A photograph showing a close-up of solar panels in the foreground, with a bright sun low on the horizon over a green field in the background.

REPUBLIC OF TUNISIA
**Ministry of Industry and Small
and Medium Enterprises**



Renewable Energy in TUNISIA

KLIBI AMIRA

Bangkok, 8 October 2019





1. Tunisia energy context

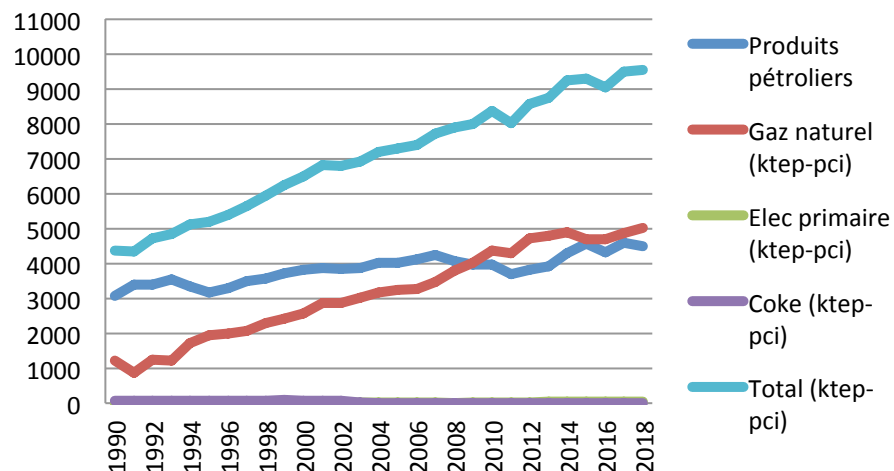
2. Energy transition strategy

3. New regulatory framework for renewable energy promotion

