

Government of Lebanon

**Capital Investment Program**  
**List of Projects**

**- C E D R E -**

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

APRIL 6, 2018

## Transport Capital Investment Projects – Cycles 1 and 2

### TRANSPORT SECTOR - CYCLES 1 & 2

Ref	Project	Estimated Cost (MUS\$)		Implementation Cycle
		Investment	Land Expropriation	
TP1	Dbaye - Nahr Ibrahim Motorway (A2) - Phase 1	247	125	1
TP2	Beirut Peripherique - Phase 1	232	254	1
TP5	Northern Coastal Highway - Akkar	150	50	1
TP10	Bus Rapid Transit System - Greater Beirut Public Transport Project	500		1
TP16	Rehabilitation and Development of Beirut Rafic Hariri Airport - Phase 1	500		1
TP8/8a	Rehabilitation of classified Roads and Municipal Roads	509		1
TP1	Dbaye - Nahr Ibrahim Motorway (A2) - Phase 2	330	166	2
TP2	Beirut Peripherique - Phase 2	310	338	2
TP4	Northern Coastal Highway - Beirut Entrance	180		2
TP6	Toufiquiyeh- Ras Baalbak- Syrian Border Highway	110	55	1
TP7	Beirut-Damascus Highway Completion	400	100	2
TP9	New and Upgrading of Road Network at multiregional scale	380	50	2
TP11	Tripoli-Syrian Border Railway	90	0	2
TP12	Touristic Port in Jounieh	62		2
TP16a	Rehabilitation and Development of Rene Mouawad Airpot in Akkar	100		2
TP18	Service road for Coastal Highway – Phase 1	38	68	1
TP18	Service road for Coastal Highway – Phase 2	112	202	2
TP19	Feasibility Studies for Major Projects	25	-	1
1	<b>Total Transport Cycle 1</b>	<b>2,311</b>	<b>552</b>	
2	<b>Total Transport Cycle 2</b>	<b>1,964</b>	<b>856</b>	
<b>Total Transport Cycles 1 and 2</b>		<b>4,275</b>	<b>1,408</b>	
		<b>5,683</b>		

## Transport Future Capital Investment Projects – Cycle 3

### TRANSPORT SECTOR - CYCLE 3

Ref	Project	Estimated Cost (MUS\$)		Implementation Cycle
		Investment	Land Expropriation	
TP1	Dbaye - Nahr Ibrahim Motorway (A2) - Phase 3	247	125	3
TP2	Beirut Peripherique - Phase 3	232	254	3
TP3	Southern Coastal Highway (Saida Bypass and Sour Link)	450	150	3
TP14	Expansion of Saida Port	60		3
TP15	Touristic Port in Sour	30		3
TP20	Rehabilitation of Tripoli Port-Phase 2	150		3
<b>Total Transport Cycle 3</b>		<b>1,169</b>	<b>529</b>	
		<b>1,698</b>		

