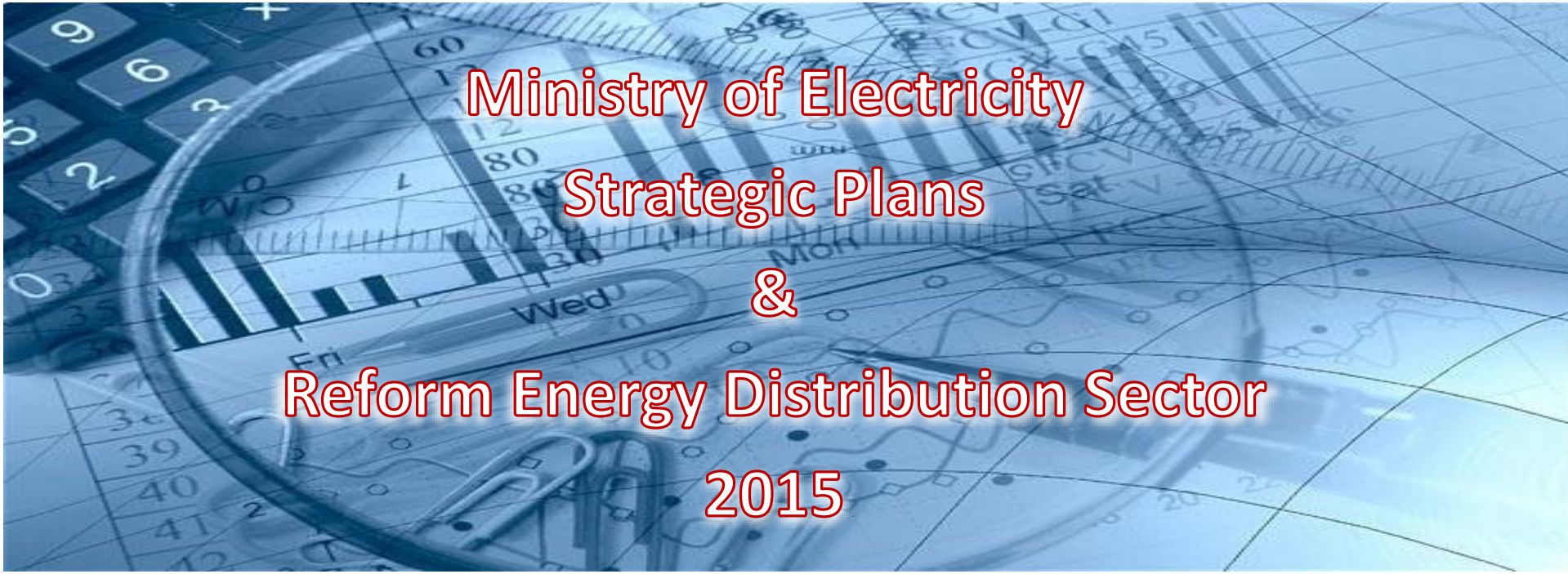


Ministry of Electricity
Strategic Plans
&
Reform Energy Distribution Sector
2015

November, 2015

Contents:

1. Critical Recovering Plan for 2016.
2. Strategic Plans till the 2018.
3. Reform Action Plans for Ministry of Electricity (MoE)

Due to the challenges faced by the country which reflect negatively on MoE' activities for recovering the energy shortage and electricity' supply to consumers, MoE prepares a different scenarios for a quick action plans to be adopted in accordance to the finance which can be allocated.

These planes divided to:

1. **Critical Plan.**
2. **Strategic Plan**.

1. Critical Recovering Plan for 2016.

This plan is prepared to recover & supply a total generation of (19000 MW) in June-2016 with a total cost around (4 Billion USD) as the following:

a. Generation Sector:

Total finance needed 1.9 Billion USD

Maintenance Cost	1.5 (Billion USD)
Ongoing projects	0.4 (Billion USD)

1. Critical Recovering Plan for year 2016.

b. Transmission Sector:

Estimated Cost → **0.65 (Billion USD)**

c. Distribution Sector:

Estimated Cost → **1.5 (Billion USD)**

2. Strategic Plan till the year 2018

This plan is prepared to cover the estimated load demand for 2018, This plan focused on both Distribution and Transmission sectors.