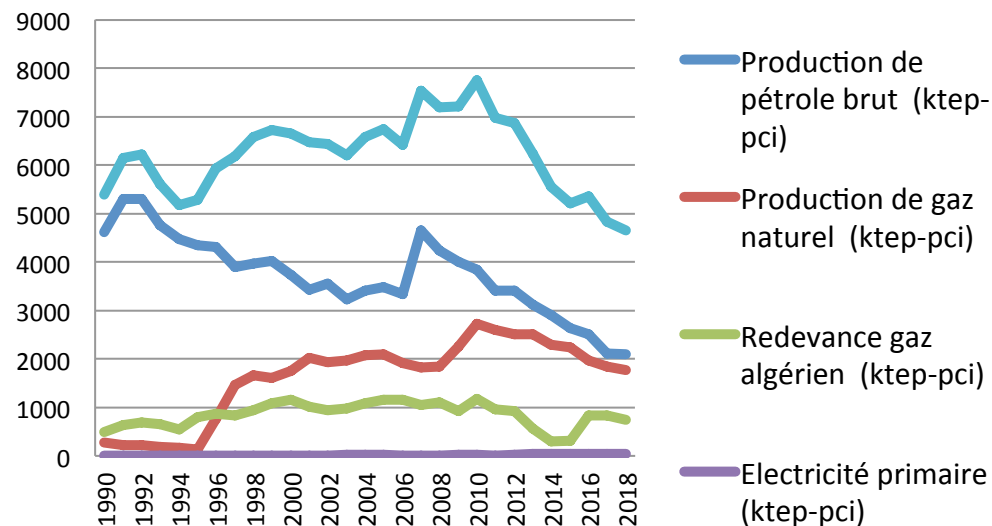
4. Renewable energy auction in Tunisia

TUNISIA ENERGY CONTEXT : PRIMARY ENERGY BALANCE 2018

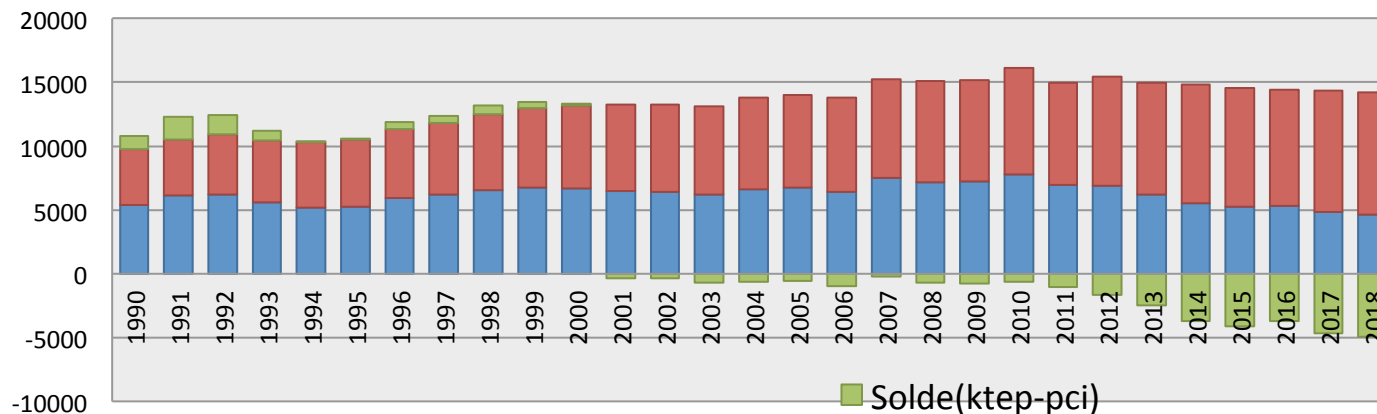
Annual demand on primary energy



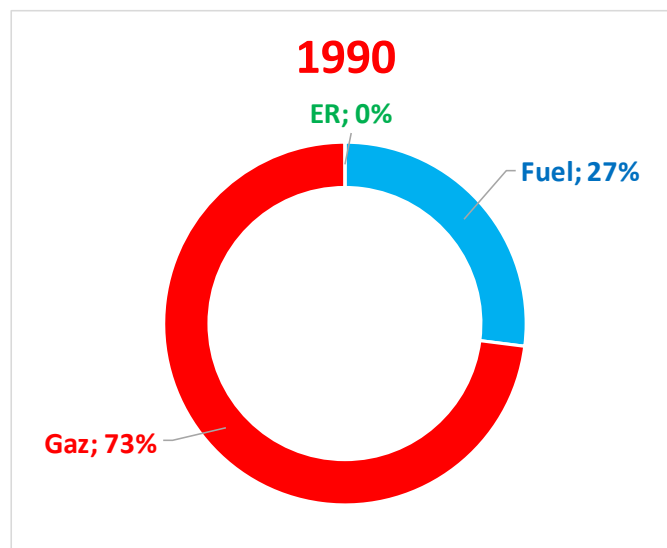
Primary energy resources



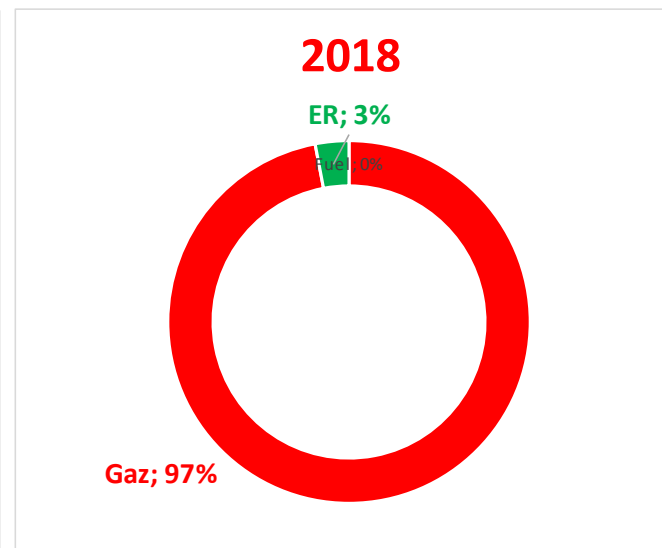
Annual primary energy balance



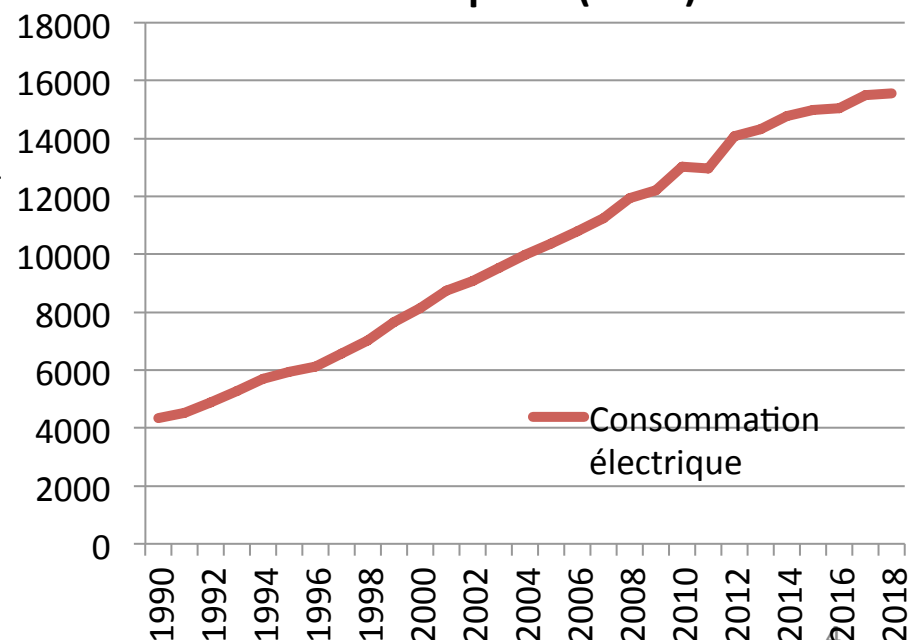
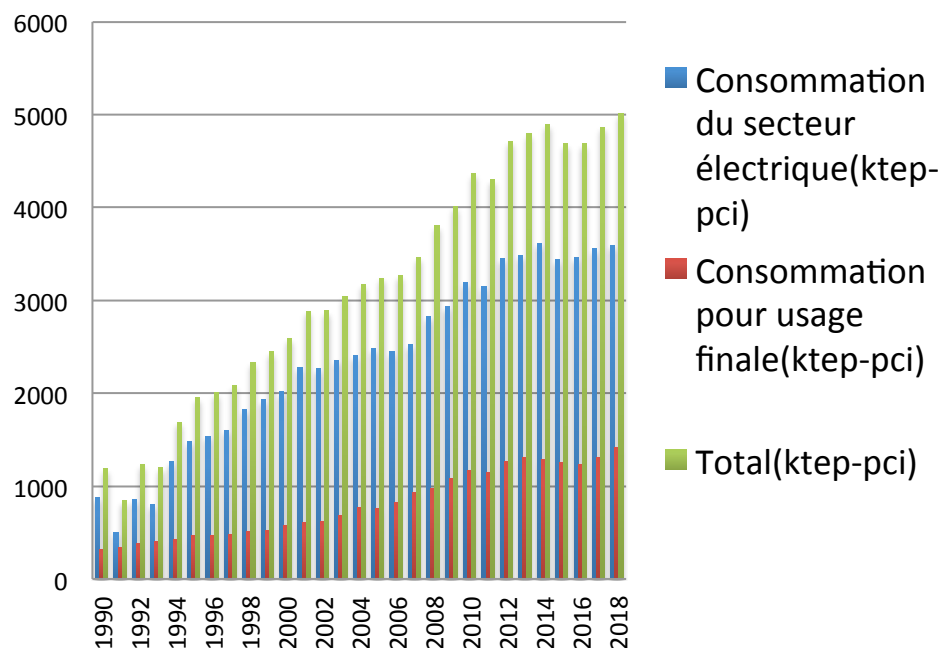
TUNISIA ENERGY CONTEXT :ELECTRIC MIX 2018



