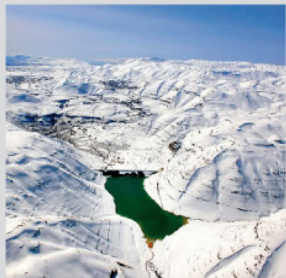


National Water Sector Strategy

“A right for every citizen, a resource for the whole country”



Eng. Gebran Bassil

Ministry of Energy and Water (Date 27/12/2010)

Lebanese Government (Resolution No. 2, Date 09/03/2012)

Baseline

Demand/Supply Forecasts

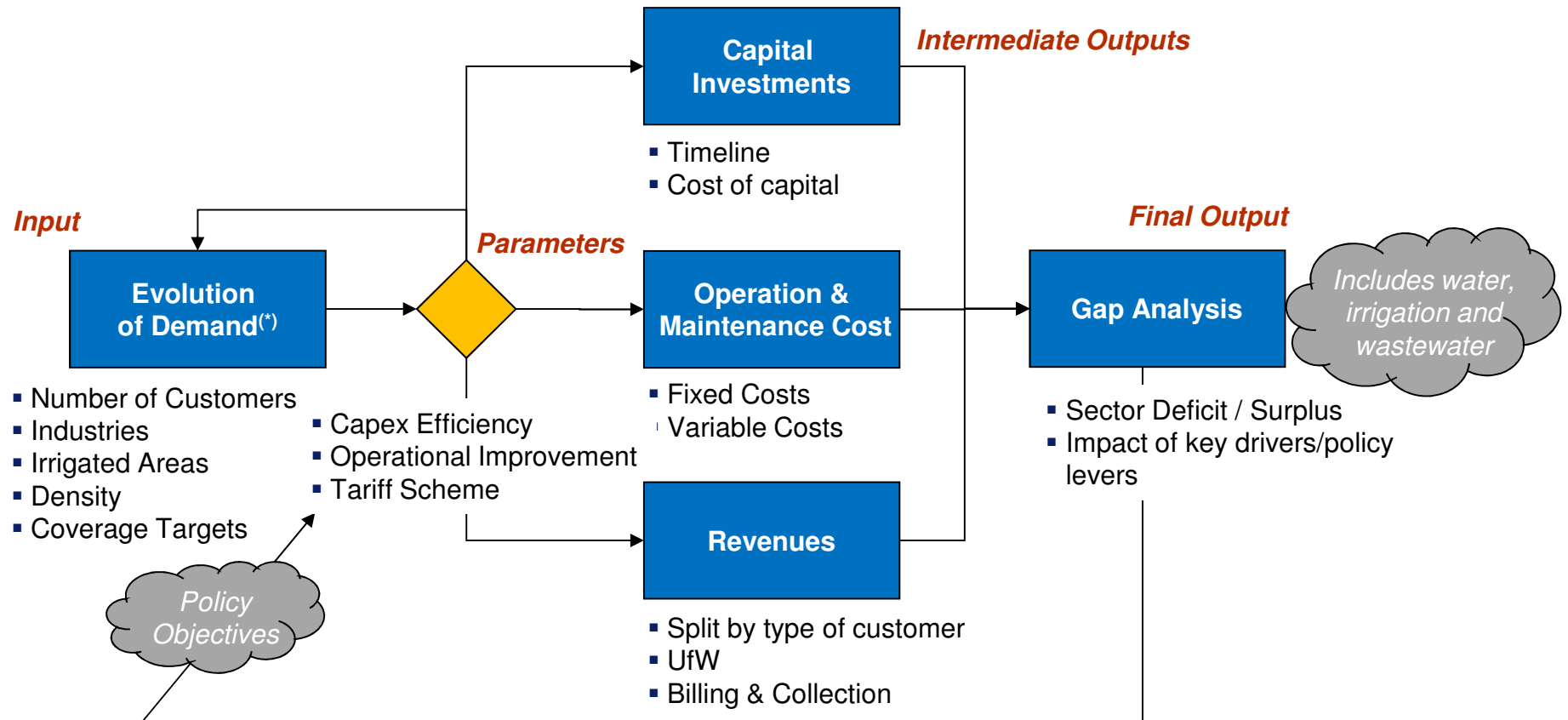
Sector Enabling Environment

