply networks including construction of 7 ground reservoirs, 1 pump station, 5km of gravity pipes and 1km of pressure pipes.	6	0.5	Detailed Design is required.	Reduce the shortage in water supply in the Region. Response to Syrian crisis through generated employment.	1

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W29	Ain El Zarqa Part1 Water Supply System	Bekaa / West Bekaa	Expansion and upgrade of Ain El Zarqa water supply system Part 1, including construction of 4 ground reservoirs, 1 elevated tank, 1 pump station, 7km of gravity pipes and 2km of pressure pipes.	16	0.5	Detailed Design is required.	Reduce the shortage in water supply in the Region. Response to Syrian crisis through generated employment.	1
W30	Ain El Zarqa Part2 Water Supply System	Bekaa / Rachaya	Expansion and upgrade of Ain El Zarqa water supply system Part 2, including construction of 4 ground reservoirs, 2 elevated tanks and 3km of gravity pipes.	6	0.5	Detailed Design is required.	Reduce the shortage in water supply in the Region. Response to Syrian crisis through generated employment.	1
W18-1	Ain El Hawr - Ras El Meil Systems	Baalbek-Hermel / Hermel	Expansion and upgrade of Ain El Hawr (Merjhine), Ras El Meil water supply networks	16	1	Master plan level; subject to change during phase 1	Improve supply to meet demand growth	2
W19-1	Ein El Zarqa	Baalbek-Hermel / Hermel	Expansion and upgrade of Ein El Zarqa water supply networks	6	1	Master plan level; subject to change during phase 1	Improve supply to meet demand growth	2
W20-1	Laboue Water Supply System	Baalbek-Hermel / Baalbek	Expansion and upgrade of Laboue water supply system	15	0.5	Master plan level; subject to change during phase 1	Improve supply to meet demand growth	2
W21-1	Ouyoun Orghosh Water Supply System	Baalbek-Hermel / Baalbek	Expansion and upgrade of Ouyoun Orghosh water supply system	9	0.5	Master plan level; subject to change during phase 1	Improve supply to meet demand growth	2
W22-1	Younine, Maqne and Nahle water supply systems	Baalbek-Hermel / Baalbek	Expansion and upgrade of Younine, Maqne and Nahle water supply networks .	4	0.5	Master plan level; subject to change during phase 1	Improve supply to meet demand growth	2
W23-1	Yamoune Water Supply System	Baalbek-Hermel / Baalbek	Expansion and upgrade of Yamoune water supply system	25	0.5	Master plan level; subject to change during phase 1	Improve supply to meet demand growth	2
W24-1	Yahfoufa Water Supply System	Baalbek-Hermel - Bekaa / Baalbek and Zahle	Expansion and upgrade of Yahfoufa water supply networks	10	0.5	Master plan level; subject to change during phase 1	Improve supply to meet demand growth	2
W25-1	Qaa El Rim System	Bekaa / Zahle	Expansion and upgrade of Qaa el Rim water supply system	4	0.5	Master plan level; subject to change during phase 1	Improve supply to meet demand growth	2
W26-1	Qab Elias, Jdita and Zebdol Water Supply systems	Bekaa / Zahle	Expansion and upgrade of Qab Elias, Jdita and Zebdol water supply networks	6	0.5	Master plan level; subject to change during phase 1	Improve supply to meet demand growth	2
W27-1	Aanjar Water Supply System	Bekaa / Zahle	Expansion and upgrade of Aanjar water supply system	5	0.5	Master plan level; subject to change during phase 1	Improve supply to meet demand growth	2
W28-1	Chamsine Water Supply System	Bekaa / Zahle and West Bekaa	Expansion and upgrade of Chamsine water supply networks	3	0.5	Master plan level; subject to change during phase 1	Improve supply to meet demand growth	2

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W29-1	Ain El Zarqa Part1 Water Supply System	Bekaa / West Bekaa	Expansion and upgrade of Ain El Zarqa water supply system Part 1	7	0.5	Master plan level; subject to change during phase 1	Improve supply to meet demand growth	2
W30-1	Ain El Zarqa Part2 Water Supply System	Bekaa / Rachaya	Expansion and upgrade of Ain El Zarqa water supply system Part 2	2	0	Master plan level; subject to change during phase 1	Improve supply to meet demand growth	2
W31	Saida Water Supply Systems	South / Saida	Expansion and upgrade of water supply networks in the Caza of Saida, including construction of 1 new well, 34 reservoirs, 5 pump stations, and 84 km of pipelines.	25	1	Detailed Design is required.	Reduce the shortage in water supply in the Region. Response to Syrian crisis through generated employment.	1
W32	Zahrani Water Supply System	South / Zahrani	Expansion and upgrade of water supply networks in the Caza of Zahrani, including construction of 1 water treatment plant, 21 reservoirs, 5 pump stations, and 70km of pipelines.	39	0.5	Detailed Design is required.	Reduce the shortage in water supply in the Region. Response to Syrian crisis through generated employment.	1
W33	Jezzine Water Supply System	South / Jezzine	Expansion and upgrade of water supply networks in the Caza of Jezzine, including construction of 1 new well, 8 reservoirs, 6 pump stations, and 30km of pipelines.	6	0.5	Detailed Design is required.	Reduce the shortage in water supply in the Region. Response to Syrian crisis through generated employment.	1
W34	Sour Water Supply System	South / Sour	Expansion and upgrade of water supply networks in the Caza of Sour, including construction of 2 water treatment plants, 30 reservoirs, 3 pump stations, and 147km of pipelines.	42	0.5	Detailed Design is required.	Reduce the shortage in water supply in the Region. Response to Syrian crisis through generated employment.	1
W35	Nabatiye Water Supply System	Nabatiye	Expansion and upgrade of water supply networks in the Caza of Nabatiye, including construction of 1 water treatment plant, 20 reservoirs, 3 pump stations, and 78km of pipelines.	26	0.5	Detailed Design is required.	Reduce the shortage in water supply in the Region. Response to Syrian crisis through generated employment.	1
W36	Bint-Jbeil Water Supply System	Nabatiye / Bint-Jbeil	Expansion and upgrade of water supply networks in the Caza of Bint-Jbeil, including construction of 3 water treatment plants, 26 reservoirs, 1 pump station, and 122km of pipelines.	63	0.5	Detailed Design is required.	Reduce the shortage in water supply in the Region. Response to Syrian crisis through generated employment.	1
W37	Marjaayoun & Hasbaya Water Supply Systems	Nabatiye / Marjaayoun & Hasbaya	Expansion and upgrade of water supply networks in the Cazas of Marjaayoun and Hasbaya, including construction of 1 water treatment plant, 15 reservoirs, 4 pump stations, and 90km of pipelines.	24	0.5	Detailed Design is required.	Reduce the shortage in water supply in the Region. Response to Syrian crisis through generated employment.	1
W31-1	Saida Water Supply Systems	South	Expansion and upgrade of water supply networks in the Caza of Saida, including construction of 1 water treatment plant (Besri Dam), 5 local reservoirs, pump stations, and 57km of pipelines.	8	1	Master plan level; subject to change during phase 1	Improve supply to meet demand growth	2