## Water and Irrigation Capital Investment Projects – Cycles 1 and 2

### WATER SECTOR CYCLES 1 & 2

Ref		Estimated Cost (MUS\$)		Implementation Cycle
		Investment	Land Expropriation	
W1	Water supply system for Mseilha Dam.	14.5	5	1
W2	Water supply system for Balaa Lake.	10.5	3	1
W3	Hydropower plant for Janneh Dam.	100	-	1
W3A	Transmission line from Janneh Dam to Greater Beirut	60	-	1
W4	Water treatment plant and water supply system for Beqaata Dam.	35	2	1
W5	IRRIGATION - Litani - Conveyor 800 Phase 2 - Irrigation and Water netwo	300	-	1
W6	Water supply system for El Bared Dam DAM	20	0.5	2
W6A	Water supply system for Chabrouh Dam	40	2	1
W7	Water supply system rehabilitation in Beirut area	100	-	1
W8	Water Supply Projects for Mount Lebanon	100	-	1
W8A	Expropriations for Beirut Storage Tanks	-	35	1
W9	Qobayat Water Supply Systems, Phase 1	51	0.5	1
W10	Halba Water Supply Systems, Phase 1	92	0.5	1
W11	Danniyeh Water Supply Systems, Phase 1	27	0.5	1
W12	Minieh Water Supply Systems, Phase 1	12	0.5	1
W13	Tripoli Water Supply Systems, Phase 1	25	0.5	1
W14	Zgharta Water Supply Systems, Phase 1	24	1	1
W15	Bcharre Water Supply Systems, Phase 1	10	0	1
W16	Koura Water Supply Systems, Phase 1	55	0.5	1
W17	Batroun Water Supply Systems, Phase 1	25	0.5	1
W9-1	Qobayat Water Supply Systems, Phase 2	5	0.5	2
W10-1	Halba Water Supply Systems, Phase 2	7	0.5	2
W11-1	Danniyeh Water Supply Systems, Phase 2	7	0.5	2
W12-1	Minieh Water Supply Systems, Phase 2	1	0	2
W13-1	Tripoli Water Supply Systems, Phase 2	6	0.5	2
W14-1	Zgharta Water Supply Systems, Phase 2	9	1	2
W15-1	Bcharre Water Supply Systems, Phase 2	4	0.5	2
W16-1	Koura Water Supply Systems, Phase 2	10	0.5	2
W17-1	Batroun Water Supply Systems, Phase 2	3	0.5	2
W18	Ain El Hawr - Ras El Meil Systems	18	1	1
W19	Ein El Zarqa	8	1	1
W20	Laboue Water Supply System	17	0.5	1
W21	Ouyoun Orghosh Water Supply System	9	0.5	1
W22	Younine, Maqne and Nahle water supply systems	5	0.5	1
W23	Yamoune Water Supply System	50	0.5	1
W24	Yahfoufa Water Supply System	12	0.5	1
W25	Qaa El Rim System	28	0.5	1
W26	Qab Elias, Jdita and Zebdol Water Supply systems	9	0.5	1
W27	Aanjar Water Supply System	24	0.5	1
W28	Chamsine Water Supply System	6	0.5	1
W29	Ain El Zarqa Part1 Water Supply System	16	0.5	1
W30	Ain El Zarqa Part2 Water Supply System	6	0.5	1
W18-1	Ain El Hawr - Ras El Meil Systems	16	1	2
W19-1	Ein El Zarqa	6	1	2
W20-1	Laboue Water Supply System	15	0.5	2
W21-1	Ouyoun Orghosh Water Supply System	9	0.5	2
W22-1	Younine, Maqne and Nahle water supply systems	4	0.5	2
W23-1	Yamoune Water Supply System	25	0.5	2
W24-1	Yahfoufa Water Supply System	10	0.5	2
W25-1	Qaa El Rim System	4	0.5	2
W26-1	Qab Elias, Jdita and Zebdol Water Supply systems	6	0.5	2
W27-1	Aanjar Water Supply System	5	0.5	2
W28-1	Chamsine Water Supply System	3	0.5	2
W29-1	Ain El Zarqa Part1 Water Supply System	7	0.5	2
W30-1	Ain El Zarqa Part2 Water Supply System	2	0	2
W31	Saida Water Supply Systems	25	1	1
W32	Zahrani Water Supply System	39	0.5	1
W33	Jezzine Water Supply System	6	0.5	1
W34	Sour Water Supply System	42	0.5	1
W35	Nabatiye Water Supply System	26	0.5	1
W36	Bint-Jbeil Water Supply System	63	0.5	1
W37	Marjaayoun & Hasbaya Water Supply Systems	24	0.5	1
W31-1	Saida Water Supply Systems	8	1	2
W32-1	Zahrani Water Supply System	1	0.5	2
W33-1	Jezzine Water Supply System	5	1	2
W34-1	Sour Water Supply System	2	0	2
W35-1	Nabatiye Water Supply System	20	1	2
W36-1	Bint-Jbeil Water Supply System	1	0	2
W37-1	Marjaayoun&Hasbaya Water Supply Systems	1	0	2