Investment Plan

Strategic Roadmap

Need for Capex, Opex and revenues is driven by the evolution of demand

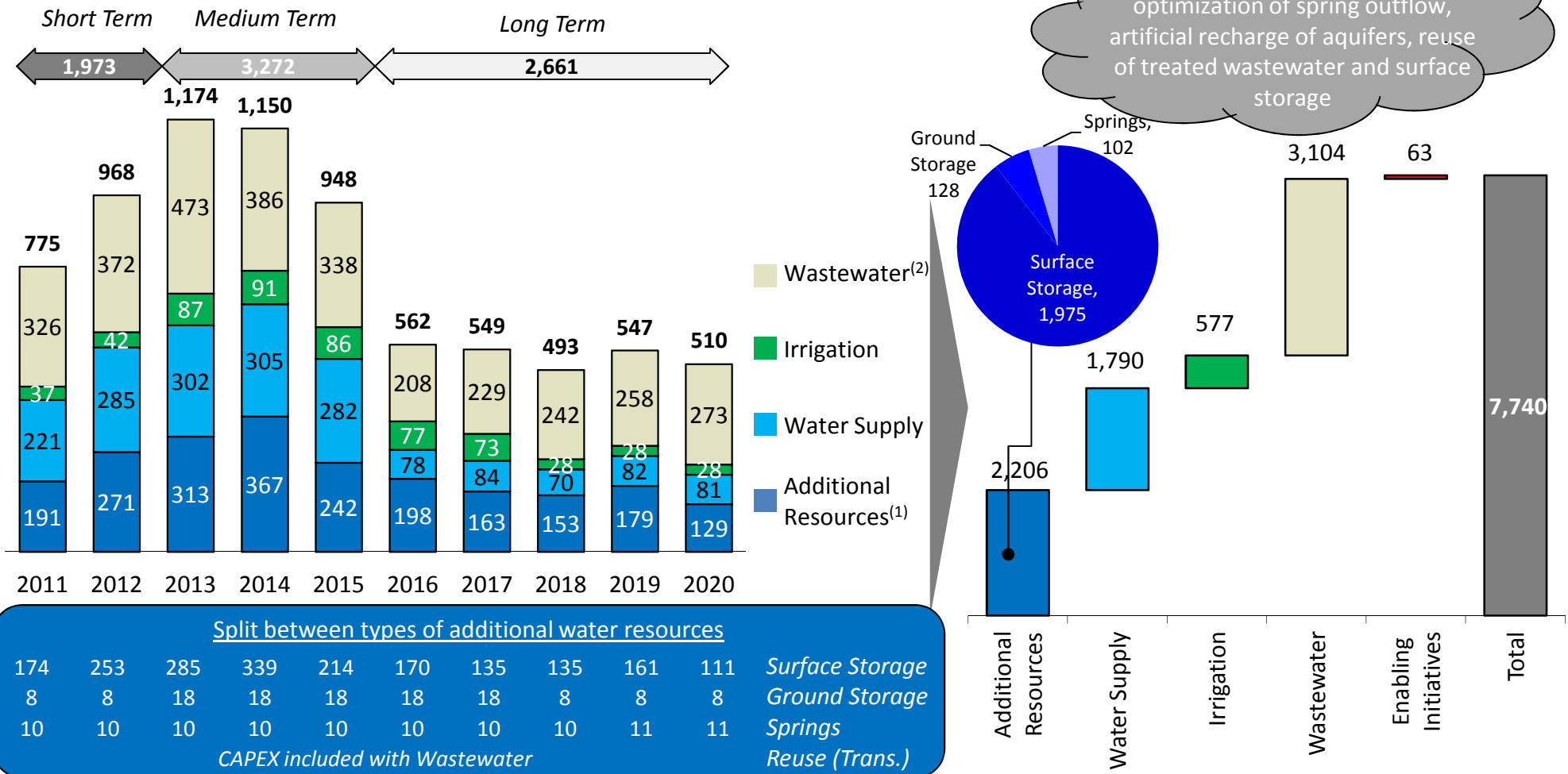
Capex and Opex and Revenue Requirements



Note: (*) Includes requirements to upgrade existing infrastructure

Total capital expenditure requirements (CAPEX) for the period 2011-2020 would reach USD7.74 Billion approximately