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W32-1	Zahrani Water Supply System	South	Expansion and upgrade of water supply networks in the Caza of Zahrani, including construction of 3 local reservoirs, and 7.5km of distribution lines.	1	0.5	Master plan level; subject to change during phase 1	Improve supply to meet demand growth	2
W33-1	Jezzine Water Supply System	South	Expansion and upgrade of water supply networks in the Caza of Jezzine, including construction of 1 water treatment plant (Besri Dam), 2 regional reservoirs, 4 pump stations, and 18km of pipelines.	5	1	Master plan level; subject to change during phase 1	Improve supply to meet demand growth	2
W34-1	Sour Water Supply System	South	Expansion and upgrade of water supply networks in the Caza of Sour, including construction of 8 local reservoirs, 3 regional reservoirs, and 13.5km of distribution lines.	2	0	Master plan level; subject to change during phase 1	Improve supply to meet demand growth	2
W35-1	Nabatiye Water Supply System	Nabatiye	Expansion and upgrade of water supply networks in the Caza of Nabatiye, including construction of 1 water treatment plant, 6 local reservoirs, 2 regional reservoirs, 2 pump stations, and 32km of transmission lines.	20	1	Master plan level; subject to change during phase 1	Improve supply to meet demand growth	2
W36-1	Bint-Jbeil Water Supply System	Nabatiye	Expansion and upgrade of water supply networks in the Caza of Bint-Jbeil, including construction 6 local reservoirs, 1 regional reservoir, and 1km of distribution lines.	1	0	Master plan level; subject to change during phase 1	Improve supply to meet demand growth	2
W37-1	Marjaayoun&Hasbaya Water Supply Systems	Nabatiye	Expansion and upgrade of water supply networks in the Cazas of Marjaayoun and Hasbaya, including construction, 1 local reservoir, and 16km of distribution lines.	1	0	Master plan level; subject to change during phase 1	Improve supply to meet demand growth	2
W38	El Bared Dam	North / Akkar	Construction of Water Supply dam (37-90 MCM) and associated water treatment plant and transmission network, including expropriation and supervision works.	300	0	Tender Documents available; ready for construction. EIA requires update	Increase water supply, reduce deficit, and improve hygienic conditions and social wellbeing. Conserve and recharge groundwater. Response to Syrian crisis through generated employment	1
W38A	Additional funds for Mseilha Dam	North / Batroun	Additional funds to complete Mseilha Water Supply and Irrigation dam (6-12 MCM)	15	-			1
W38B	Additional funds for Balaa Dam	North / Batroun	Additional funds to complete Balaa Water Supply dam (1.2-2.2 MCM)	7	-			1
W38C	Repairing works for Brissa Dam	North / Dennyeh	Consultancy services for a solution and implementation of the required works to solve the problems of the constructed Brissa dam (Irrigation 0.8MCM)	15				1
W39	Ain Dara - Azounieh Dam	Mount Lebanon / Aley	Construction of Water Supply dam (4-5 MCM) and associated water treatment plant, transmission lines and reservoirs including expropriations and supervision costs.	110	5	Tender Documents available; ready for construction	Increase water supply, reduce deficit, improve hygienic conditions. Conserve and recharge groundwater	1

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W40	Maaser Chouf Dam	Mount Lebanon / Chouf	Construction of Water Supply hill lake (2.2 MCM) and associated water treatment plant, transmission lines and reservoirs including expropriations and supervision costs.	85	2	Tender Documents available; ready for construction. EIA requires update	Increase water supply, reduce deficit and improve hygienic conditions. Conserve and recharge groundwater	1
W41	Assi Phase I Dam	Bekaa / Hermel	Completion of execution works for Assi Phase 1 Water and Irrigation Dam (63 MCM), and supervision works.	65	-	Dam construction stopped since 2006. Design required for the plant and transmission pipe	Increase irrigation capabilities in the region (Hermel and El Qaa Valley), increase agriculture production, stabilise rural population, generate job opportunities, and improve social and economic wellbeing in the region. Conserve and recharge groundwater	1
W41A	Remaining Expropriations for Besri Dam	Beirut & Mount Lebanon	Additional funds of 15MUSD are required to complete the expropriations.	-	15			1
W41B	Remaining Expropriations for Chabrouh Dam	Beirut & Mount Lebanon	Expropriations of 4,000,000 m2 for Chabrouh Dam (remaining expropriations)	-	20			1
W42	Assi Phase 2 Dam	Bekaa / Hermel	Construction of Assi Phase 2 Water and Irrigation Dam (15 MCM).	300	40	Tender documents available. EIA requires update	Increase irrigation capabilities in the region (Hermel and El Qaa Valley), increase agriculture production, stabilise rural population, generate job opportunities, and improve social and economic wellbeing in the region. Conserve and recharge groundwater	2
W43	Barhashah Dam	Bekaa / Zahle	Construction of Water Supply Hill lake (0.55 MCM)	40	1	Tender Documents available; ready for construction. EIA requires update	Increase water sources for Zahle and surrounding localities, reduce deficit on national and local level, improve water quality and hygienic conditions, reduce health bill. Conserve and recharge groundwater.	1
W44	Ibl es Saqi Dam	South / Marjaayoun	Construction of Irrigation and Water supply dam (50 MCM) on the Hasbani river next to Ibl es Saqi; the main use will be for Irrigation with 30% for water supply.	200	100	Tender documents available. Technical validation is required. EIA requires update	Provides Irrigation water for the villages of caza of Hasbaya and Marjaaoun. This enhances agriculture and thus improves life conditions of the habitants. Increases potable water supply and reduces deficit. Provides employment for habitants and displaced Syrians	2
W6B	Water Supply system for Choumariye Dam	South	Downstream works for proposed Choumariye Dam	70				3
W9-2	Qobayat Water Supply Systems, Phase 3	Akkar	Expansion and upgrade of Qobayat water supply networks.	9		Detailed Design is required.	Improve supply to meet demand growth	3
W10-2	Halba Water Supply Systems, Phase 3	Akkar	Expansion and upgrade of Halba water supply networks.	13		Detailed Design is required.	Improve supply to meet demand growth	3