## Water and Irrigation Capital Investment Projects – Cycles 1 and 2

W38	El Bared Dam	300	0	1
W38A	Additional funds for Mseilha Dam	15	-	1
W38B	Additional funds for Balaa Dam	7	-	1
W38C	Repairing works for Brissa Dam	15		1
W39	Ain Dara - Azounieh Dam	110	5	1
W40	Maaser Chouf Dam	85	2	1
W41	Assi Phase I Dam	65	-	1
W41A	Remaining Expropriations for Besri Dam	-	15	1
W41B	Remaining Expropriations for Chabrouh Dam	-	20	1
W42	Assi Phase 2 Dam	300	40	2
W43	Barhashah Dam	40	1	1
W44	Ibl es Saqi Dam	200	100	2
1	<b>Total Cycle 1</b>	<b>2,151</b>	<b>106</b>	
2	<b>Total Cycle 2</b>	<b>722</b>	<b>156</b>	
	<b>Total Water Cycles 1 and 2</b>	<b>2,873</b>	<b>262</b>	
			<b>3,135</b>	

## Water and Irrigation Future Capital Investment Projects – Cycle 3

### WATER SECTOR CYCLE 3

Ref		Estimated Cost (MUS\$)		Implementation Cycle
		Investment	Land Expropriation	
W6B	Water Supply system for Choumariye Dam	70		3
W9-2	Qobayat Water Supply Systems, Phase 3	9		3
W10-2	Halba Water Supply Systems, Phase 3	13		3
W11-2	Danniyeh Water Supply Systems, Phase 3	3	0.5	3
W12-2	Minieh Water Supply Systems, Phase 3	2	0.5	3
W13-2	Tripoli Water Supply Systems, Phase 3	12	0.5	3
W14-2	Zgharta Water Supply Systems, Phase 3	7	1	3
W15-2	Bcharre Water Supply Systems, Phase 3	3	0	3
W16-2	Koura Water Supply Systems, Phase 3	12	0.5	3
W17-2	Batroun Water Supply Systems, Phase 3	3	0.5	3
W18-2	Ain El Hawr - Ras El Meil Systems	1.5	1	3
W19-2	Ein El Zarqa	0.5	1	3
W20-2	Laboue Water Supply System	1	0.5	3
W21-2	Ouyoun Orghosh Water Supply System	3	0.5	3
W22-2	Younine, Magne and Nahle water supply systems	0.5	0.5	3
W23-2	Yamoune Water Supply System	7	0.5	3
W24-2	Yahfoufa Water Supply System	2	0.5	3
W25-2	Qaa El Rim System	3.5	0	3
W26-2	Qab Elias, Jdita and Zebdol Water Supply -systems	0.5	0	3
W27-2	Aanjar Water Supply System	2	0	3
W28-2	Chamsine Water Supply System	2	0	3
W29-2	Ain El Zarqa Part1 Water Supply System	1.5	0	3
W30-2	Ain El Zarqa Part2 Water Supply System	2	0	3
W31-2	Saida Water Supply Systems	8	1	3
W32-2	Zahrani Water Supply System	1	0.5	3
W33-2	Jezzine Water Supply System	4	0.5	3
W34-2	Sour Water Supply System	2	0.5	3
W35-2	Nabatiye Water Supply System	15	0.5	3
W36-2	Bint-Jbeil Water Supply System	1	0.5	3
W37-2	Marjaayoun&Hasbaya Water Supply Systems	1	0.5	3
W45	Noura el Tahta Dam	80	10	3
W46	Atolbe Dam	18	2	3
W47	Dar Baachtar Dam	75	10	3
W48	Iaal Dam	70	10	3
W49	Rahwe Dam	25	10	3
W50	Damour Dam	150	30	3
W51	Khardali Dam	435	200	3
W52	Kfarsir Dam	45	15	3
W53	Wadi Chich Dam	20	-	3
W53A	Irrigation - Massa Dam	60	4	3
W54	Irrigation - Younine Dam	65	10	3
W55	Qarqaf Dam	81		3
W56	Choumariye Dam	60	20	3
3	<b>Total Water Cycle 3</b>	<b>1,377</b>	<b>333</b>	
		<b>1,710</b>		