Gaz annual consumption

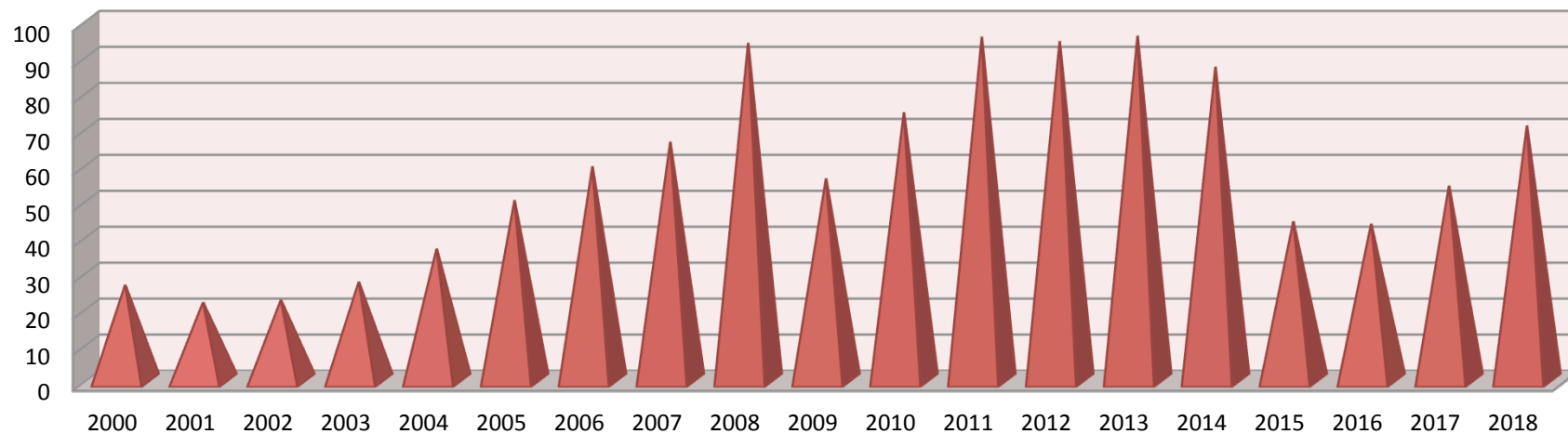


Electric consumption (GWh)

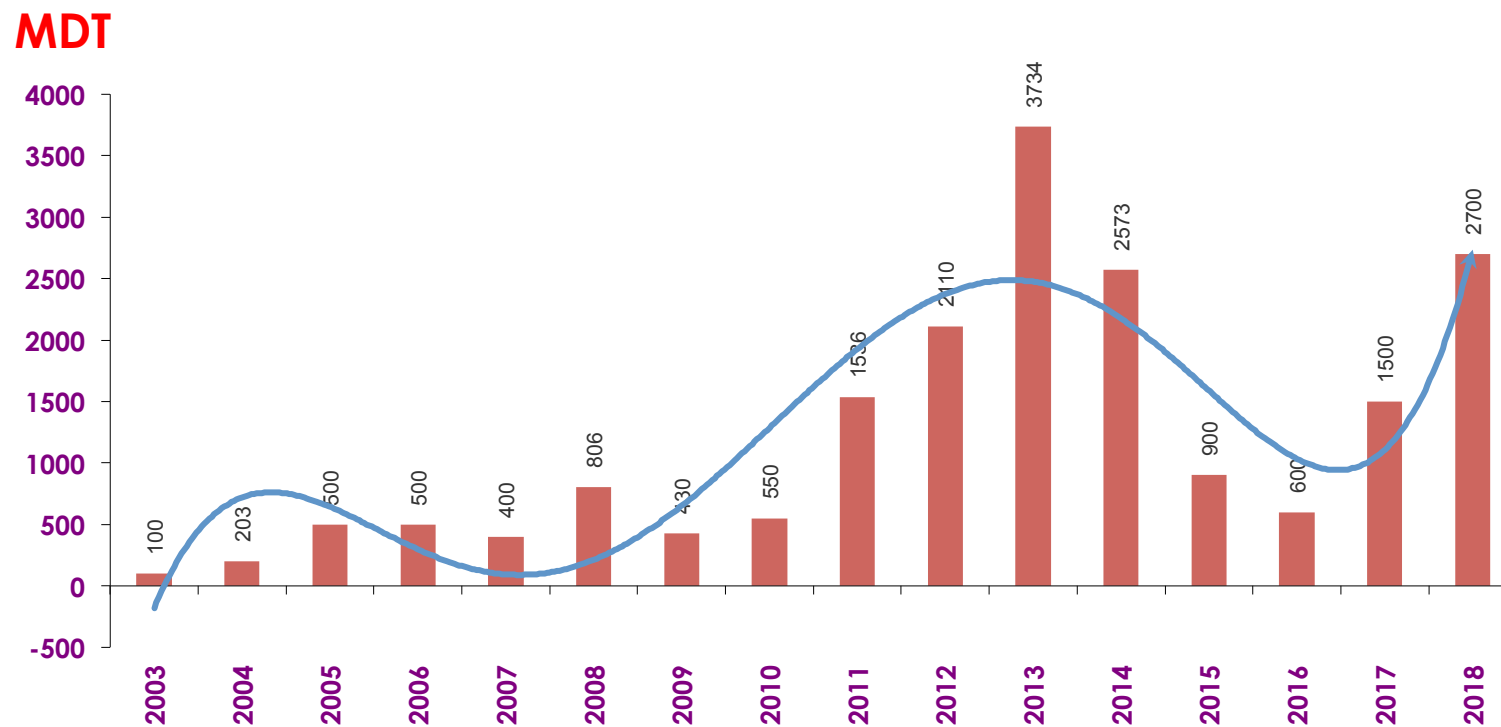


TUNISIA ENERGY CONTEXT : EVOLUTION OF OIL PRICES (DOLLARS / BARRIL)