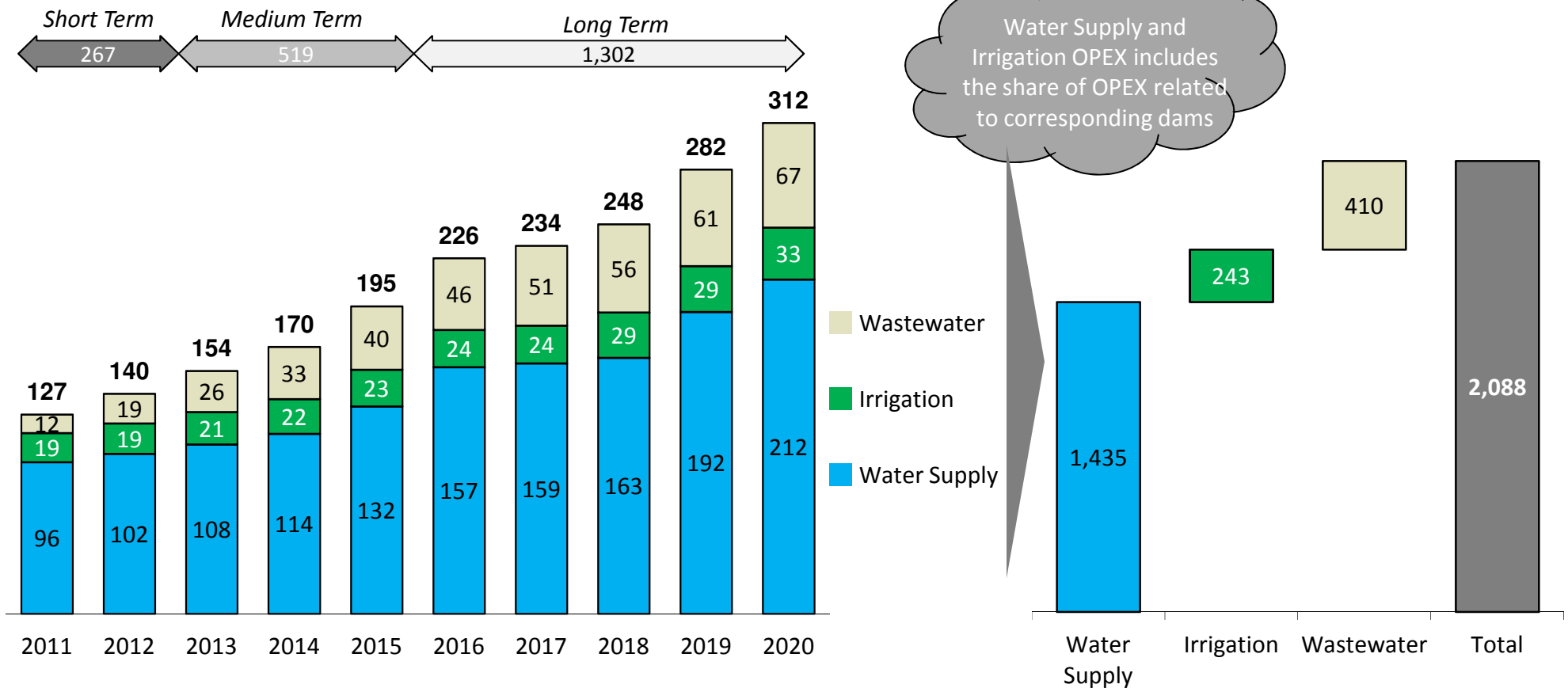
Capital Expenditure Requirements for Lebanon Water Sector, 2011-2020
(By Sub-Sector, in USD Million)