## Wastewater Capital Investment Projects - Cycles 1 and 2

### WASTEWATER SECTOR CYCLES 1 & 2

Ref	Project	Estimated Cost (MUS\$)		Implementation Cycle
<b>A</b>	<b>Protection of Mediterranean Sea</b>			
	<b>Completion of missing networks and collectors within Tripoli WWTP Service Area</b>			
<b>WW01</b>				
WW01a	1-km Link of the main collector Bohsas - Maarad	5		1
WW01b	Qalamoun villages WW networks	5		1
WW01c	Wastewater networks in the coastal and central villages and towns of Koura - Phase II	20	3	1
WW01d	Zgharta Wastewater networks	30		1
WW01e	Wastewater networks for coastal part of Minie - Danniye District	19		1
WW01f	Wastewater networks for villages in the center of Danniye	20		2
WW02	Bakhoun WWTP and networks	25		2
WW03	Qabaait system and Remaining small systems in Minie - Danniye	62		2
WW04	Completion of wastewater networks within El Aabde WWTP Service Area	60	1	2
WW06	Construction of small scale Wastewater Systems in Akkar	25	5	2
WW07	Completion of wastewater networks within Jbeil WWTP Service Area	40		2
WW08	Networks for Halat and Nahr Ibrahim	9.1		2
WW09	Upgrade of Daoura wastewater treatment plant	300		1
WW10	Beirut wastewater systems	50		1
WW11	Ghadir Flood Protection	30		1
WW12	Upgrade of Ghadir wastewater treatment plant	200		2
WW13	Extension and upgrading of collection networks within Ghadir wastewater treatment plant drainage basin (Partial funds)	25		2
WW14	Expansion of sewer networks for coastal Chouf	40		2
WW15	Upgrade of Saida wastewater treatment plant	55		2
WW16	Completion of wastewater networks in Saida	25		1
WW17	Sour Phase III	50		1
<b>WW18</b>	<b>Expansion of existing WWTP</b>			
WW18a	Chekka WWTP Expansion	20		2
WW18b	Batroun WWTP Expansion	20		2
WW18c	Jbeil WWTP Extension	20		2
WW18d	Nabi Younes - WWTP Expansion	20		1
<b>B</b>	<b>Protection of Water Resources</b>	8	1	
WW19	Additional Funds for Meshmesh (Fnaydeq) Wastewater System	8	1	1
<b>WW20</b>	<b>Wastewater systems upstream of the underconstruction Mseilha dam basin</b>			
WW20b	Kfar Hay system	25	In progress	1
WW20c	Chebtine system	15	In progress	1
WW22	Qartaba, Aqoura and Afqa wastewater systems	20	5	1
WW31	Additional Funds for Hrajel Wastewater System	20	2	1
WW32	Aachqout system	20.5		2
WW34	Additional funds for Jeita system	15		1
WW35	Kfartai Wastewater System	6.5		2
WW40	Sfaieh and Qortada (Zandouqa) Wastewater Systems	67.63	6.6	1
WW41	Bmaryam - Btibyat and Hammana Wastewater Systems	28.11	4.85	1
WW47	Aley Zone 7 (Gharb and Chahhar)	66	3.2	1
WW48	Aley Zone 8 (Jurd Region) and Zone 9 (Fouara /Ouadi Es Sitt) Systems	83	3.5	1
WW58	Halloussieh Wastewater System	6	1.5	2
WW59	Srifa Wastewater System	8		2
WW60	Nabaa el Tasseh Wastewater System	18		2
WW61	Jbaa Wastewater System	7.5		1
WW62	Braiqaa Wastewater System	26		2
WW63	Nabatiye Part II (East Nabatiye) Wastewater System	50		2
WW64	Expansion of Nabatiye Wastewater Treatment Plant	20		2
WW65	Additional funds for Hasbaiya System	27.67	0.48	1
WW66	Ouadi Slouqi Wastewater System	33		2
WW67	Deir Mimas Wastewater System	5.5		2
WW68	Bint Jbeil Wastewater System	32		1
WW69	Additional funds for Hermel WWTP and Networks	27		1
WW70	Bajjaje Wastewater System	39.5		2
WW71	Qaa and Jdaide Wastewater System	25.7		2