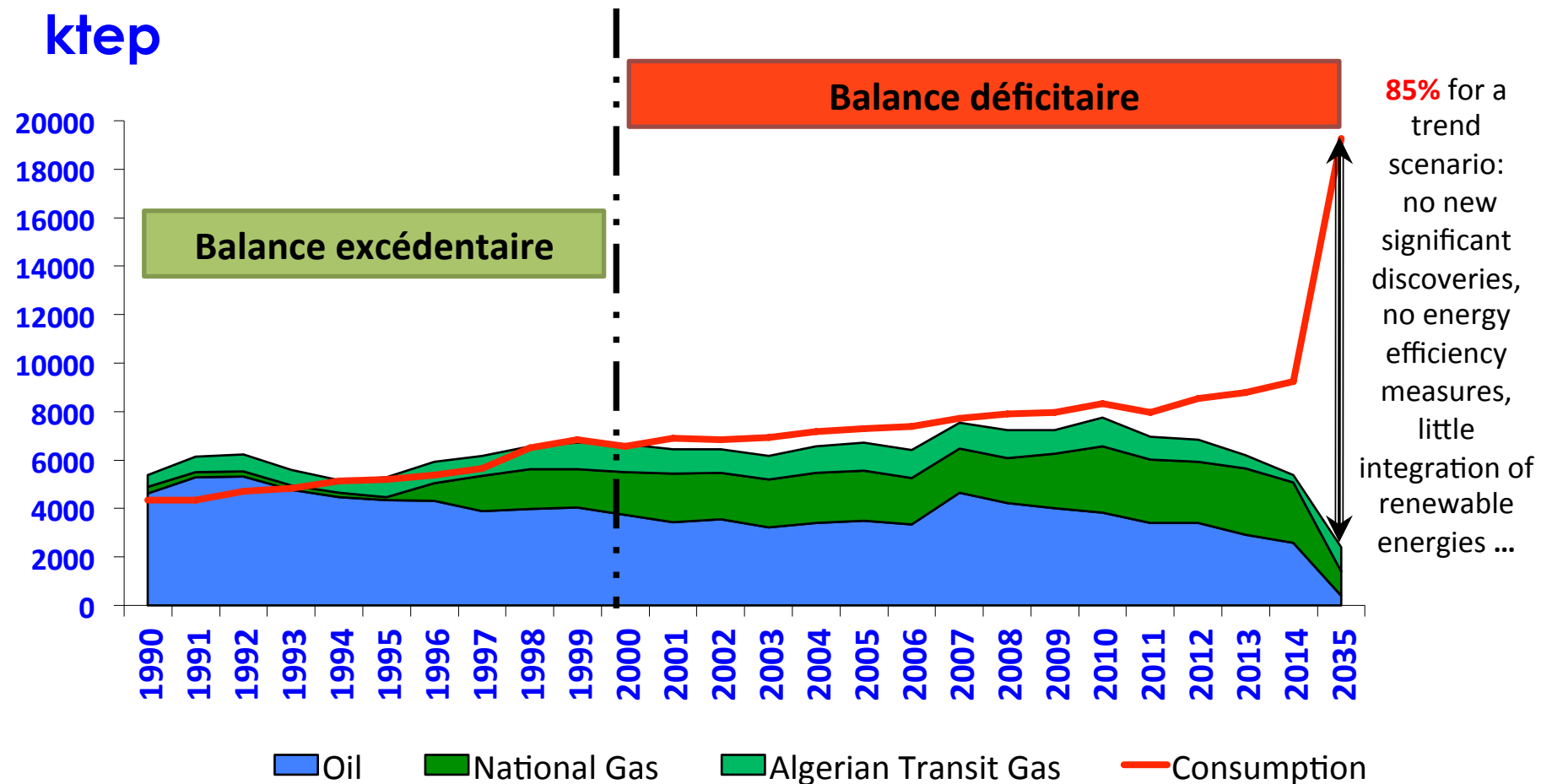
U.S. Crude Oil First Purchase Price (Dollars per Barrel)



TUNISIA ENERGY CONTEXT: ENERGY SUBSIDIES(2003-2018)



TUNISIA ENERGY CONTEXT: EVOLUTION OF THE DEFICIT IN PRIMARY ENERGY (1990_2035)



International situation

(-) Vulnerable oil market: speculation, lobbying, wars, attacks ...

