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**Quick Facts: Six Lebanese Realities**

- ❖ **50% or 1.2M tons of Lebanon’s Municipal Solid Waste, MSW, are dumped in “illegal” sites.**
- ❖ **Displaced Syrians incurred \$313M in energy costs last year, or \$1.33B by 2020. More than 45% of households’ electrical connections are “not on EDL’s grid”.**
- ❖ **Most regions lack Fiber Connection today, which keeps the connectivity low and/or slow.**
- ❖ **“Environmental degradation costs” driven by untreated wastewater deducted 2.1% of Lebanon’s GDP. (World Bank, 2003)**
- ❖ **Lebanon has a 40% water supply deficit which climbed to a 50% deficit post-Syrian crisis. (National Water Sector Strategy NWSS 2010)**
- ❖ **The quality of transport infrastructure in Lebanon “*is not equally distributed [...], with border and rural areas suffering the most*” (CIP Report, 2018), knowing that efficient transport networks foster economic growth & nurture quintessential social objectives.**

**Current Framework: The CEDRE Conference**

The upcoming conference is expected to muster international support for Lebanon’s debt-ridden economy and its “poor” infrastructure. The CEDRE Conference, scheduled to be held on April 6, 2018 in Paris has become the buzzword in Lebanese papers and news channels in the run up to Q2 of 2018. The medium term economic prospects of the Lebanese economy have been directly linked to the Conference’s promising financing outcomes. A number of nations will come together to support Lebanon’s already poor infrastructure by agreeing to finance a number of proposals that

can improve infrastructure networks and ultimately kick-start economic growth. In return, Lebanon promises to deliver fiscal, structural, and sectorial reforms.

**During the conference, the Lebanese government will share its Capital Investment Plan (CIP).** On March 21, 2018, the Cabinet approved the CEDRE Conference blueprint or the “CIP”. This last entails all proposed large-scale ongoing and new projects that aim to develop and enhance the efficiency of eight of Lebanon’s essential sectors: ***Transport, Water and irrigation, Wastewater, Electricity (energy), Telecom, Solid waste, and Tourism, & Industry.***

In fact, Lebanon aims to pass the final budget and show commitment to reform prior to the CEDRE convention date because showcasing its preparedness to implement the long-awaited infrastructure overhaul through the CIP projects can facilitate Lebanon’s tapping into the financing facilities offered by the international community, namely: the World Bank (WB), the Arab and European grants (long-term concessional lending), and public-private partnerships (PPP).

### **The CIP: Rationale and Objectives**

**Totaling approximately \$15.5B (\$16B) until 2028, the CIP is the largest investment program Lebanon ever witnessed.** If the international community is on board, the CIP may become a milestone for the national economy, capable of enhancing the efficiency and transparency of the Lebanese investment environment. According to the CIP report, the literature showed that large infrastructure plans can mobilize private investments within the country, create employment opportunities, increase productive capacity, which in its turn enhances national competitiveness and revitalizes trade routes with neighboring partners. Ultimately, overall economic growth will be boosted on multiple fronts.

**The CIP aims to bolster the national economy via detailed infrastructure spending.** The plan proposes to revitalize the infrastructure of the eight sectors by supporting existing projects, initiating new ones, prioritizing the impacts and importance of each, and by implementing new reforms to optimize trade, attract new investment, and generate employment opportunities. Every project will therefore go through Cycle 1, 2, and 3, knowing that the investments sought in the context of the CEDRE conference (Cycle 1) amount to \$16B, and every cycle is 4 years.

**In Cycle 1, the CIP is designed to ensure around \$4B of infrastructure projects via public private partnerships.** In fact, in the CEDRE conference, Lebanon seeks \$10B (or \$10,106M), of which 40% is to be financed by private sector investments known as PPP, entailing different forms of collaboration between the private and public sector. Meanwhile, the other 60% or \$6B in investment is to be sought at CEDRE.