## Wastewater Capital Investment Projects - Cycles 1 and 2

WW72	Upgrade of Iaat (Baalbek) WWTP and additional networks for Baalbek city and surrounding villages	11		1
WW73	Timnine Part II Wastewater System	66	5	2
WW74	Eastern Zahle Wastewater System	45	5	1
WW75	Wastewater Systems for Sohmor, Yohmor, Zilaya, Es Srayri and surrounding villages	17.61	0.13	2
WW76	Expansion of wastewater collection networks of West Bekaa (Phase 2)	27		1
WW77	Wastewater System for Rachaiya villages	64	0.63	2
<b>C</b>	<b>Small Scale Municipal Projects to Be Handled by Water Establishments</b>			
WW78	Small Scale Municipal Projects	250		1
<b>1</b>	<b>Total Wastewater Cycle 1</b>	<b>1,329</b>	<b>35</b>	
<b>2</b>	<b>Total Wastewater Cycle 2</b>	<b>1,027</b>	<b>13</b>	
<b>Total Wastewater Cycles 1 and 2</b>		<b>2,356</b>	<b>48</b>	
		<b>2,404</b>		



## Wastewater Future Capital Investment Projects - Cycle 3

### WASTEWATER SECTOR CYCLE 3

Ref	Project	Estimated Cost (MUS\$)		Implementation Cycle
<b>A</b>	<b>Protection of Mediterranean Sea</b>			
WW79	Madfoun System	20		3
WW05	Construction of wastewater systems for Akkar El Atika, Qobaiyat and surrounding villages	25		3
<b>B</b>	<b>Protection of Water Resources</b>			
<b>WW20</b>	<b>Wastewater systems upstream of the underconstruction Mseilha dam basin</b>			
WW20a	Ajed Ebrine system	4.5		3
WW21	Small systems to protect Qadisha Valley	50.25		3
WW23	Bchille system	5		3
WW24	Aabaydat system	11		3
WW25	Tartij Small Local Station	1.5		3
WW26	Aalmat system	12		3
WW27	Jaj WWTP	6.6		3
WW28	Lehfed Haqel Small Stations	2.2		3
WW29	Behdaydat WWTP	3.5		3
WW30	Yahchouch WWTP	8.3		3
WW33	Bqaatouta WWTP	0.8		3
WW36	Abou Mizane WWTP	3.25		3
WW37	Zabbougha WWTP	0.8		3
WW38	Es Souane WWTP	20.7		3
WW39	Mtein WWTP	6.3		3
WW42	Hlaliye and Shwite Wastewater System	44.9	3.15	3
WW43	Mchikha Wastewater System	12.75	1.95	3
WW44	Deir Khouna (Qtale) Wastewater System	12.59	2.5	3
WW45	Arsoun Wastewater System	8.56	1.3	3
WW53	WWTP1 Wastewater System	0.2		3
WW54	WWTP2 Wastewater System	8		3
WW57	Kfar Matta Small Local Station Wastewater System	0.5		3
	<b>Total Wastewater Cycle 3</b>	<b>269.2</b>	<b>8.9</b>	
		<b>278</b>		

## Electrical Capital Investment Projects – Cycles 1 and 2

### ELECTRICITY SECTOR CYCLES 1 & 2

Ref	Project	Estimated Cost (MUS\$)		Implementation Cycle
E1	New Power Plants on Medium Term - IPP-1000MW	1,200	Existing Land Dedicated for the power plant to be Purchased	1
E2	Jiye Power plant-500MW	500	Existing Land Dedicated for the power plant	2
E3	Salaata 2 Plant on Longer Term -500MW	600	Existing Land Dedicated for the power plant	2
E4	Hydro power plants (331.5 MW)		Existing Land Dedicated for the power plant	
		264.1	New Location	1
			New Location	
E5	Geothermal Plant of 1.3MW	5		1
E6	Transmission Master Plan Project (High Importance)	223.63		1
E7	Transmission Master Plan Project including Infrastructure at KSARA Substation (Mid Importance)	253.693		2
E8	LV Network Upgrade	56		1
E9	DSP	262.5		1
		87.5		2
E10	Gas Pipeline	140		1
1	<b>Total Electricity Cycle 1</b>	<b>2,151</b>	<b>0</b>	
2	<b>Total Electricity Cycle 2</b>	<b>1,441</b>	<b>0</b>	
	<b>Total Electricity Cycles 1 and 2</b>	<b>3,592</b>	<b>0</b>	
			<b>3,592</b>	