WATER SECTOR CAPITAL INVESTMENT PROGRAMME

Ref	Project	Region	Description	Estimated Investment Cost (MUSD)	Estimated Land Expropriation Cost (MUS\$)	Status	Impact	Implementation Cycle
W11-2	Danniyeh Water Supply Systems, Phase 3	North / Meniyeh-Danniyeh	Expansion and upgrade of Danniyeh water supply networks.	3	0.5	Detailed Design is required.	Improve supply to meet demand growth	3
W12-2	Minieh Water Supply Systems, Phase 3	North / Meniyeh-Danniyeh	Expansion and upgrade of Minieh water supply networks.	2	0.5	Detailed Design is required.	Improve supply to meet demand growth	3
W13-2	Tripoli Water Supply Systems, Phase 3	North / Tripoli	Expansion and upgrade of Tripoli water supply networks.	12	0.5	Detailed Design is required.	Improve supply to meet demand growth	3
W14-2	Zgharta Water Supply Systems, Phase 3	North / Zgharta	Expansion and upgrade of Zgharta water supply networks.	7	1	Detailed Design is required.	Improve supply to meet demand growth	3
W15-2	Bcharre Water Supply Systems, Phase 3	North / Bcharre	Expansion and upgrade of Bcharre water supply networks.	3	0	Detailed Design is required.	Improve supply to meet demand growth	3
W16-2	Koura Water Supply Systems, Phase 3	North / Koura	Expansion and upgrade of Koura water supply networks.	12	0.5	Detailed Design is required.	Improve supply to meet demand growth	3
W17-2	Batroun Water Supply Systems, Phase 3	North / Batroun	Expansion and upgrade of Batroun water supply networks.	3	0.5	Detailed Design is required.	Improve supply to meet demand growth	3
W18-2	Ain El Hawr - Ras El Meil Systems	Baalbek-Hermel / Hermel	Expansion and upgrade of Ain El Hawr (Merjhine), Ras El Meil water supply networks.	1.5	1	Detailed Design is required.	Improve supply to meet demand growth	3
W19-2	Ein El Zarqa	Baalbek-Hermel / Hermel	Expansion and upgrade of Ein El Zarqa water supply networks.	0.5	1	Detailed Design is required.	Improve supply to meet demand growth	3
W20-2	Laboue Water Supply System	Baalbek-Hermel / Baalbek	Expansion and upgrade of Laboue water supply system.	1	0.5	Detailed Design is required.	Improve supply to meet demand growth	3
W21-2	Ouyoun Orghosh Water Supply System	Baalbek-Hermel / Baalbek	Expansion and upgrade of Ouyoun Orghosh water supply system.	3	0.5	Detailed Design is required.	Improve supply to meet demand growth	3
W22-2	Younine, Maqne and Nahle water supply systems	Baalbek-Hermel / Baalbek	Expansion and upgrade of Younine, Maqne and Nahle water supply networks.	0.5	0.5	Detailed Design is required.	Improve supply to meet demand growth	3
W23-2	Yamoune Water Supply System	Baalbek-Hermel / Baalbek	Expansion and upgrade of Yamoune water supply system.	7	0.5	Detailed Design is required.	Improve supply to meet demand growth	3
W24-2	Yahfoufa Water Supply System	Baalbek-Hermel Bekaa / Baalbek and Zahle	Expansion and upgrade of Yahfoufa water supply networks.	2	0.5	Detailed Design is required.	Improve supply to meet demand growth	3
W25-2	Qaa El Rim System	Bekaa / Zahle	Expansion and upgrade of Qaa el Rim water supply system.	3.5	0	Detailed Design is required.	Improve supply to meet demand growth	3
W26-2	Qab Elias, Jdita and Zebdol Water Supply -systems	Bekaa / Zahle	Expansion and upgrade of Qab Elias, Jdita and Zebdol water supply networks.	0.5	0	Detailed Design is required.	Improve supply to meet demand growth	3
W27-2	Aanjar Water Supply System	Bekaa / Zahle	Expansion and upgrade of Aanjar water supply system.	2	0	Detailed Design is required.	Improve supply to meet demand growth	3
W28-2	Chamsine Water Supply System	Bekaa / Zahle and West Bekaa	Expansion and upgrade of Chamsine water supply networks.	2	0	Detailed Design is required.	Improve supply to meet demand growth	3
W29-2	Ain El Zarqa Part1 Water Supply System	Bekaa / West Bekaa	Expansion and upgrade of Ain El Zarqa water supply system.	1.5	0	Detailed Design is required.	Improve supply to meet demand growth	3
W30-2	Ain El Zarqa Part2 Water Supply System	Bekaa / Rachaya	Expansion and upgrade of Ain El Zarqa water supply system.	2	0	Detailed Design is required.	Improve supply to meet demand growth	3
W31-2	Saida Water Supply Systems	South	Expansion and upgrade of water supply networks in the Caza of Saida.	8	1	Detailed Design is required.	Improve supply to meet demand growth	3