Note: (1) Additional resources include spring optimization, artificial recharge, reuse of treated wastewater and surface storage; (2) Wastewater includes collection and treatment

Total operational expenditure requirements (OPEX) for the period 2011-2020 would reach USD2.1 Billion approximately

Operational Costs for Lebanon Water Sector, 2011-2020
(By Sub-Sector, in USD Million)



Policies and targets for tariffs and collection are set, together with an estimate of their implications on revenues

Water Supply

- Volumetric tariff to be introduced in pilot areas of fully metered connections (25% of customers in 2012) and gradually rolled out (75% of customers by 2015). Rate per m³ to be maintained at the current average of USD 0.39 until 2014 and then increased to reach O&M recovery by 2015 and full cost recovery by 2021
- Current lump-sum tariff to be temporarily maintained for unmetered customers
- Number of subscribers to be increased through improved coverage and customer surveys
- Collection to be improved from current national average of 47% to 60% by 2012 and 80% by 2015

Irrigation

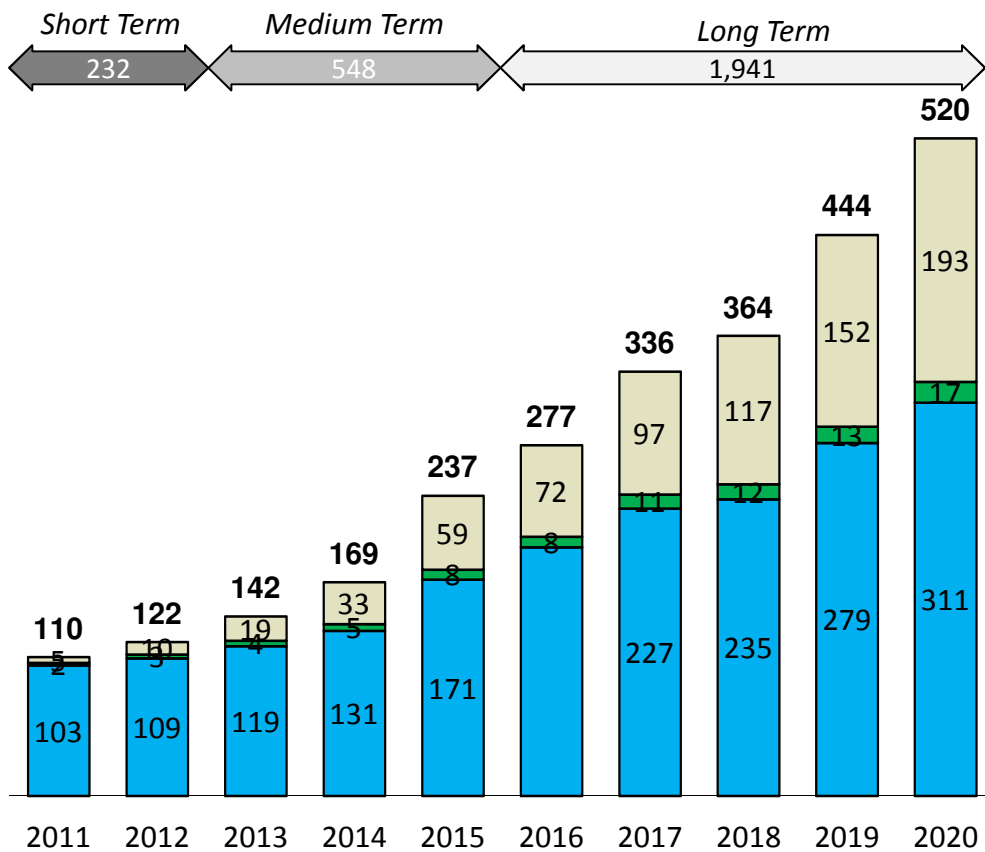
- Tariffs to be structured based on the specificities of irrigation schemes (currently assumed: <10% volumetric, 30% per hour, 60% per area). Volumetric metering would be the preferred solution wherever applicable (target by 2015: 60% volumetric, 20% per hour, 20% per area)
- Rate per m³ to be maintained at the current average of USD 0.12 until 2014. Rate per hour to be kept at an average of USD 6. Rate per ha USD 400/yr. All rates are to be increased by 20% starting 2015
- Collection to be improved from current national average of <10% to 30% by 2012 and 60% by 2015