(-) Unpredictable oil prices

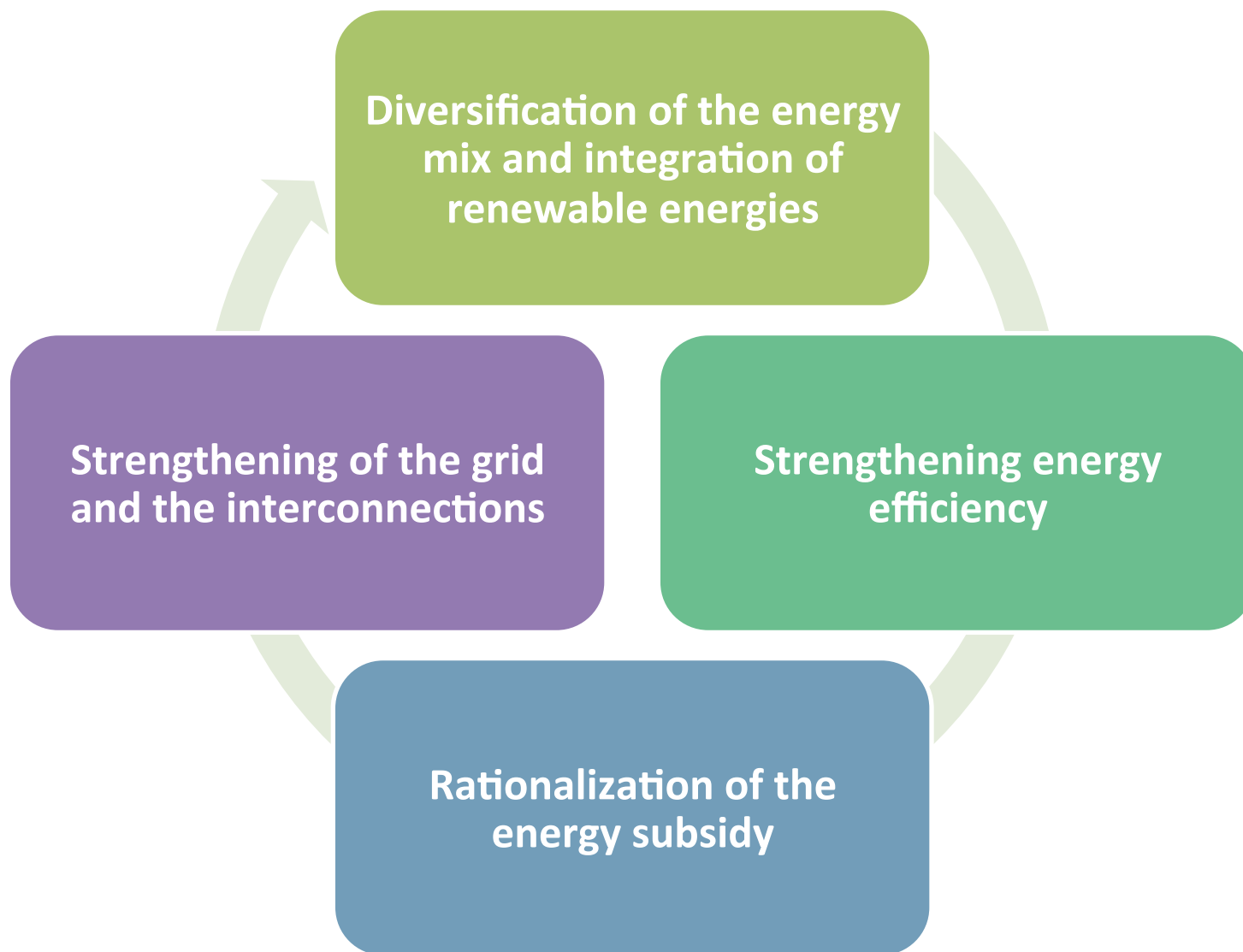
(-) Major environmental challenges



(+) Important technological development

(+) International energy transition based on the promotion of energy efficiency and renewable energies

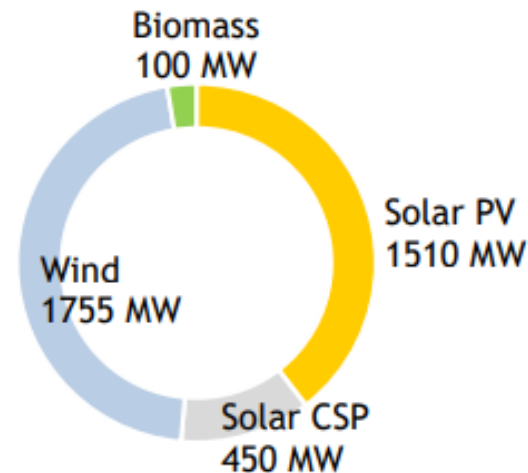
ENERGY TRANSITION STRATEGY



ENERGY TRANSITION STRATEGY: TUNISIAN SOLAR PLAN

- ◆ Reduction of energy demand by 30% by 2030 (year of ref 2010)
- ◆ Production of 30% electricity from renewable energies by 2030

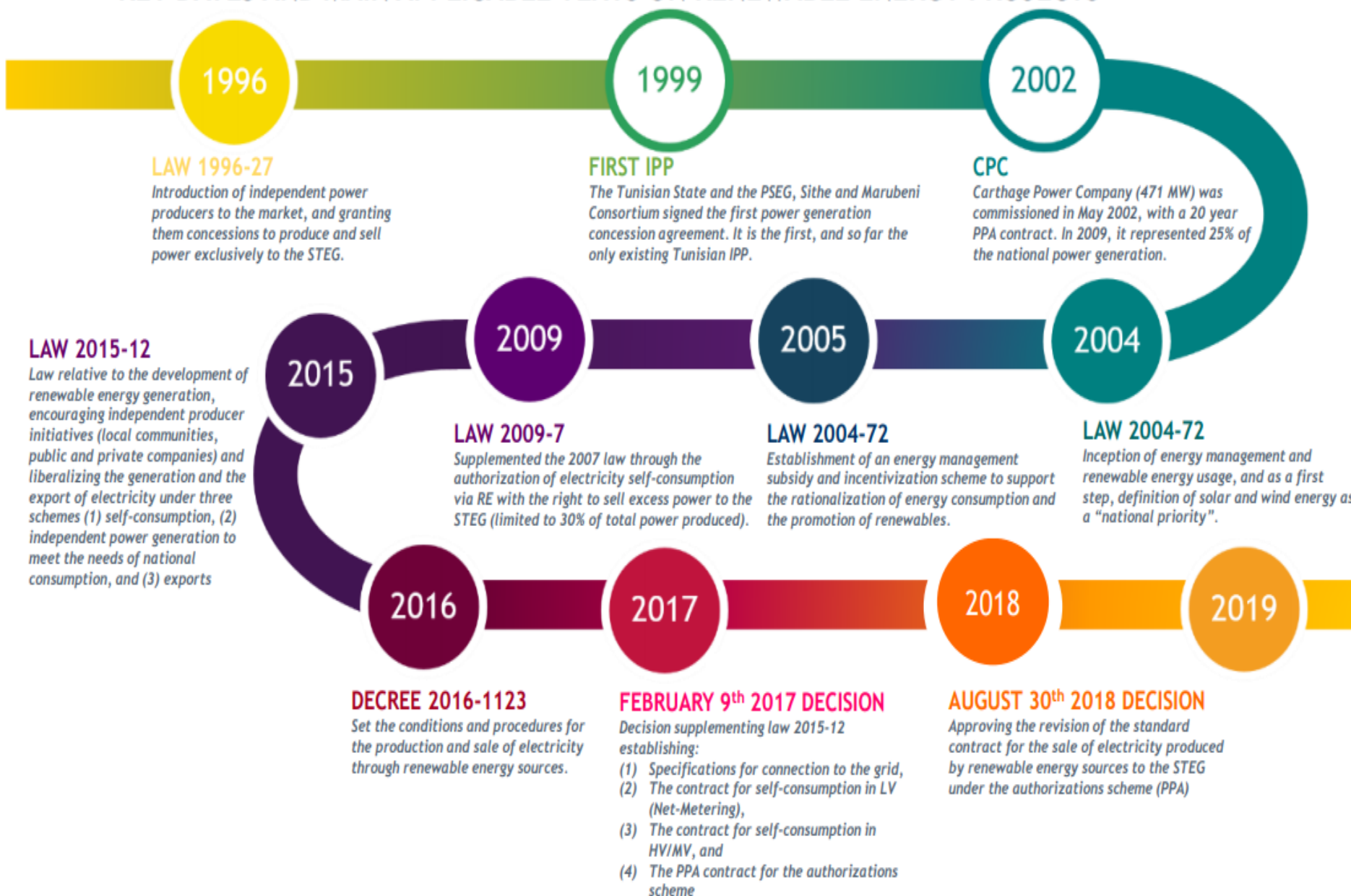
➤ The Tunisian Solar Plan aims at developing an additional renewable energy installed capacity of 3815 MW by 2030