WATER SECTOR CAPITAL INVESTMENT PROGRAMME

Ref	Project	Region	Description	Estimated Investment Cost (MUSD)	Estimated Land Expropriation Cost (MUS\$)	Status	Impact	Implementation Cycle
W32-2	Zahrani Water Supply System	South	Expansion and upgrade of water supply networks.	1	0.5	Detailed Design is required.	Improve supply to meet demand growth	3
W33-2	Jezzine Water Supply System	South	Expansion and upgrade of water supply networks.	4	0.5	Detailed Design is required.	Improve supply to meet demand growth	3
W34-2	Sour Water Supply System	South	Expansion and upgrade of water supply networks.	2	0.5	Detailed Design is required.	Improve supply to meet demand growth	3
W35-2	Nabatiye Water Supply System	Nabatiye	Expansion and upgrade of water supply networks.	15	0.5	Detailed Design is required.	Improve supply to meet demand growth	3
W36-2	Bint-Jbeil Water Supply System	Nabatiye	Expansion and upgrade of water supply networks.	1	0.5	Detailed Design is required.	Improve supply to meet demand growth	3
W37-2	Marjaayoun&Hasbaya Water Supply Systems	Nabatiye	Expansion and upgrade of water supply networks.	1	0.5	Detailed Design is required.	Improve supply to meet demand growth	3
W45	Noura el Tahta Dam	North/Akkar	Construction of dam (35-50MCM) for Nour el Tahta and surrounding villages.	80	10	Design is required	Provides water for the neighbouring villages. Helps recharge of groundwater. Response to Syrian crisis through generated employment.	3
W46	Atolbe Dam	North/Akkar	Construction of Water Supply hill lake (0.70 MCM) to supply Qbayat	18	2	At preliminary design stage	Provides Irrigation water for the Qobayat village and neighbouring villages. Response to Syrian crisis through generated employment.	3
W47	Dar Baachtar Dam	North/Koura	Construction of Water and Irrigation Dam (7 MCM) for Koura and Batroun	75	10	At preliminary design stage	Provides potable and irrigation water for the Caza of Koura and Batroun villages. Helps recharge of groundwater. Response to Syrian crisis through generated employment	3
W48	Iaal Dam	North/Zgharta	Construction of Water and Irrigation Dam (12-18 MCM) for Caza of Zgharta villages	70	10	Under design	Provides potable and irrigation water for the Caza of Zgharta villages. Response to Syrian crisis through generated employment.	3
W49	Rahwe Dam	North / Batroun	20 m dam height, providing additional static storage capacity of 2 MCM for the irrigation of 200 ha	25	10	Design completed. New EIA required	Provides Irrigation water for the villages of cazas of Batroun. Helps recharge of groundwater	3
W50	Damour Dam	Mount Lebanon/Damour	Construction of Water and Irrigation DAM (42-106 MCM) for Beirut and Damour region.	150	30	Feasibility study done	Supply of Damour and surrounding coastal villages with domestic and irrigation water	3
W51	Khardali Dam	South/Nabatiye	Construction of Irrigation and Water supply dam (120 MCM) on Litani river (Khardali segment) including downstream works; the main use will be for Irrigation with 15-20% for water supply.	435	200		Provides Irrigation water for the villages of caza of Nabatiye, Marjaoun, and Jezzine. This enhances agriculture and thus improves life conditions of the habitants. Increases potable water supply and reduces deficit. Provides employment for habitants and displaced Syrians	3

WATER SECTOR CAPITAL INVESTMENT PROGRAMME

Ref	Project	Region	Description	Estimated Investment Cost (MUSD)	Estimated Land Expropriation Cost (MUS\$)	Status	Impact	Implementation Cycle
W52	Kfarsir Dam	South / Nabatiye	Construction of Irrigation and Water supply dam (12 MCM) on the Litani river next to Kfar Sir village; the main use will be for Irrigation with 25% for water supply.	45	15	At preliminary design stage	Provides Irrigation water for the west villages of caza of Nabatiye. This enhances agriculture and thus improves life conditions of the habitants. Increases potable water supply and reduces deficit	3
W53	Wadi Chich Dam	North/Bcharre	Construction of Water and Irrigation dam (200,000 CM) with treatment plant, storage tanks and distribution lines to the villages of Bcharre, Mar Ilesha3, Hadshit, Bka3 Kafra, Bazaoun, and Hasroun.	20	-	Feasibility study	Provides domestic and irrigation water for the beneficiary villages	3
W53	Irrigation - Massa Dam	Bekaa / Zahle	Providing additional storage capacity of 8 MCM for the irrigation of 1600 ha	60	4		Provides Irrigation water for the villages of cazas of Zahle	3
W54	Irrigation - Younine Dam	Baalbek	Providing additional storage capacity of 5.8 MCM for the irrigation of 1200 ha	65	10		Provides Irrigation water for the villages of cazas of Zahle	3
W55	Qarqaf Dam	Akkar	Construction of Irrigation DAM (20-25 MCM) for Akkar coastal region.	81			Provides Irrigation water for the coastal villages of Akkar	3
W56	Choumariye Dam	South	Construction of Water supply and Irrigation DAM on Litani River.	60	20			3

1	2,151	106
2	722	156
3	1,377	333
Total	4,250	595
Grand Total	4,845	

WASTEWATER SECTOR CAPITAL INVESTMENT PROGRAMME

Ref	Project	Region	Description	Estimated Investment Cost (MUSD)	Estimated Land Expropriation Cost (MUS\$)	Status	Impact	Implementation Cycle
WW01a	1-km Link of the main collector Bohsas - Maarad	North Lebanon (Tripoli)	Wastewater networks	5		Detailed Design of the Tripoli networks completed and ready for tendering.	Capitalising on existing Tripoli WWTP.	1
WW01b	Qalamoun villages WW networks	North Lebanon (Tripoli)	Wastewater networks	5		Detailed Design of the Tripoli networks completed and ready for tendering.	Capitalising on existing Tripoli WWTP.	1
WW01c	Wastewater networks in the coastal and central villages and towns of Koura - Phase II	North Lebanon (Koura)	Wastewater networks	20	3	Master plan done. Main collector constructed. Detailed design is required.	Capitalising on existing Tripoli WWTP, protection of groundwater resources.	1
WW01d	Zgharta Wastewater networks	North Lebanon (Zgharta)	Wastewater networks	30		Master plan done. Detailed design is required.	Capitalising on existing Tripoli WWTP, protection of groundwater resources, protection of laal Dam.	1
WW01e	Wastewater networks for coastal part of Minie - Danniye District	North Lebanon (Minie -Danniye)	Wastewater networks	19		Master plan done. Detailed design is required.	Capitalising on existing Tripoli WWTP, protection of groundwater resources.	1
WW01f	Wastewater networks for villages in the center of Danniye	North Lebanon (Minie -Danniye)	Wastewater networks	20		Master plan done. Detailed design is required. Feasibility depends on the Zgharta system construction.	Capitalising on existing Tripoli WWTP, protection of groundwater resources.	2
WW02	Bakhoun WWTP and networks	North Lebanon (Minie - Danniye)	Wastewater treatment plant and networks	25		Master Plan.	Protection of Bared Dam water resources, protection of groundwater resources.	2
WW03	Qabaait system and Remaining small systems in Minie - Danniye	Akkar (Akkar) and North Lebanon (Minie - Danniye)	Wastewater treatment plants and networks	62		Master plan done. Detailed design is required.	Protection of Bared Dam water resources, protection of groundwater resources.	2
WW04	Completion of wastewater networks within EI Aabde WWTP Service Area	Akkar (Akkar)	Wastewater networks	60	1	Construction of the WWTP & Phase 1 networks will be launched soon. Detailed design and tender documents are required for phases 2 and 3.	Capitalising on under preparation EI Abde WWTP in Akkar, protection of groundwater resources, and mitigation of seawater pollution.	2
WW06	Construction of small scale Wastewater Systems in Akkar	Akkar (Akkar)	25 Wastewater treatment plants and networks	25	5	Feasibility completed. Detailed design and tender documents are required.	Protection of groundwater resources.	2