As for Generation Sector, MOE established a future plan depending on the investments with the private sector, The initiation for this plan is started with a contracts to generate more than (5000 MW).

The Generation Plan is aiming to:

1. **Satisfy unmet electricity demand.**
2. **Provide reliable continuous power supply to consumers.**

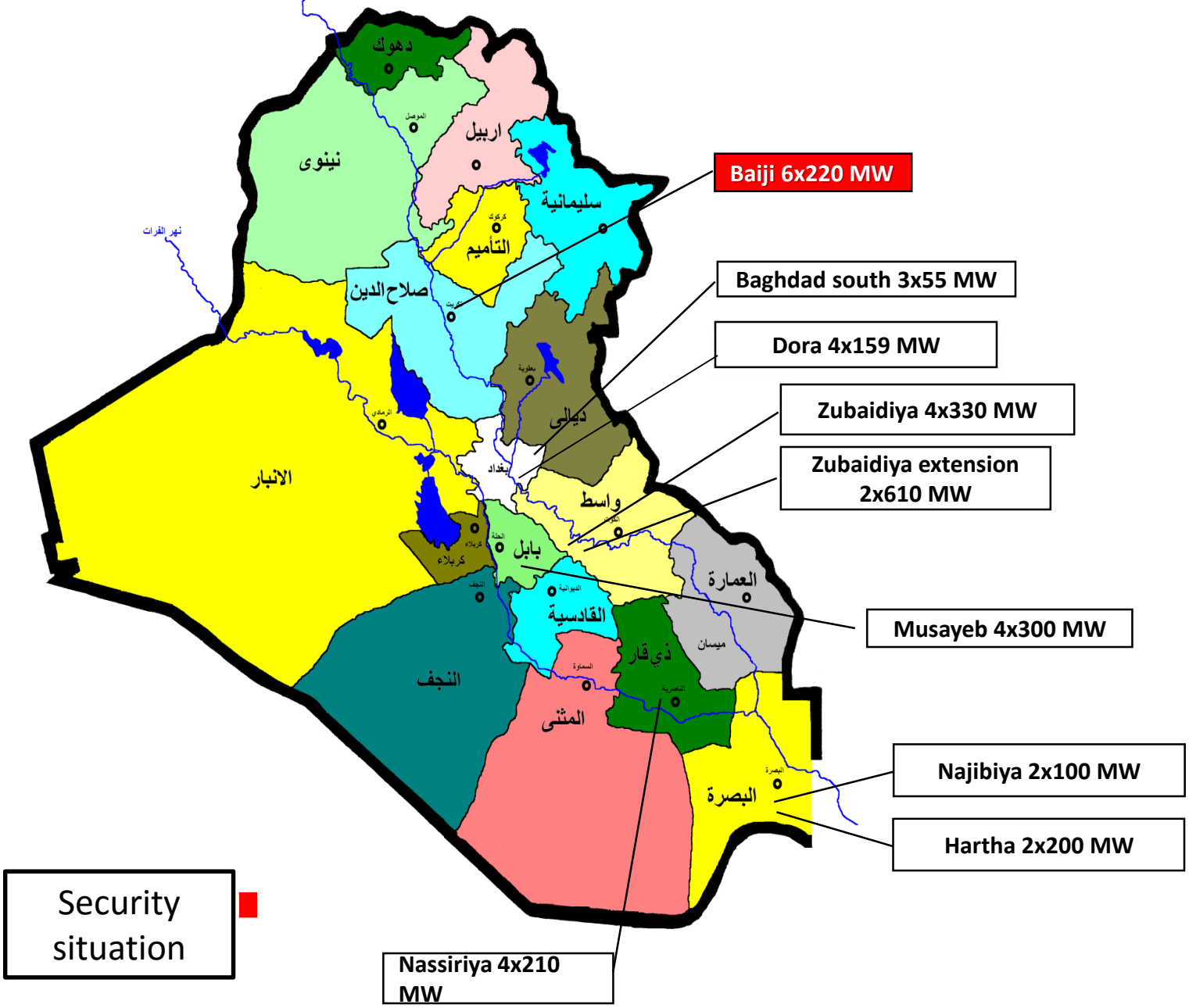