Tunisian Solar Plan 2030 installed capacity targets by technology (in MW)

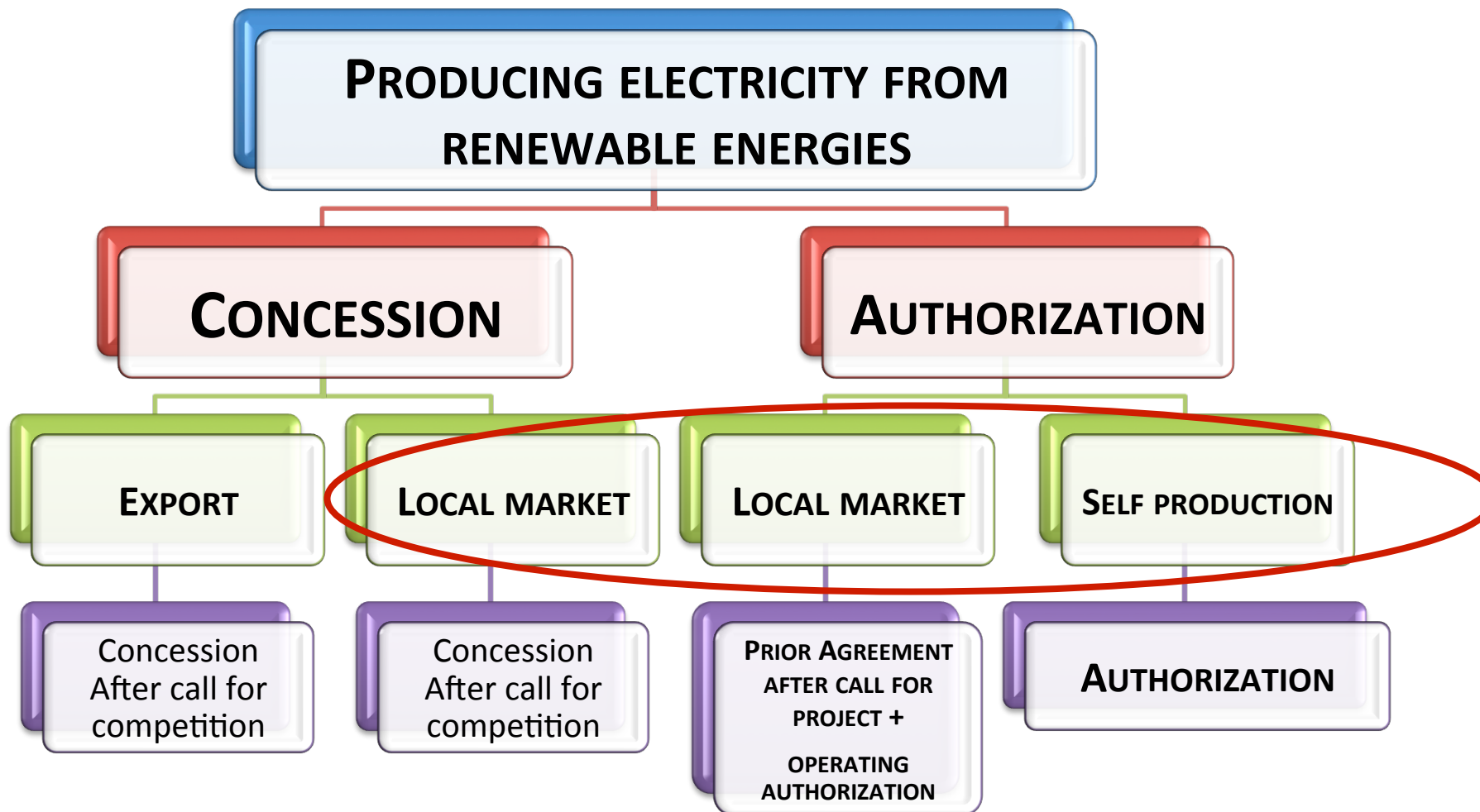
NEW REGULATORY FRAMEWORK FOR RENEWABLE ENERGY PROMOTION

KEY DATES AND MAIN APPLICABLE TEXTS ON RENEWABLE ENERGY PROJECTS

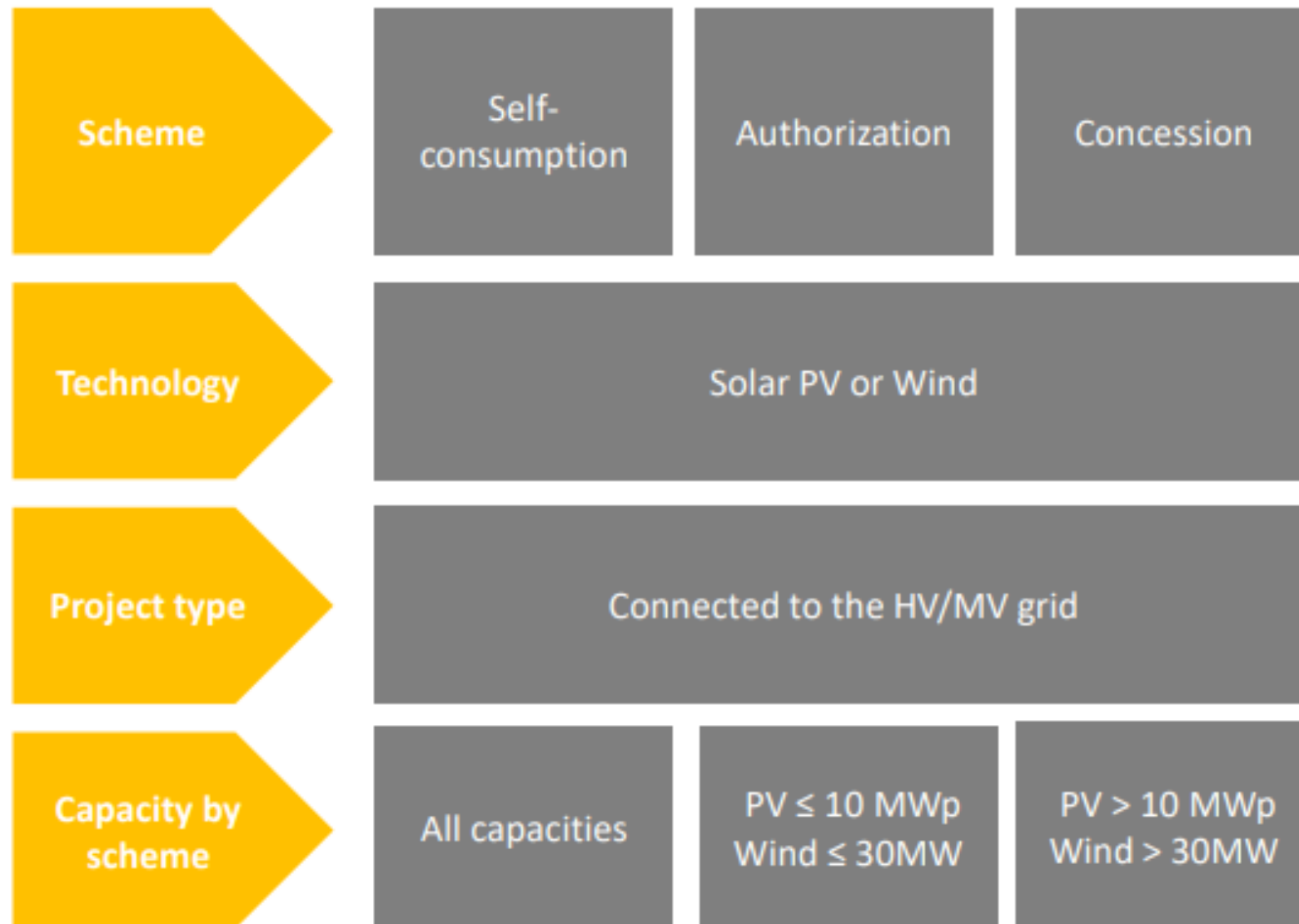


REGULATORY FRAMEWORK

Law n°2015-12 du 11 May 2015



REGULATORY FRAMEWORK

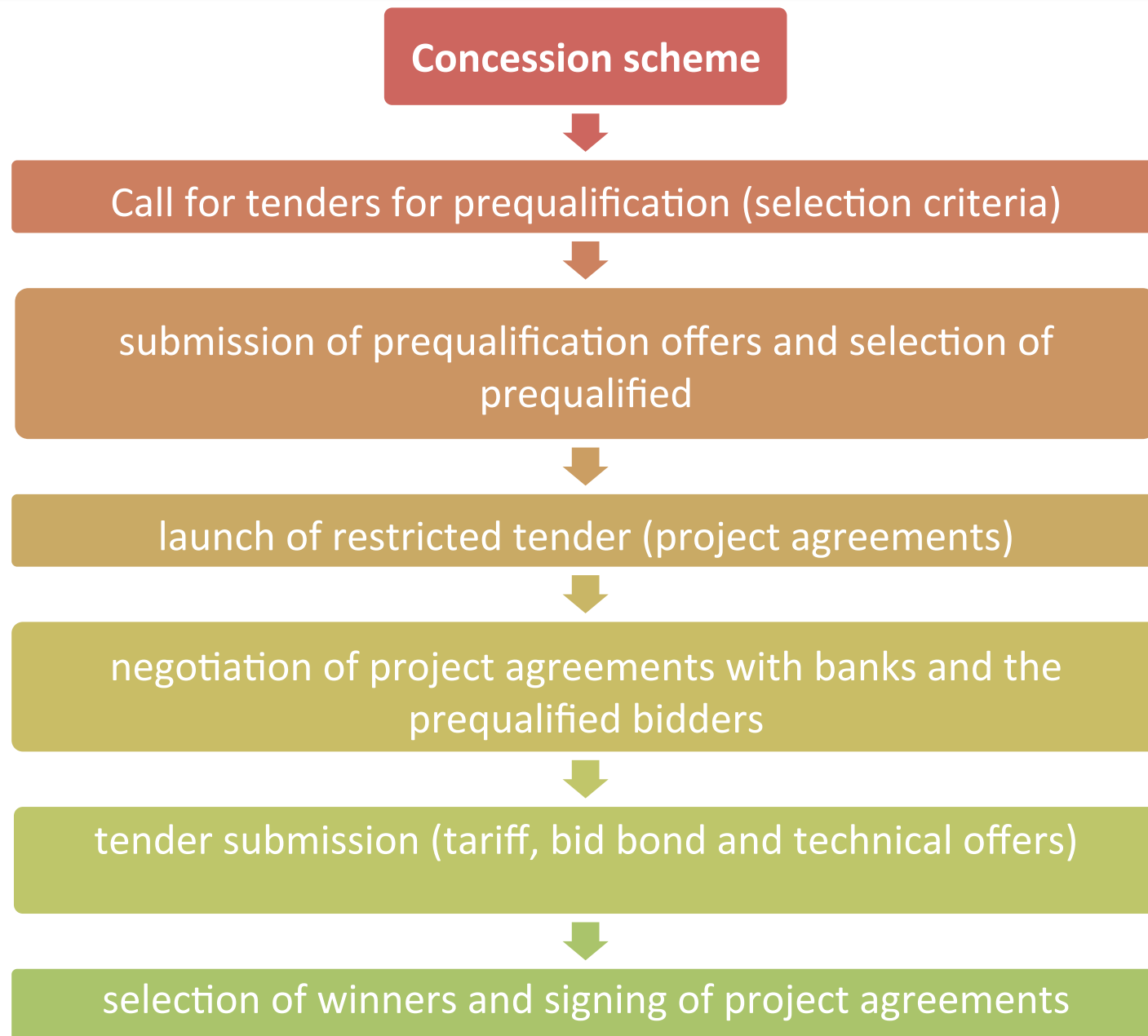