WASTEWATER SECTOR CAPITAL INVESTMENT PROGRAMME

Ref	Project	Region	Description	Estimated Investment Cost (MUSD)	Estimated Land Expropriation Cost (MUS\$)	Status	Impact	Implementation Cycle
WW07	Completion of wastewater networks within Jbeil WWTP Service Area	Mount Lebanon (Jbeil)	Wastewater networks	40		Feasibility completed. Detailed design and tender documents are required.	Capitalising on existing WWTP in Jbeil and tourist coastal development and protection of archeological and historic sites.	2
WW08	Networks for Halat and Nahr Ibrahim	Mount Lebanon (Jbeil)	Wastewater networks	9.1		Feasibility is completed. Detailed design is required.	Capitalising on Jbeil or Kesrouane WWTPs.	2
WW09	Upgrade of Daoura wastewater treatment plant	Mount Lebanon (Metn)	Upgrade of the treatment plant	300		Study required to update the current design from preliminary to secondary as per Barcelona convention.	Capitalising on the project under preparation for Daoura WWTP	1
WW10	Beirut wastewater systems	Beirut	Collection networks	50		Feasibility is completed. Survey and detailed design is required.	Improve hygienic conditions and operating efficiency of wastewater treatment plants.	1
WW11	Ghadir Flood Protection	Mount Lebanon (Baabda Aley)	Small dams and river banks protection.	30		Ready for tendering.	Protection against the flood of major highways, protection of population	1
WW12	Upgrade of Ghadir wastewater treatment plant	Mount Lebanon (Aley)	Upgrade of the treatment plant	200		Treatment plant upgrade to preliminary ongoing. Study required to update the current design from preliminary to secondary as per Barcelona convention.	Capitalising on the ongoing project for Ghadir WWTP	2
WW13	Extension and upgrading of collection networks within Ghadir wastewater treatment plant drainage basin (Partial funds)	Mount Lebanon (Beirut, Aley, Baabda & Chouf)	Collection networks	25		Feasibility is available. Detailed Design and Tender Documents are required.	Capitalising on existing Ghadir WWTP, protection of groundwater resources	2
WW14	Expansion of sewer networks for coastal Chouf	Mount Lebanon (Chouf)	Collection networks	40		Master plan done. Partial studies.	Capitalising on existing Nabi Younes WWTP.	2
WW15	Upgrade of Saida wastewater treatment plant	South Lebanon (Saida)	Upgrade of the treatment plant	55		Master Plan done.	Upgrade of Saida WWTP from preliminary to secondary as per Barcelona convention.	2
WW16	Completion of wastewater networks in Saida	South Lebanon (Saida)	Collection networks	25		Ready for tendering.	Protection of groundwater resources, springs, surface water used for irrigation.	1
WW17	Sour Phase III	South Lebanon (Sour)	Collection networks	50		Master Plan done. Studies under preparation.	Capitalising on existing Sour WWTP, protection of groundwater resources, springs, surface water used for irrigation.	1

WASTEWATER SECTOR CAPITAL INVESTMENT PROGRAMME

Ref	Project	Region	Description	Estimated Investment Cost (MUSD)	Estimated Land Expropriation Cost (MUS\$)	Status	Impact	Implementation Cycle
WW18a	Chekka WWTP Expansion	North Lebanon (Batroun)	Expansion of existing wastewater treatment	20		Studies are required.	Capitalising on existing WWTP Chekka and tourist coastal developments.	2
WW18b	Batroun WWTP Expansion	North Lebanon (Batroun)	Expansion of existing wastewater treatment	20		Studies are required.	Capitalising on existing WWTP Batroun and tourist coastal developments.	2
WW18c	Jbeil WWTP Extension	Mount Lebanon (Jbeil)	Expansion of existing wastewater treatment	20		Studies are required.	Capitalising on existing Jbeil WWTP and tourist coastal developments.	2
WW18d	Nabi Younes - WWTP Expansion	Mount Lebanon (Chouf)	Expansion of existing wastewater treatment	20		Studies are required.	Capitalising on Nabi Younes existing WWTP and tourist coastal developments.	2
WW19	Additional Funds for Meshmesh (Fnaydeq) Wastewater System	Akkar (Akkar)	Wastewater treatment plant and networks	8	1	Tender documents available. Contract agreement is pending additional funds required.	Protection of groundwater sources and protection of Bared dam.	1
WW20b	Kfar Hay system	North Lebanon (Batroun)	Wastewater treatment plant and networks	25	In progress	Tender documents ready for tender	Protection of Mseilha Dam water resources.	1
WW20c	Chebtine system	North Lebanon (Batroun)	Wastewater treatment plant and networks	15	In progress	Tender documents ready for tender	Protection of Mseilha Dam water resources.	1
WW22	Qartaba, Aqoura and Afqa wastewater systems	Mount Lebanon (Jbeil)	Wastewater treatment plants and networks	20	5	Qartaba network phase 1 under construction. Additional funds required for part 2. Design of Aqoura and Afqa systems will be completed in the coming months.	Protection of Janneh Dam water resources.	1
WW31	Additional Funds for Hrajel Wastewater System	Mount Lebanon (Kesrouane)	Wastewater treatment plant and networks	20	2	Tender documents available. Contract agreement is pending additional funds required.	Protection of surface groundwater sources to (Jeita), capitalising on a major tourist area and winter sports.	1
WW32	Aachqout system	Mount Lebanon (Kesrouane)	Wastewater treatment plant and networks	20.5		Master plan done.	Protection of surface groundwater sources from pollution (Jeita) and capitalising on a major tourist area and winter sports.	2
WW34	Additional funds for Jeita system	Mount Lebanon (Kesrouane)	Wastewater treatment plant and networks	15		Additional funds are required. Design under preparation	Providing drinking water to Beirut. Protection of groundwater sources and capitalising on a major tourist area and winter sports.	1
WW35	Kfartai Wastewater System	Mount Lebanon (Metn / Kesrouane)	Wastewater treatment plant and networks	6.5		Master Plan.	Protection of Boqaata dam.	2