2. Strategic Plan till the year 2018

Power Generation plan

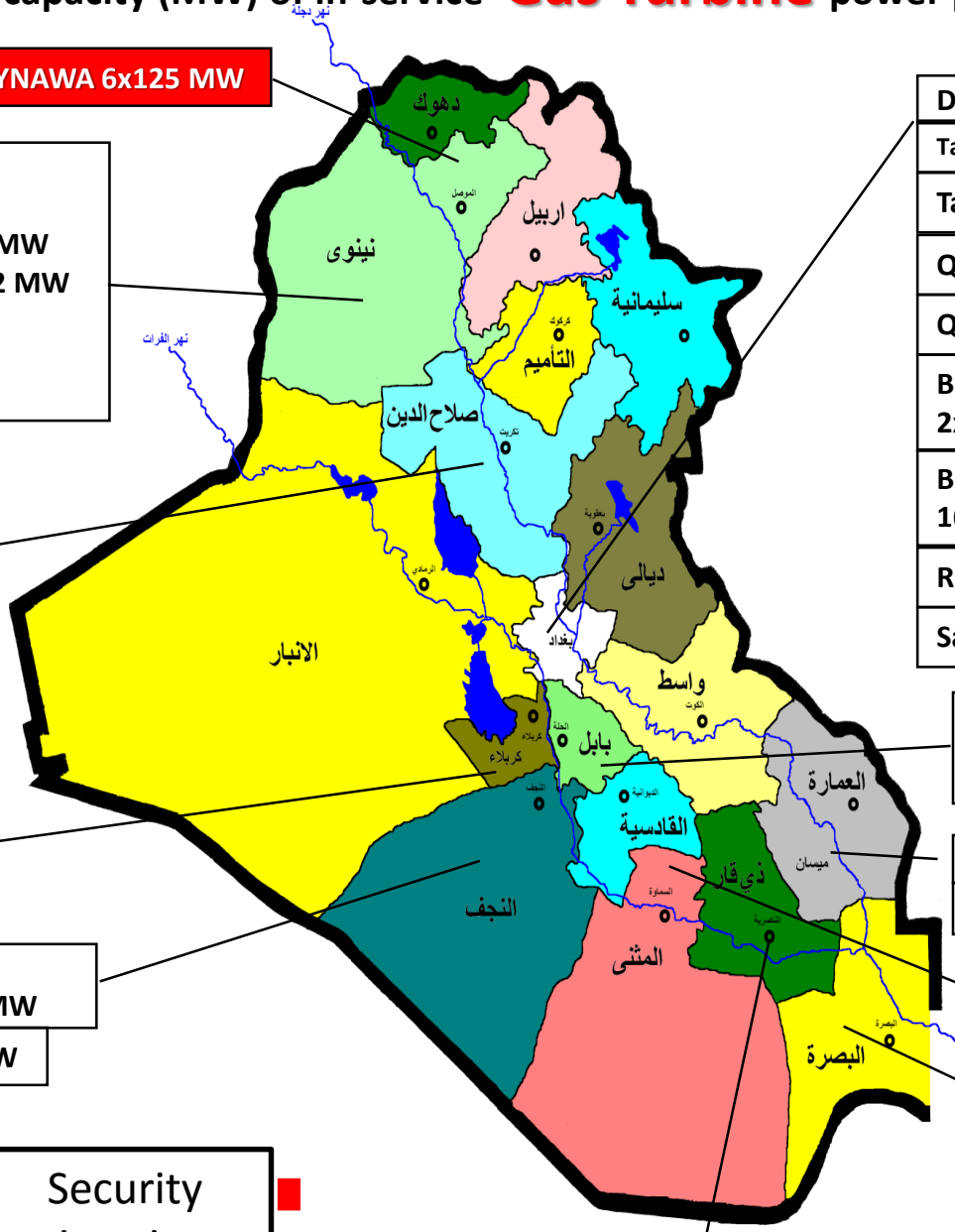
Existing generation	11850 MW (End of 2013)
Gas power plants	9573MW (2014-2020)
Thermal power plants	10180 MW (2014-2020)
Renewable energy (Solar & Wind)	400 MW (2014-2017)
IPP projects	5900 MW (2014-2017)
Combined Cycle	5632 MW (2013-2019)

- Total : 30685 (without Existing generation).