**Economic growth in Lebanon was curbed since 2011’s Syrian Crisis and the infrastructure exacerbated.** By the end of Lebanon’s civil war in the 1990s, capital spending on infrastructure was scarce and restricted, owing it to fiscal limitations, elevated debt, and chronic delays in reconstruction. In 2011, the Syrian Crisis emerged and the population grew by 25-30% in Lebanon. Both factors immensely strained the existing, weak infrastructure now-serving an additional 1.5M

refugees. The broken networks bore the population’s accentuated demand for electricity, water, health, and other basic services, which crippled the government’s provision of necessities, thereby inhibiting social wellbeing.

**Investing in infrastructure carries “indirect and multiplier effects that can stimulate the economy”.** Today, weak national infrastructure caps the private sector’s contribution to economic growth, as it limits worker productivity and hampers the country’s competitiveness. The World Bank (WB) confirms that infrastructure plays a crucial role in fostering growth.

In the CEDRE blueprint (or the CIP), the WB cites that:

*“Investment in high-quality, sustainable infrastructure can provide basic services to households; lead to productive gains for industry; provide market access for agriculture; enable sustainable urban development; open corridors of trade for poor and landlocked countries to the global economy; and help progress towards a more climate-smart world.”*

It is worthy to note that the top priority projects in the CIP are assigned according to the project’s socio-economic impacts, its degree of mitigating the Syrian Crisis effects, the degree to which existing investments are capitalized upon, and its importance to the different regions and municipalities.

**Capital Investment Summary**

*(In \$M, excluding land expropriation)*

Sector	“CEDRE” Investment (Cycle 1)	Cycle 2	Grand TOTAL
<i>Transport</i>	<b>2,311</b>	1,964	4,275
<i>Water and Irrigation</i>	<b>2,151</b>	722	2,873
<i>Wastewater</i>	<b>1,309</b>	1,047	2,356
<i>Electricity</i>	<b>2,151</b>	1,441	3,592
<i>Telecom</i>	<b>700</b>	-	700
<i>Solid Waste</i>	<b>1,400</b>	-	1,400
<i>Tourism Infrastructure</i>	<b>84</b>	180	264
<i>Industrial Zones Infrastructure</i>	<b>0*</b> <i>(*Phase 1 of the 3 new industrial zones is funded by the European Investment Bank &amp; Italian UNIDO).</i>	75	75
<b>Grand TOTAL</b>	<b><u>10,106</u></b>	5,429	15,535

Source: Capital Investment Plan, Feb. 2018

**CIP per Sector for the CEDRE (Cycle 1 “Investment”, pledging \$10B in total):**

**A. Transport Infrastructure**

**As per the CIP, transport solutions facilitate the ease of movement for citizens, leisure, work, and trade, and thereby contribute to improving the quality of life.** In Lebanon, the Ministry of Public Works and Transport spent only \$40M annually on road maintenance, while the CIP report reveals an estimated \$100M can keep the network in “good condition”, while \$1B is needed to scale the road network on an “acceptable” standard. Within this context, the influx of Syrian refugees since 2011 amplified congestion in urban areas and added to the ‘wear and tear’ of the highway networks now being used by much higher traffic flows, all of which pushed the under-funded network to slash national economic performance.

**Against this backdrop, the CIP allocates \$2.3B to transport networks in cycle 1, including roads, airports, ports, and railways.** Three transportation projects earned each the highest priority score of 6/6:

1. The multi-regional “**Rehabilitation of Classified Roads and Municipal roads**” cost \$509M to rehabilitate and expand roads & urban facilities projects within the municipalities’ responsibilities.
2. The national “**Bus Rapid Transit System – Greater Beirut Public transport Project**” will cost \$500M to design and construct dedicated routes and stations.
3. The national “**Northern Coastal Highway - Akkar**”, which will also incur the cost of \$500M developing the Pan Arab Highway – Akkar.