Wastewater

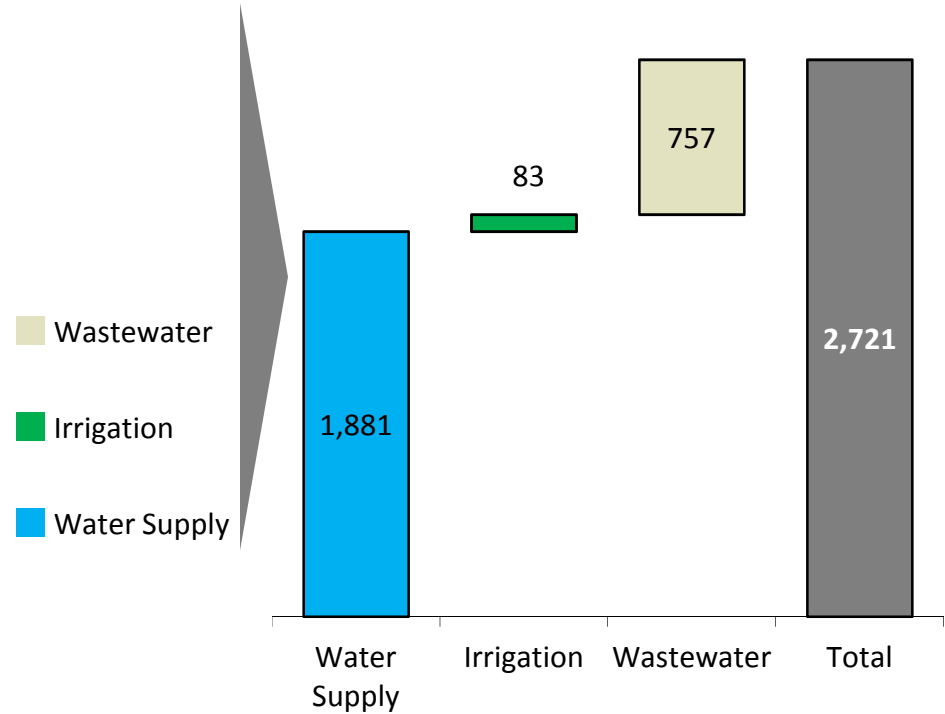
- Collection and treatment to at least preliminary level of 80% of wastewater by 2015, and of 95% by 2020. Secondary treatment and reuse for all inland and for coastal systems where reuse is applicable by 2020
- The new WW tariff (25% of the WS tariff at an initial stage) to be introduced in 2011 to pilot areas where all customers are connected to a sewer network and to a WWTP, to be then increased to gradually reach full recovery of all O&M costs by 2020
- Wastewater charges can be a percentage of the water bill

Total revenues of the water sector for the period 2011-2020 are estimated to reach USD2.72 Billion

Revenues for Lebanon Water Sector, 2011-2020
(By Sub-Sector, in USD Million)