Installed capacity (MW) of in-service Steam Turbine power plants 2014



Installed capacity (MW) of in-service Gas Turbine power plants 2014



MOSUL 14x20 MW & NAYNAWA 6x125 MW

DIBIS 3x37.5 MW
New Mulla Abdulla 6x37 MW
Kirkuk 1x260+1x65+1x292 MW
Mulla Abdulla 12x20 MW

Baiji mobile 8x20 MW
Baiji 4x159 MW

Kerbala 2x125 MW
Khairat 10x125 MW

Najaf 1+2
3x63+1x55+2x125 MW

Haydariya 1x160 MW

Security situation

Dora 4x37.5 MW

Taji-1 4x20+3x25 MW

Taji-2 4x45 MW

Quds 4x43 MW

Quds 10x125 MW

Baghdad south-1
2x125 MW

Baghdad south-2
16x25 MW

Rasheed 2x47 MW

Saddr 2x158 MW

Musayeb 10x50 MW
Hilla-1 7x20+1x25 MW
Hilla-2 2x125 MW

Bazurgan 1x43+2x60 MW

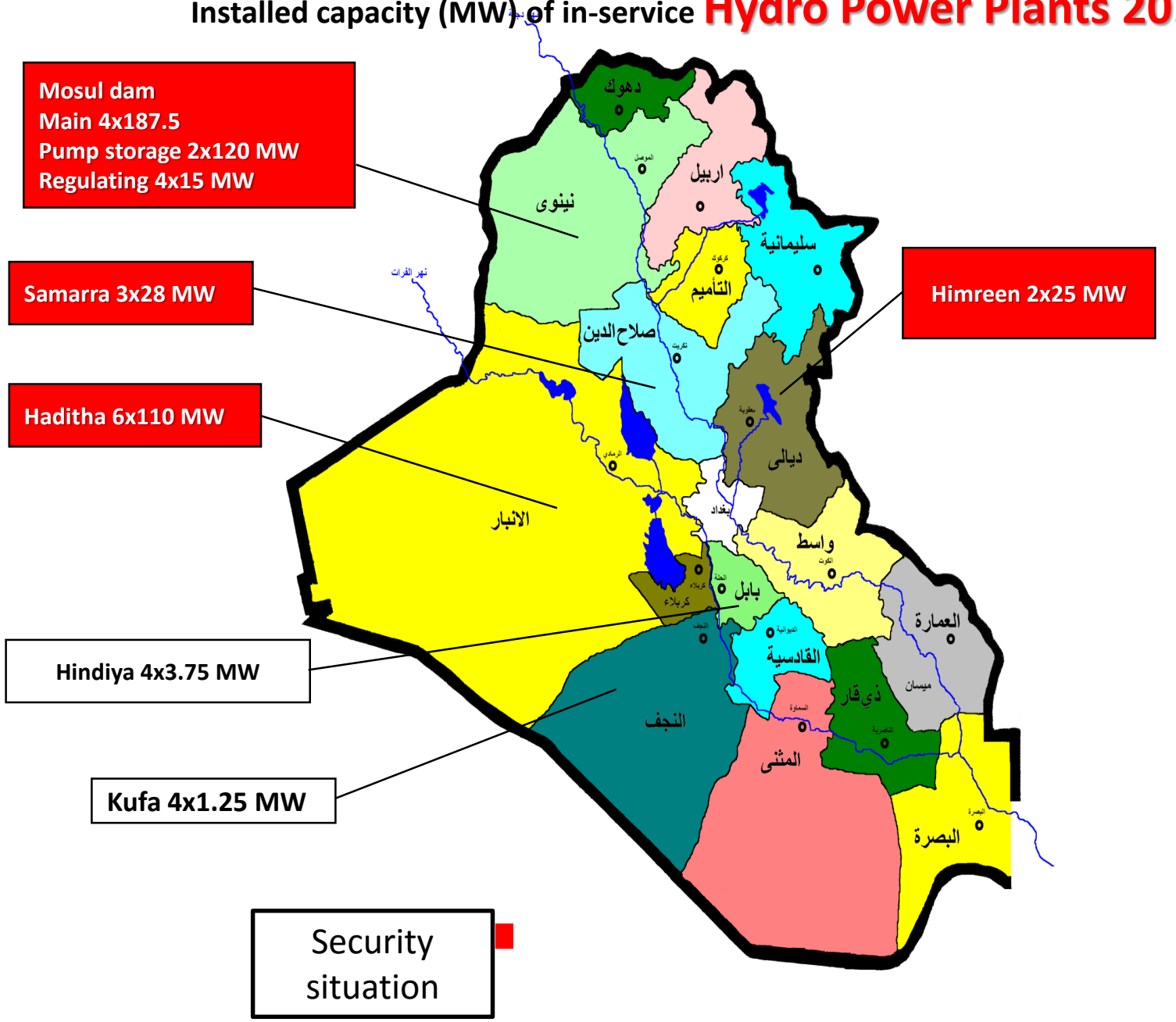
Kehla'a 4x47 MW

Samawa 1x43 MW

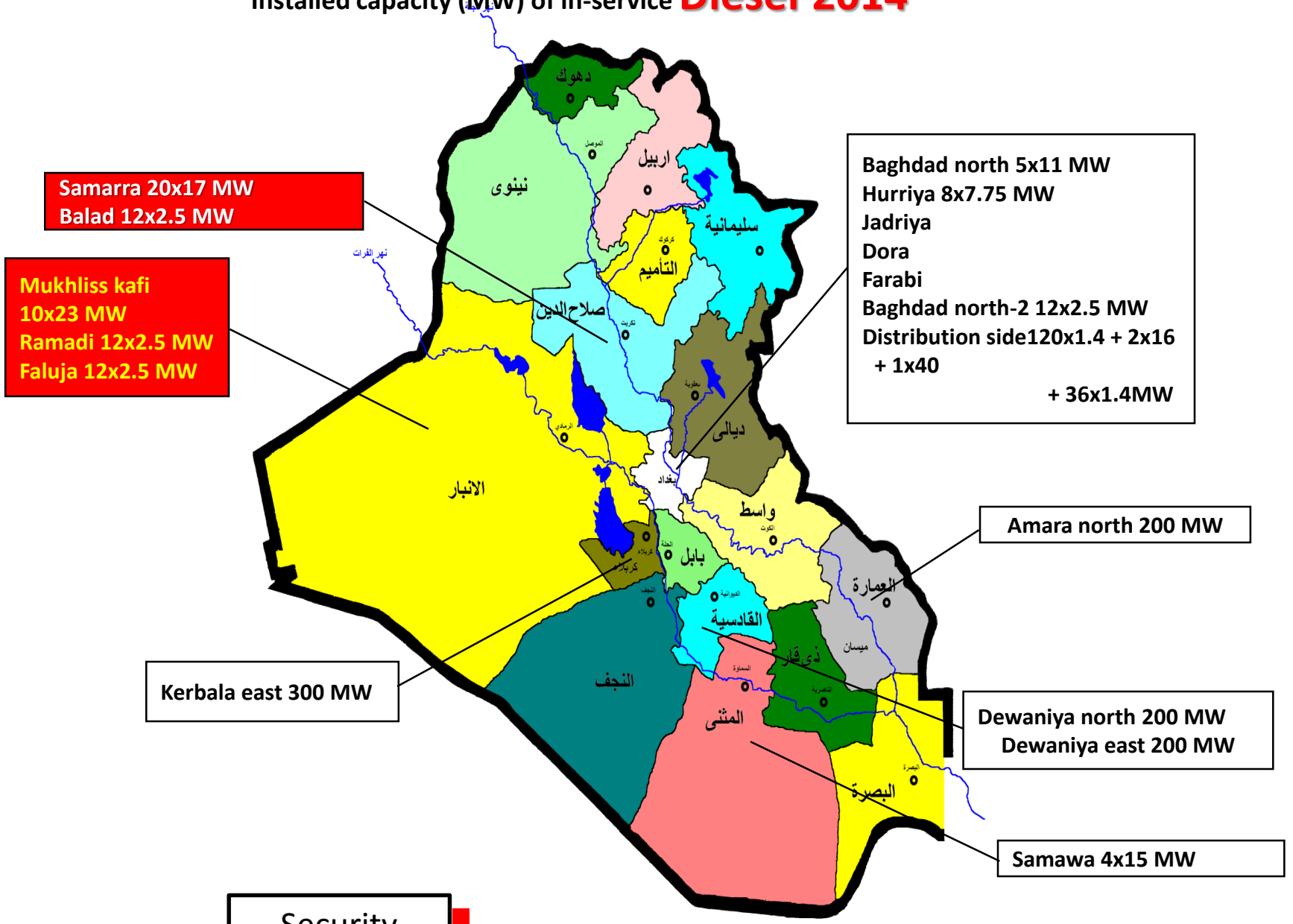
Nassiriya 1x43 MW

Hartha 6x20.4 MW
Khor alzubair-1 4x63 MW
Khor alzubair-1 2x125 MW
Petro 4x20 MW
Shu'aiba 4x20 MW
Shua'iba-2 2x75 MW
Rumaila 5x292 MW
Inma' 2x32 MW
Garmat ali 2x18 MW

Installed capacity (MW) of in-service Hydro Power Plants 2014



Installed capacity (MW) of in-service **Diesel 2014**



Samarra 20x17 MW
Balad 12x2.5 MW

Mukhliss kafi
10x23 MW
Ramadi 12x2.5 MW
Faluja 12x2.5 MW

Baghdad north 5x11 MW
Hurriya 8x7.75 MW
Jadriya
Dora
Farabi
Baghdad north-2 12x2.5 MW
Distribution side120x1.4 + 2x16