## Electricity Future Capital Investment Projects – Cycle 3

### ELECTRICITY SECTOR CYCLE 3

Ref	Project	Estimated Cost (MUS\$)		Implementation Cycle
FE1	Zouk Power plant-500MW	500	Existing Land Dedicated for the power plant	3
FE2	New Power Plants on Longer Term -1000MW	1,200	New Location	3
FE3	Hydro power plants (141.5 MW)	112.73	Existing Land Dedicated for the power plant	3
			New Location	
FE5	Geothermal Plant of 15MW	52.7		3
FE6	Transmission Master Plan Project (Low Importance)	134.585		3
<b>Total Electricity Cycle 3</b>		<b>2,000</b>	<b>0</b>	
		<b>2,000</b>		

## Telecommunication Capital Investment Projects – Cycle 1

### TELECOM SECTOR CYCLE 1

Ref	Project	Estimated Cost (MUS\$)		Implementation Cycle
TL1	Phase 2 FTT(X) - FTTO: Fiber -To-The-Office - FTTH: Fiber-To-The-Home Phase 7 FTT (X) infrastructure	100	None	1
TL2	Phase 2 - Core Network and IMS (IP Multimedia Subsystem)	90	None	1
TL3	Expansion of international connectivity	50	None	1
TL4	Phase 2 Security System	60	None	1
TL5	Phase 2 Spectrum Monitoring	20	None	1
TL6	National Cloud Platform	200	None	1
TL7	Phase 2 IOT, Lora and WiFi Network	30	None	1
TL8	GSM network	150	None	1
<b>Total Telecom Cycle 1</b>		<b>700</b>		

## Capital Investment Plan for Solid Waste Managements – Cycle 1

### SOLID WASTE SECTOR - CYCLE 1

Ref	Project	Estimated Cost (MUS\$)		Implementation Cycle
SW1	Solid Waste Management to cover all Lebanon including collection, sorting, treatment and landfill sites.	1,400	n.a.	1
<b>Total Solid Waste Cycle 1</b>		<b>1,400</b>		

## Capital Investment Plan for Cultural / Tourism Projects – Cycles 1 and 2

### INFRASTRUCTURE FOR TOURISM / CULTURAL HERITAGE - CYCLES 1 & 2

Ref	Project	Estimated Cost (MUS\$)		Implementation Cycle
CH1	National and Public Libraries	15	n.a.	1 & 2
CH2	Movies (Cinematic and documentaries)	7	n.a.	1 & 2
CH3	Theater	7	n.a.	1 & 2
CH4	Music (new branches for the Conservatoire)	15	n.a.	1 & 2
CH5	Scientific and Educational Centers	18	n.a.	1 & 2
CH6	Arts Museum	7	n.a.	1 & 2
CH7	Arts General	10	n.a.	1 & 2
CH8	Warehouse	36	n.a.	1 & 2
CH9	Historical cities and buildings	50	n.a.	1 & 2
CH10	Archeological sites and surroundings	70	n.a.	1 & 2
CH11	Museums	30	n.a.	1 & 2
<b>Total Tourism / Cultural Heritage Cycle 1</b>		<b>84</b>	<b>0</b>	
<b>Total Tourism / Cultural Heritage Cycle 2</b>		<b>180</b>	<b>0</b>	
<b>Total Infra for Tourism / Cultural heritage Cycles 1 and 2</b>		<b>264</b>	<b>0</b>	
		<b>264</b>		

## Infrastructure for Industrial Zones – Cycle 2

### INFRASTRUCTURE FOR INDUSTRY - CYCLE 2

Ref	Project	Estimated Cost (MUS\$)		Implementation Cycle
IN1	Infrastructure for 3 industrial cities, Alkaa, Baalbek, and Terbol – Phase 2	50	0	2
IN2	Infrastructure for the Tripoli Special Economic Zone	25	0	2
	<b>Total Cycle 1</b>	0	0	
	<b>Total Cycle 2</b>	75	0	
	<b>Total Infra for Industry Cycles 1 and 2</b>	<b>75</b>	<b>0</b>	