Other development projects with lower investment “priority” but eminent impacts on the economy and social objectives include the:

4. “**Beirut Peripherie - Phase 1**” with an estimated cost of \$232M.
5. “**Rehabilitation and Development of Beirut Hariri Airport – Phase 1**”, necessitating \$500M.
6. “**Dbayeh – Nahr Ibrahim Motorway Phase 2**”, at a cost of \$330M.

**B. Water and Irrigation Networks:**

**The CIP proposes to dedicate \$2.2B in the CEDRE conference to overhaul Lebanon’s water and irrigation infrastructure.** The Ministry of Water and Energy (MEW) in 2010 estimated that local residents consume approximately 1,473 MCM, of which 55% constitutes the demand for irrigation, 34% for domestic use, 10% for industrial use, and 0.6% for touristic purposes. Yet, public services only provide 60% of the total demand.

**Moreover, Lebanon’s shortage in water supply climbed to 50% of total demand compared to 40% prior to the Syrian Crisis.** In fact, large refugee influx since 2011 inflated the water demand by

roughly 61MCM/year, knowing that *“only 36% of the total population is benefitting from safely managed drinking water services”* as per the UNICEF-WHO in 2016.

**Therefore, the CIP prioritizes two investments in the water sector.** The CIP projects can either tackle the “expansion of water supply”, or the “development of water resources”, with the highest priority ones being:

1. The **“Water supply system for Mseilha Dam”** in the North/Batroun region will potentially cost \$14.5M to construct a water treatment plant and reservoirs for the dam.
2. The **“Water supply for the Balaa Lake”** also in Batroun is aimed at constructing water treatment plants and reservoirs using an investment of \$10.5M.

### **C. Wastewater:**

**Interestingly, the CIP report reveals that, “only 8% of the generated wastewater was treated in Lebanon, despite investments that exceeded \$1B since 2012”.** The direct amount of wastewater incurred by the displaced Syrians cannot be accurately estimated due to the lack of data; however, according to “Lebanon Environmental Assessment of the Syrian Conflict and Priority Interventions (MoE, EU, UNDP, 2014), the generated wastewater surged from 8% to 14% since 2011, given that the in-place systems can only treat 8% of total national sewage.

**\$1.3B is assigned for the implementation of wastewater projects in Cycle 1 (CEDRE).** These projects can be of three types: plans to protect the Mediterranean Sea, to protect other water resources, or small scale municipal projects handled by water establishments. The priority projects earning 6/6 and in Cycle 1 were those set up to protect the Mediterranean Sea:

1. The \$20M worth **“Wastewater networks in the coastal and central villages of Koura- Phase II”** promises to protect groundwater resources.
2. **“The Ghadir Flood Protection”** in Mt. Lebanon, amounting to \$30M allocated to protect against the flooding of major highways and the population.

In terms of projects protecting water resources, Cycle 1 (CEDRE) projects included:

3. **“Additional Funds for Hermel and Networks”** investment in the Baalbek-Hermel region, valued at \$27M is set up to capitalize on the Hermel plan albeit protecting the Assi dam.

Moreover, it is crucial to add that water treatment projects are also part of Cycle 1 top priority plans, aiming to reduce the water pollution and improve the quality of water across Lebanon. Namely, some of the proposed water treatment projects include:

4. **“Additional funds for Meshmesh (Fnaydeq) wastewater system”** at \$9M, promising to safeguard groundwater sources.
5. **“Kfar Hay system in Batroun (North Lebanon)”** costs \$25M and will comprise of wastewater treatment plant and networks to protect water resources the Mseilha dam.

#### **D. Electricity:**

**The electricity sector alone collects \$2.2B in investments within the CIP proposed in the CEDRE.** The shortage of power supply characterized by frequent power interruptions, high private generator bills, and prolonged black-outs in major or smaller cities of Lebanon dates back to 30 years. The strain on the sector was magnified post-2011, as displaced Syrians consumed 447MW of the country’s total power, equivalent to \$313M in 2017. Moreover, more than 45% of their households’ electrical connections are illegal, that is, “not on EDL’s grid” and non-metered. All these factors weighed down on the performance and supply of EDL and continue to inflict economic growth.