+ 1x40
+ 36x1.4MW

Amara north 200 MW

Kerbala east 300 MW

Dewaniya north 200 MW
Dewaniya east 200 MW

Samawa 4x15 MW

Security situation

2. Strategic Plan till the year 2018

a. Transmission sector projects requirements:

Estimated Cost	5.8 (Billion USD)

b. Distribution sector projects requirements:

Estimated Cost	8.2 (Billion USD)

c. Positive Cash Flow Enhancement:

c.1. Irregular slums:

Which should be changed to regular consumers by a proper connections to regular grid. Accordingly, MOE will have the ability to collect energy consumption fees from them.

These new consumers require an expansion in 11,33 and 132 K.V grids.

c. Positive Cash Flow Enhancement:

c.1. Irregular slums:

Total irregular Consumers number	600,000
Total demand	4200 (MW)
No. of Distribution transformers needed	10000
No. of 33/11 k.v SS needed	100
No. of 132/33 k.v SS needed	30
Total Estimated cost	Around 1.8 (Billion USD)

c. Positive Cash Flow Enhancement:

c.2. Continuous Power Supply Contracts:

MOE start a new policy for supplying a 24/7 power supply to high consumption consumers, according to an official request from the consumer himself.

This policy based on delivering 24/7 power supply with a special commercial tariff without subsidy.

MOE intend to expand with applying this policy to respond for any such requests, wherever the technical conditions could be met.

c. Positive Cash Flow Enhancement:

c.3. Reducing Power Losses:

- Technical Losses (Cables, Wires, Transformers…, etc.).
- Stealing losses (meters by-passing, direct connection, Non-Working meters,… etc.).
- Transferring from the traditional meters system to the smart meter system.
- Rules Legislation for importing High efficiency electrical appliance.

c. Positive Cash Flow Enhancement:

c.4. Privatization of Distribution Sector:

In order to privatize the Distribution sector, MOE adopt a well planned roadmap by the guidance of the World BANK, which based on the following:

- **Sector restructuring and unbundling**
- **Establishing sound regulatory systems to regulate and monitor service performance**
- **Reducing system losses, both technical and non-technical;**
- **Improving management efficiency and electricity service delivery ;**
- **Improving sector's financial position to create positive cash flows; and**
- **Attracting private capital investment, whenever conditions warrant it, to share fiscal burden and transfer knowledge.**

c. Positive Cash Flow Enhancement:

c.3. Privatization of Distribution Sector:

These strategic reform actions should reflect the priorities for the sector.