WASTEWATER SECTOR CAPITAL INVESTMENT PROGRAMME

Ref	Project	Region	Description	Estimated Investment Cost (MUSD)	Estimated Land Expropriation Cost (MUS\$)	Status	Impact	Implementation Cycle
WW40	Sfaieh and Qortada (Zandouqa) Wastewater Systems	Mount Lebanon (Metn & Baabda)	2 Wastewater treatment plants and networks	67.63	6.6	Ready for tendering.	Protection of surface and groundwater sources from pollution.	1
WW41	Bmaryam - Btibyat and Hammana Wastewater Systems	Mount Lebanon (Baabda)	Wastewater treatment plants and networks	28.11	4.85	Design done.	Protection of local wells.	1
WW47	Aley Zone 7 (Gharb and Chahhar)	Mount Lebanon (Aley - Chouf)	Treatment plants and collection networks	66	3.2	ESIA	Protection of water resources	1
WW48	Aley Zone 8 (Jurd Region) and Zone 9 (Fouara /Ouadi Es Sitt) Systems	Mount Lebanon (Aley - Chouf)	Treatment plants and collection networks	83	3.5	Feasibility Study	Protection of water resources	1
WW58	Halloussieh Wastewater System	South Lebanon (Sour)	Networks	6	1.5	Master plan. Studies are required.	Capitalising on planned Sarafand WWTP, protection of Kfar Sir dam and Qasmiye river used for irrigation of coastal lands.	2
WW59	Srifa Wastewater System	South Lebanon (Sour)	Networks	8		Master plan. Studies are required.	Capitalising on existing Sour WWTP, protection of Kfar Sir dam and Qasmiye river used for irrigation of coastal lands.	2
WW60	Nabaa el Tasseh Wastewater System	Nabatiye - South Lebanon (Jezzine) and Nabatiye)	Treatment plant and networks	18		Preliminary studies.	Portection of Jarjou Lake and a major water spring (Nabaa Et Tasse) supplying water for Saida and Nabatiye.	2
WW61	Jbaa Wastewater System	Nabatiye (Nabatiye)	Collection networks	7.5		Ready for tendering.	Capitalising on existing Saida WWTP, protection of groundwater resources, springs, surface water used for irrigation.	1
WW62	Braiqaa Wastewater System	Nabatiye (Nabatiye)	Treatment plant and networks	26		Master plan.	Protection of groundwater resources, surface water.	2
WW63	Nabatiye Part II (East Nabatiye) Wastewater System	Nabatiye (Nabatiye)	Networks	50		Master plan. Design under preparation.	Capitalising on Nabatiye WWTP and protection of groundwater and surface water.	2
WW64	Expansion of Nabatiye Wastewater Treatment Plant	Nabatiye (Nabatiye)	Expansion of treatment plant	20		No studies	Capitalising on existing Nabatiye WWTP.	2
WW65	Additional funds for Hasbaiya System	Nabatiye (Hasbaiya)	Treatment plant and networks	27.67	0.48	Project under preparation requiring additional funds.	Protection of Hasbani River	1
WW66	Ouadi Slouqi Wastewater System	Nabatiye (Marjaayoun)	Treatment plant and networks	33		Detailed design partially done.	Protection of Litani, Kfar Sir dam and Qasmiye river used for irrigation of coastal lands	2
WW67	Deir Mimas Wastewater System	Nabatiye (Marjaayoun)	Treatment plant and networks	5.5		Detailed design partially done.	Protection of Kfar Sir dam and Qasmiye river used for irrigation of coastal lands	2
WW68	Bint Jbeil Wastewater System	Nabatiye (Bint Jbeil)	Treatment plant and networks	32		Studies done. Partial funding is required to complete the project	Protection of groundwater. Financial gaps.	1

WASTEWATER SECTOR CAPITAL INVESTMENT PROGRAMME

Ref	Project	Region	Description	Estimated Investment Cost (MUSD)	Estimated Land Expropriation Cost (MUS\$)	Status	Impact	Implementation Cycle
WW69	Additional funds for Hermel WWTP and Networks	Baalbek-Hermel (Hermel)	Treatment plant and networks	27		Studies done. Partial funding is required to complete the project	Capitalising on Hermel WWTP and protection of Assi Dam.	1
WW70	Bajjaje Wastewater System	Baalbek-Hermel (Baalbek)	Treatment plant and networks	39.5		Master plan.	Protection of Assi Dam.	2
WW71	Qaa and Jdaide Wastewater System	Baalbek-Hermel (Baalbek)	Treatment plants and networks	25.7		Master plan.	Protection of Assi Dam.	2
WW72	Upgrade of laa (Baalbek) WWTP and additional networks for Baalbek city and surrounding villages	Baalbek-Hermel (Baalbek)	Upgrade of a treatment plant and networks	11		Studies required.	Capitalising on existing Baalbek WWTP and protection of groundwater resources.	1
WW73	Timnine Part II Wastewater System	Baalbek & Hermel (Baalbek)	Networks	66	5	Phase 1 (including WWTP) under tender stage.	Capitalising on Timnine WWTP and protection of surface water resources (Litani).	2
WW74	Eastern Zahle Wastewater System	Bekaa (Zahle)	Wastewater treatment plant and networks	45	5	Feasibility completed.	Protection of water sources (Litani) from pollution, protection of groundwater resources.	1
WW75	Wastewater Systems for Sohmor, Yohmor, Zilaya, Es Srayri and surrounding villages	Bekaa (West Bekaa) / Nabatiye (Hasbaiya) / South (Jezzine)	3 Wastewater treatment plants and networks	17.61	0.13	Master Plan. Feasibility.	Protection of Litani river and Bisri and Khardale dams.	2
WW76	Expansion of wastewater collection networks of West Bekaa (Phase 2)	Bekaa (West Bekaa)	Networks	27		Master Plan. Studies are done.	Protection of Litani river.	1
WW77	Wastewater System for Rachaiya villages	Bekaa (Rachaiya)	Wastewater treatment plant and networks	64	0.63	Master Plan. Additional funds are required.	Protection of Ibl Es Saqi Dam and Salaa Lake, presence of displaced.	2
WW78	Small Scale Municipal Projects	Lebanon	All	250		Mechanism of studies, documents and implementation to be defined		1
WW79	Madfoun System	North Lebanon (Batroun)	Main collector and networks	20		Master Plan.	Capitalize on Batroun WWTP once extended. Protection of sea and groundwater resources	3
WW05	Construction of wastewater systems for Akkar El Atika, Qobaiyat and surrounding villages	Akkar (Akkar)	Wastewater treatment plants and networks	25		Master plan done. Detailed design is required.	Protection of surface water used for irrigation in Akkar plain and protection of groundwater resources	3
WW20a	Ajed Ebrine system	North Lebanon (Koura)	Wastewater treatment plants and networks	4.5		Master plan done. Detailed design is required.	Protection of groundwater resources, protection of Mseilha Dam.	3
WW21	Small systems to protect Qadisha Valley	North Lebanon (Bcharre)	Treatment plants and networks.	50.25		Master plan. Feasibility still not ready.	Protection of Qadisha valley and groundwater resources.	3
WW23	Bchille system	Mount Lebanon (Jbeil)	Wastewater treatment plant and networks	5		Master Plan.	Protection of groundwater resources	3