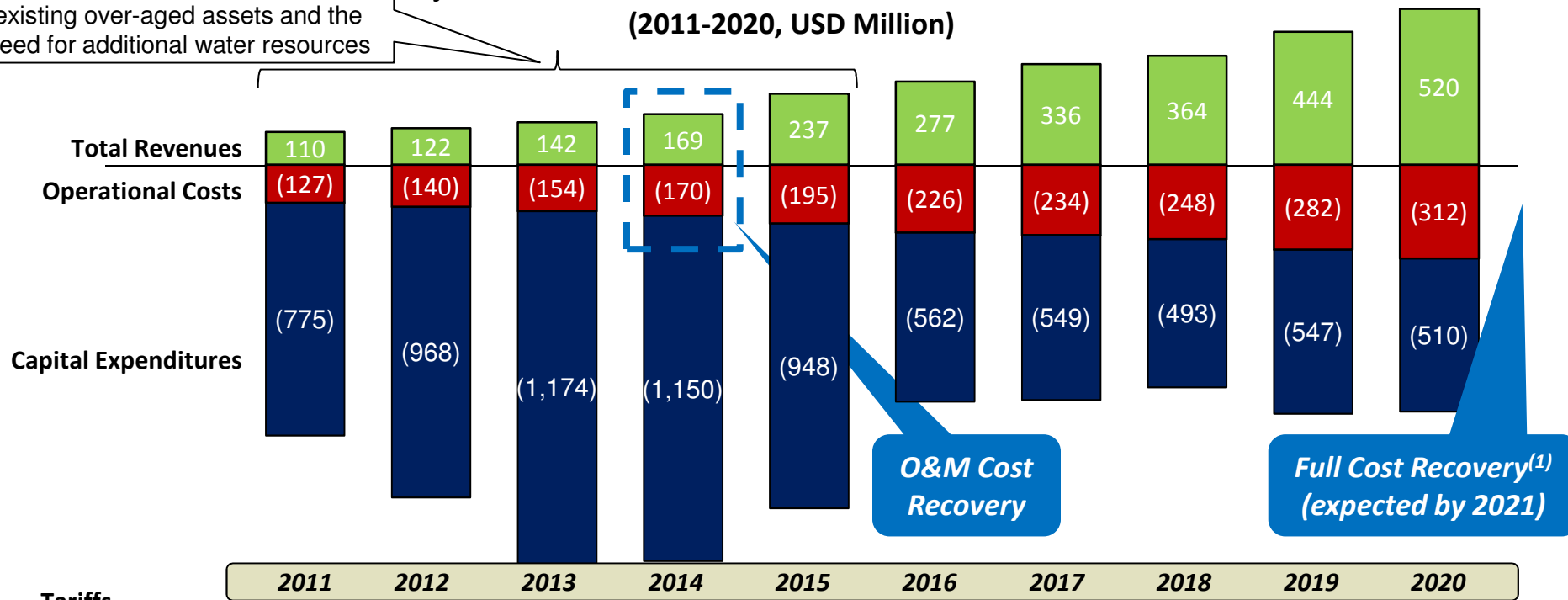
Revenues based on policies/targets for water supply, irrigation and wastewater set in previous slide



Under the set policies and targets, O&M cost recovery is expected by 2014 and full cost recovery would be reached by 2021

Higher CAPEX in 2011-2015 due to rehabilitation/replacement of existing over-aged assets and the need for additional water resources

Projected Financial Performance of the Lebanon Water Sector (2011-2020, USD Million)



Tariffs	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
WS (USD/m ³):	0.39	0.39	0.39	0.39	0.45	0.45	0.50	0.50	0.55	0.55
WW (USD/m ³):	0.10	0.12	0.15	0.17	0.23	0.24	0.29	0.31	0.36	0.39
Irrigation:										
Volumetric (USD/m ³)	0.12	0.12	0.12	0.12	0.14	0.14	0.17	0.17	0.17	0.21
per hour (USD/hour)	6.00	6.00	6.00	6.00	7.20	7.20	8.64	8.64	8.64	10.37
per area (USD/ha)	400.00	400.00	400.00	400.00	480.00	480.00	576.00	576.00	576.00	691.20