**Thus, the CIP projects on the energy sector are a crucial milestone.** Actually, the MEW forecasts an electricity shortage of 1.07GW in 2018, as the supply fails to meet the demand which currently stands at 3.465GW and is expected to rise by 5% to 3.64GW by 2019 further magnifying the shortage. The electrical capital investment project with highest priority was:

1. The fuel sourcing “**gas pipeline**” to be built along the coast to feed all power plants, pledging \$140M in the CEDRE conference.

With a priority of 4/6, the below power generation project followed:

2. The “**New power plants on medium term in Zahrani, Salaata**”, allocated \$1.2B to meet shortages, improve social wellbeing, and encourage stability in Cycle 1.

**Renewable energy technologies** are also on the agenda as the plan is set to produce 20% of total power from renewable resources by 2030. Accordingly,

3. “**Hydro power plants (331.5MW)**” pledge \$264.1M for 2020, inclusive of renewing existing and installing new hydro plants and micro-hydro on non-river streams.

#### **E. Telecom:**

**Telecom’s share of the CIP stands at \$700M**, with the CIP’s promise to ensure end users access to high speed fiber optic infrastructure. Among the top high priority projects in the sector was:

1. The “**National Cloud Platform**” (\$200M) aimed at building a national cloud data center to be used “*as a primary [and] disaster recovery site*” by the government and NGOs.
2. The national “**GSM network**” project (\$150M) aims to upgrade the GSM network to 5G.

#### **F. Solid Waste:**

**Solid Waste Management (SWM) in Lebanon faces challenges on the institutional, economic, and financial level.** As per the CIP report, Lebanon generates 2.4M tons/year of municipal solid waste, of which almost 50% or 1.2M tons are dumped in “illegal” sites while the remaining are partly disposed of in sanitary landfills (35%) or recycled/composted (approx. 15%).

**The CPI proposes \$1.4B to collect, sort, treat, and fix landfill sites using the Waste to energy (WTE) techniques.** The sector is already stained by the notorious eruption of the 2015 national waste crisis. Hence capital investment in WTE plants may collect a return for waste treatment.

In fact, in Sweden, only 1% of wastes are dumped in landfills, as the nation produces 1 ton of fuel from every 3 tons of treated waste. The nation is also starting to import waste from other countries to produce energy.

### ***G. Tourism and Industry Infrastructure:***

The CPI allocates \$84M in cycle 1 to rehabilitate the Lebanese heritage and manage the cultural activities in Cycle 1 (CEDRE). As for Phase 1 of the infrastructure for the three planned new industrial zones to be constructed, it will be funded by the European Investment Bank and Italian UNIDO, and not by CEDRE.

### **Wrap Up**

**Overall, the CIP seeks to secure around \$6B for Cycle 1 of the project from the international community.** However, in its concluding remarks in Feb. 2018, the IMF’ outlook for Lebanon’s economy remained grim, as it incited the government to bring back debt to sustainable levels through reforms and fiscal consolidation, rather than acquire more of it.

**Nonetheless, Foreign Direct Investments (FDI) in Lebanon will keep playing a major role alongside grants and loan from international monetary institutions to finance the CIP.** The CIP report clarifies that alongside international funds, Lebanon still depends on FDIs which constitute 5% of its GDP to nurture its economy, compared to the FDI to GDP ratios which stand at 3% in the UAE, 3.4% in Jordan, and 1.3% in Saudi Arabia.

**All in all, institutional capacity building is a crucial pillar** in the various infrastructure rehabilitation projects and across all sectors, to ensure the operation, management, maintenance, conservation, and effective sustainable techniques to foster economic growth.

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