WASTEWATER SECTOR CAPITAL INVESTMENT PROGRAMME

Ref	Project	Region	Description	Estimated Investment Cost (MUSD)	Estimated Land Expropriation Cost (MUS\$)	Status	Impact	Implementation Cycle
WW24	Aabaydat system	Mount Lebanon (Jbeil)	Wastewater treatment plant and networks	11		Master Plan.	Protection of groundwater resources	3
WW25	Tartij Small Local Station	Mount Lebanon (Jbeil)	Wastewater treatment plant and networks	1.5		Master Plan.	Protection of groundwater resources	3
WW26	Aalmaat system	Mount Lebanon (Jbeil)	Wastewater treatment plant and networks	12		Master Plan.	Protection of groundwater resources	3
WW27	Jaj WWTP	Mount Lebanon (Jbeil)	Wastewater treatment plant and networks	6.6		Master Plan.	Protection of groundwater resources	3
WW28	Lehfed Haqel Small Stations	Mount Lebanon (Jbeil)	Wastewater treatment plant and networks	2.2		Master Plan.	Protection of groundwater resources	3
WW29	Behdaydat WWTP	Mount Lebanon (Jbeil)	Wastewater treatment plant and networks	3.5		Master Plan.	Protection of groundwater resources	3
WW30	Yahchouch WWTP	Mount Lebanon (Kesserouan/ Jbeil)	Wastewater treatment plant and networks	8.3		Master Plan.	Protection of groundwater resources	3
WW33	Bqaatouta WWTP	Mount Lebanon (Kesserouan)	Wastewater treatment plant and networks	0.8		Master plan.	Protection of groundwater resources	3
WW36	Abou Mizane WWTP	Mount Lebanon (Metn)	Wastewater treatment plant and networks	3.25		Master Plan.	Protection of groundwater resources.	3
WW37	Zabbougha WWTP	Mount Lebanon (Metn)	Wastewater treatment plant and networks	0.8		Master Plan.	Protection of groundwater resources	3
WW38	Es Souane WWTP	Mount Lebanon (Metn)	Wastewater treatment plant and networks	20.7		Master Plan.	Protection of groundwater resources	3
WW39	Mtein WWTP	Mount Lebanon (Metn)	Wastewater treatment plant and networks	6.3		Master Plan.	Protection of groundwater resources	3
WW42	Hlaliye and Shwite Wastewater System	Mount Lebanon (Baabda Aley)	Wastewater treatment plant and networks	44.9	3.15	Feasibility Study.	Protection of groundwater resources	3
WW43	Mchikha Wastewater System	Mount Lebanon (Baabda Aley)	Wastewater treatment plant and networks	12.75	1.95	Feasibility Study.	Protection of groundwater resources	3
WW44	Deir Khouna (Qtale) Wastewater System	Mount Lebanon (Baabda Aley)	Wastewater treatment plant and networks	12.59	2.5	Feasibility Study.	Protection of groundwater resources	3
WW45	Arsoun Wastewater System	Mount Lebanon (Baabda Aley)	Wastewater treatment plant and networks	8.56	1.3	Feasibility Study.	Protection of groundwater resources.	3
WW53	WWTP1 Wastewater System	Mount Lebanon (Chouf)	Wastewater treatment plant and networks	0.2		Master Plan.	Protection of groundwater resources	3
WW54	WWTP2 Wastewater System	Mount Lebanon (Chouf)	Wastewater treatment plant and networks	8		Master Plan.	Protection of groundwater resources	3

WASTEWATER SECTOR CAPITAL INVESTMENT PROGRAMME

Ref	Project	Region	Description	Estimated Investment Cost (MUSD)	Estimated Land Expropriation Cost (MUS\$)	Status	Impact	Implementation Cycle
WW57	Kfar Matta Small Local Station Wastewater System	Mount Lebanon (Chouf)	Wastewater treatment plant and networks	0.5		Master Plan.	Protection of groundwater resources	3

1	1,309	35
2	1,047	13
3	269	9
Total	2,626	57
Grand Total	2,682	

ELECTRICITY SECTOR CAPITAL INVESTMENT PROGRAMME

Ref	Project	Region	Description	Estimated Investment Cost (MUSD)	Estimated Land Expropriation Cost (MUS\$)	Status	Impact	Implementation Cycle
E1-1	New Power Plants on Medium Term - IPP-500MW	National	Capacity of 500 MW financed by the Private Sector	600	Existing Land Dedicated for the power plant to be Purchased	Feasibility study done. First two locations are Zahrani & Salaata. Launch the project.	Meet shortages, improve social wellbeing, encourage stability	1
E1-2	New Power Plants on Medium Term - IPP-500MW	National	Capacity of 500 MW financed by the Private Sector	600	Existing Land Dedicated for the power plant to be Purchased	Feasibility study done. First two locations are Zahrani & Salaata. Launch the project.	Meet shortages, improve social wellbeing, encourage stability	1
E2	Jiye Power plant-500MW	National	New Power Plant in Jieh	500	Existing Land Dedicated for the power plant	Feasibility study is being prepared. Launch the project.		2
E3	Salaata 2 Plant on Longer Term - 500MW	National	Capacity of 500 MW	600	Existing Land Dedicated for the power plant			2
E4	Hydro power plants (331.5 MW)	National	Rehabilitation & Upgrade of Existing Hydro Plants-92MW. Installation of new Hydro Plants - 25 sites-(233MW-315MW). Micro-Hydro on non-river streams - 13 Pilot sites identified -5MW	264	Existing Land Dedicated for the power plant and New locations required for new plants	Feasibility Study Done		1
E5	Geothermal Plant of 1.3MW	National		5				1
E6	Transmission Master Plan Project. High importance.	National	Upgrade/Installation of 220KV Substations, and Installation of underground Cables	223.63				1
E7	Transmission Master Plan Project including Infrastructure at KSARA Substation (Mid Importance)	National	Upgrade/Installation of 220KV Substations, and Installation of underground Cables	253.693				2
E8	LV Network Upgrade	Multi-Regional	Installation of Lighting luminaires, transformers, and Low Voltage transmission lines	56				1
E9-1	DSP	National	Finish the Smart Grid	262.5		Implement the Smart Meters.		1
E9-2	DSP	National	Finish the Smart Grid	87.5		Implement the Smart Meters.		2
E10	Gas Pipeline	National	Build a gas pipeline along the coast to feed all power plants	140		Pre-feasibility study done. Budget law in discussion at the parliament.		1
FE1	Zouk Power plant-500MW	National	New Power Plant in Zouk	500	Existing Land Dedicated for the power plant	Technical report will soon be sent to the CoM. Launch the project.		3
FE2	New Power Plants on Longer Term	National	Capacity of 1000 MW	1,200	New Location			3