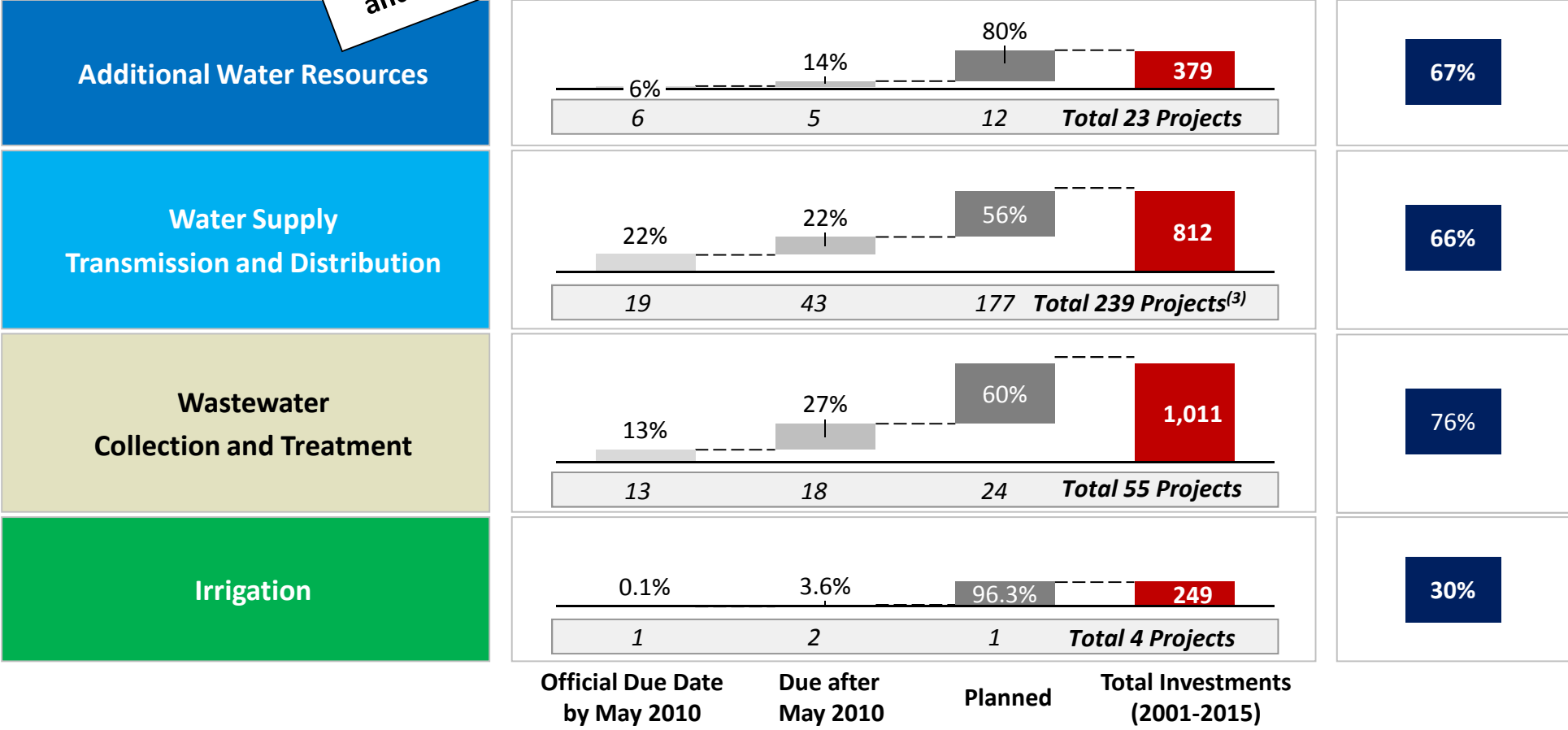
Note: (1) Full cost recovery includes O&M, General and Administrative, depreciation and debt service. Recovery is at sector level and is not specific to a given WE or sub-sector.

Total of 321 projects, with a budget of USD 2.45 Billion are ongoing, committed or planned for the period 2001-2015 ...