Governments face critical decisions in reforming the electricity supply chain. They must decide the relative roles of public and private sectors in providing power services; the governance and reform of public enterprises operating in the sector; restructuring to introduce competition, including unbundling and the development of power markets; and regulatory reforms under a comprehensive "Roadmap Framework"

c. Positive Cash Flow Enhancement:

c.4. Privatization of Distribution Sector:

In order to succeed in the sector reform and create an efficient and revenue generating business model with "positive cash flows" to attract the private sector, the three-phased Roadmap actions should be implemented with the following three phases:

PHASE I: Short Term *(1-2 years):* Ministry of Electricity will remain vertically integrated with ring fenced business units, including distribution.

c. Positive Cash Flow Enhancement:

c.3. Privatization of Distribution Sector:

PHASE II: Medium Term *(2-5 years):* Reorganization of the market in the medium term aims at creating an enabling environment for the entry of many players into the supply chain. Ministry of Electricity will continue to be fully responsible for transmission while the private sector can be involved in generation and distribution segments.

c. Positive Cash Flow Enhancement:

c.4. Privatization of Distribution Sector:

PHASE III: Long Term *(5-10 years):* Key market change will involve gradual unbundling and (full/partial) privatization of the distribution segment based on the social, economic and financial realities in IRAQ.

The market also comprises a competitive power generation segment with Independent Regulator and Market Operator.

c. Positive Cash Flow Enhancement:

c.5. Service Contracts:

As a trigger to privatize the distribution sector, MOE initiated a **Service Contract** to assign the maintenance & tariff collection services in a single district to a private company.

This experiment had been done through the following Road Map:

- Reviewing/Studying the most successful world' experiments. √
- Analyzing the local financial and technical situation. √
- Selecting a suitable one district to apply a pilot project. √
- Advertising MOE intention to attract investors. √
- Prequalification. √
- Requesting for technical and commercial offers. √
- Qualification and signing contract. (On Going)
- Expansion with this experiment to all IRAQ qualified districts (around 180). (2016)

c. Positive Cash Flow Enhancement:

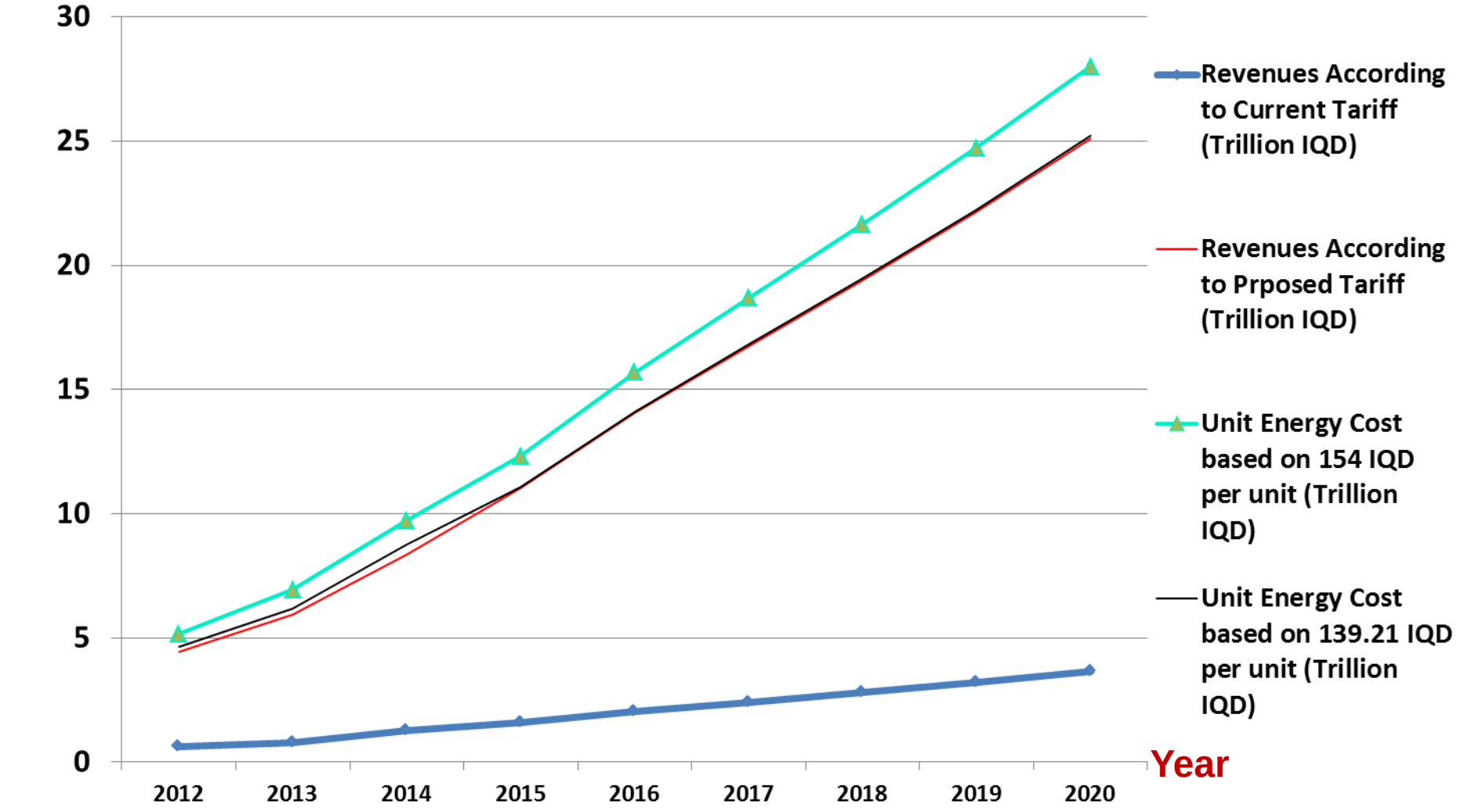
c.6. Tariff Gradual Increasing:

- **Until now, IRAQI' Tariff is classified as one of the lowest tariffs in the world due to a very high governmental subsidy (around 90%), which leads to a negative flow cash and impedes developing the Electricity sector.**
- **Tariff increasing is One of the high priority goals for MOE, and began to apply a perfect studied plan to achieve this goal.**
- **The goal is starting to reduce the subsidy gradually, taking into consideration the current financial situation for both citizens and government at each stage.**

Comparison Between Unit Energy cost & Revenues According to Current Tariff & Proposed Tariff

Year	Revenues according to the current Tariff (Trillion dinars)	Revenues according to the Proposed Tariff (Trillion dinars)	Unit energy cost based on 154 IQD per unit (Trillion dinars)	Unit energy cost based on 139.21 IQD per unit (Trillion dinars)
2012	0.64	4.44	5.17	4.65
2013	0.77	5.95	6.93	6.2
2014	1.26	8.35	9.73	8.75
2015	1.60	11.04	12.32	11.08
2016	2.04	14.05	15.68	14.11
2017	2.42	16.73	18.67	16.8
2018	2.81	19.40	21.65	19.48
2019	3.21	22.15	24.72	22.23
2020	3.64	25.09	28.00	25.2

Comparison Between Unit Energy cost and Revenues According to Current Tariff & Proposed Tariff




Thank
You
Merci
Gracias
Danke
Spacibo
Arigato
Hvala
KamSahHamnida
Terimakasih
Xièxie
Mèsi
Grazie
Chokrane
Dziakuju
GratiasAgimus
GratiasAgo
Motashakkeram
Dankie
Tak
TänanVäga
Ačiū
KopKhunKha
Gracie
CámOn
Multumesc
Salamat
Obrigado
Saha
Bayarlalaa
Nirringrazzjak
Efharisto
Faleminderit
Gràcies
Dakujem
Taiku
Mercé
Matondo
Blagodaram
ThintKo
Buznyg
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