ELECTRICITY SECTOR CAPITAL INVESTMENT PROGRAMME

Ref	Project	Region	Description	Estimated Investment Cost (MUSD)	Estimated Land Expropriation Cost (MUS\$)	Status	Impact	Implementation Cycle
FE3-1	Hydro power plants (141.5 MW)	National	Rehabilitation & Upgrade of Existing Hydro Plants-92MW	56.73	Existing Land Dedicated for the power plant	Feasibility Study Done for the new Hydro Plants		3
FE3-2	Hydro power plants (141.5 MW)	National	Installation of new Hydro Plants - 25 sites- (233MW-315MW)	56	New Location	Feasibility Study Done for the new Hydro Plants		3
FE5	Geothermal Plant of 15MW	National		52.7				3
FE6	Transmission Master Plan Project	National	Upgrade/Installation of 220KV Substations, and Installation of underground Cables	135				3
			1	2,151	0			
			2	1,441	0			
			3	2,000	0			
			Total	5,592	0			
			Grand Total	5,592				

TELECOM SECTOR CAPITAL INVESTMENT PROGRAMME

Ref	Project	Region	Description	Estimated Investment Cost (MUSD)	Estimated Land Expropriation Cost (MUS\$)	Status	Impact	Implementation Cycle
TL1-1	Phase 2 FTT(X): FTTO & FTTH	National	Fiber deployment and connection to the most economical Points / Users	80	None	Design completed		1
TL1-2	Phase 7 FTT (X) infrastructure	Bekaa	Fiber deployment and connection to the most economical Points / Users	10	None	Design completed		1
TL1-3	Phase 7 FTT (X) infrastructure	Keserouan	Fiber deployment and connection to the most economical Points / Users	10	None	Design completed		1
TL2	Phase 2 - Core Network and IMS (IP Multimedia Subsystem)	National	Upgrade and expansion of the network backbone (international gateway, core and edge). Upgrade and expansion DWDM, IP/MPLS, and Access with centralized NOC (network operation center) and Converged Billing, Charging, CRM, etc.) and OSS (Operational Support Systems: service management and activation, etc.) for the fixed network	90	None	Design completed		1
TL3	Expansion of international connectivity	National	Deployment of 2 new submarine cables connecting Lebanon to Europe directly an via Cyprus	50	None	Design Completed		1
TL4	Phase 2 Security System	National	Deploying cyber security, DDoS, and DPI systems at various government institutions and data center	60	None	Design in progress		1
TL5	Phase 2 Spectrum Monitoring	National	Upgrade and expansion of Nation Wide Spectrum Monitoring and Management, Locate and Intercept of Illegal use of Spectrum	20	None	Design in progress		1
TL6	National Cloud Platform	National	Build a national cloud based data center to be used as primary as well as disaster re recovery site as needed by Government and non-gov institutions	200	None	Design in progress		1
TL7	Phase 2 IOT, Lora and WiFi Network	National	Deployment of nationwide IOT (Internet of things) and public WiFi networks	30	None	Design not started yet		1
TL8	GSM network	National	Upgrade of GSM network to 5G	150	None	Design completed		1

1	700	0
2	0	0
3	0	0
Total	700	0
Grand Total	700	

SOLID WASTE MANAGEMENT SECTOR CAPITAL INVESTMENT PROGRAMME

Ref	Project	Region	Description	Estimated Investment Cost (MUSD)	Estimated Land Expropriation Cost (MUS\$)	Status	Impact	Implementation Cycle
SW1	Solid Waste Management to cover all Lebanon including collection, sorting, treatment and landfill sites.	National		1400	n.a.			1

1	1,400	0
2	0	0
3	0	0
Total	1,400	0
Grand Total	1,400	

CULTURE SECTOR CAPITAL INVESTMENT PROGRAMME

Ref	Project	Region	Description	Estimated Investment Cost (MUSD)	Estimated Land Expropriation Cost (MUS\$)	Status	Impact	Implementation Cycle
CH1-1	National and Public Libraries	National		4	n.a.			1
CH2-1	Movies (Cinematic and documentaries)	National		3	n.a.			1
CH3-1	Theater	National		3	n.a.			1
CH4-1	Music (new branches for the Conservatoire)	National		4	n.a.			1
CH5-1	Scientific and Educational Centers	National		6	n.a.			1
CH6-1	Arts Museum	National		3	n.a.			1
CH7-1	Arts General	National		4	n.a.			1
CH8-1	Warehouse	National		10	n.a.			1
CH9-1	Historical cities and buildings	National		15	n.a.			1
CH10-1	Archeological sites and surroundings	National		22	n.a.			1
CH11-1	Museums	National		10	n.a.			1
CH1-2	National and Public Libraries	National		11	n.a.			2
CH2-2	Movies (Cinematic and documentaries)	National		4	n.a.			2
CH3-2	Theater	National		4	n.a.			2
CH4-2	Music (new branches for the Conservatoire)	National		11	n.a.			2
CH5-2	Scientific and Educational Centers	National		11.5	n.a.			2
CH6-2	Arts Museum	National		4	n.a.			2
CH7-2	Arts General	National		5.5	n.a.			2
CH8-2	Warehouse	National		26	n.a.			2
CH9-2	Historical cities and buildings	National		35	n.a.			2
CH10-2	Archeological sites and surroundings	National		48	n.a.			2
CH11-2	Museums	National		20	n.a.			2

1	84	0
2	180	0
3	0	0
Total	264	0
Grand Total	264	

INDUSTRY SECTOR CAPITAL INVESTMENT PROGRAMME

Ref	Project	Region	Description	Estimated Investment Cost (MUSD)	Estimated Land Expropriation Cost (MUS\$)	Status	Impact	Implementation Cycle
IN1-1	Infrastructure for the industrial city of Alkaa – Phase 2			15				2
IN1-2	Infrastructure for the industrial city of Baalbek – Phase 2			15				2
IN1-3	Infrastructure for the industrial city of Terbol – Phase 2			20				2
IN2	Infrastructure for the Tripoli Special Economic Zone			25				2

1	0	0
2	75	0
3	0	0
Total	75	0
Grand Total	75	