To be Updated and Validated

Ongoing and Planned Projects (2001-2015) (in USD Million) ⁽¹⁾

Average Completion Rate of Projects Due by May 2010⁽²⁾



Note (1) Approximated with CDR projects, donor funded projects, MEW projects, and WE projects; (2) CDR estimations; (3) Assuming that the 5-year plans of the WEs cover 169 projects
 Source: PMO – Booz & Company

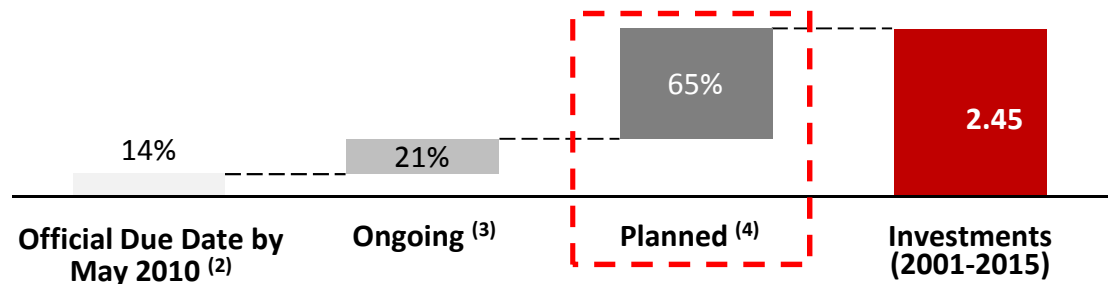
... with around USD 1.6 Billion as planned to be spent on new projects

- A total of **USD 2.45 Billion**⁽¹⁾ channeled through various stakeholders is funding the design and implementation of current and planned projects
- Around **USD 1.6 Billion** is planned to be spent on new projects
- Investments have a **low return** with a **poor execution rate** and **low assets and investments utilization**, due to inadequate sequencing and funds' misallocation

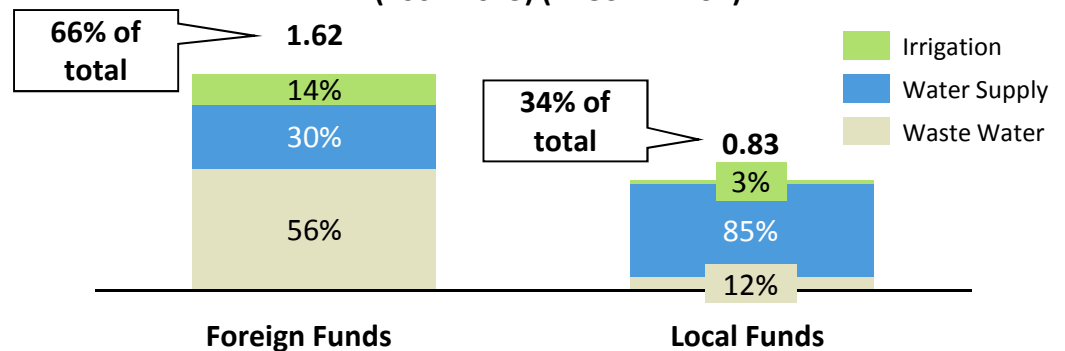
- **66%** of total investments are financed by **foreign funds** and **34%** by **local funds**
- 60% of local funds are financed by MEW/ WEs and 40% by CDR
- In the absence of a plan, foreign donors support **projects in line with a specific agenda** (i.e., mainly waste water in line with Barcelona convention)
- Internal investments are **not driven by a supply demand analysis**, but often influenced by political agendas

To be Updated and Validated

Ongoing and Planned Investments Timeline (2001-2015) (in USD Billion)



Ongoing and Planned Investments per Source of Funding and Sub Sector⁽¹⁾ (2001-2015) (in USD Billion)



Note: (1) Approximated with CDR projects, donor funded projects, MEW projects, and WE projects; (2) Average Completion rate 68%; (3) Started projects whose end date is later than May 2010; (4) Start date later than May 2010; (5) Disbursement over the sum of signed and planned projects

Source: PMO - Booz & Company