RENEWABLE ENERGY PROGRAM **2017-2022**

	SCHEME	PROGRAM (2018)	
		Wind (MW)	PV(MW)
Concession	Auction	500	500
Authorization (under 10MW PV and 30MW wind)	Auction	130	140
Self production	demand	80	130
National electricity company (STEG)	EPC	80	300
Total		590	1070
		1860	

RENEWABLE ENERGY AUCTION IN TUNISIA

INDEPENDENT RENEWABLE ENERGY PRODUCERS (IPP) PROCESS IN TUNISIA



INDEPENDENT RENEWABLE ENERGY PRODUCERS (IPP) PROCESS IN TUNISIA

Authorization scheme



Call for projects (manual of procedures)



submission of Demand (tariff, bid bond and technical offers)



selection based on the cheapest tariff and the technical offer

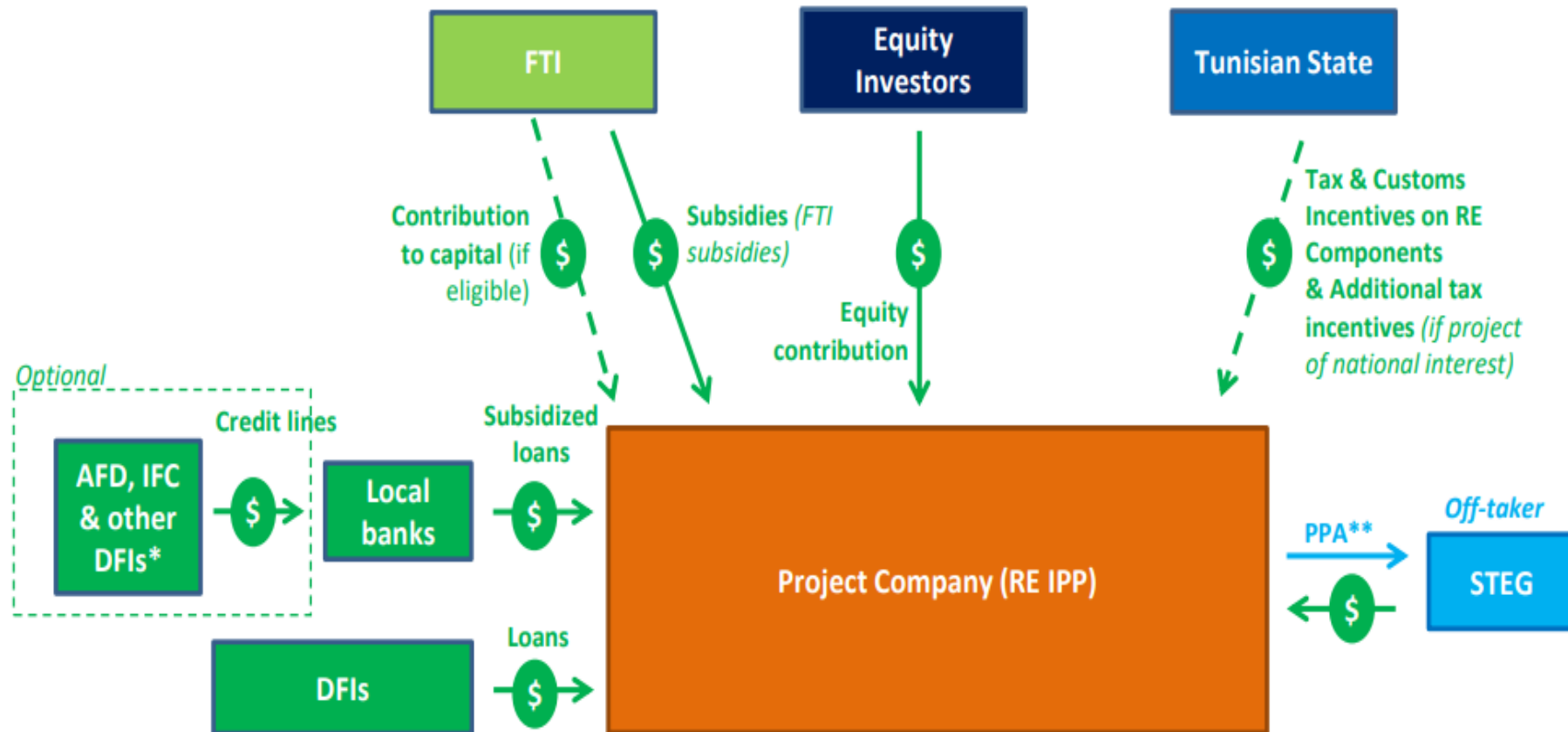


Preliminary agreement (2 years for PV and 3 years for wind)



Final operating authorization

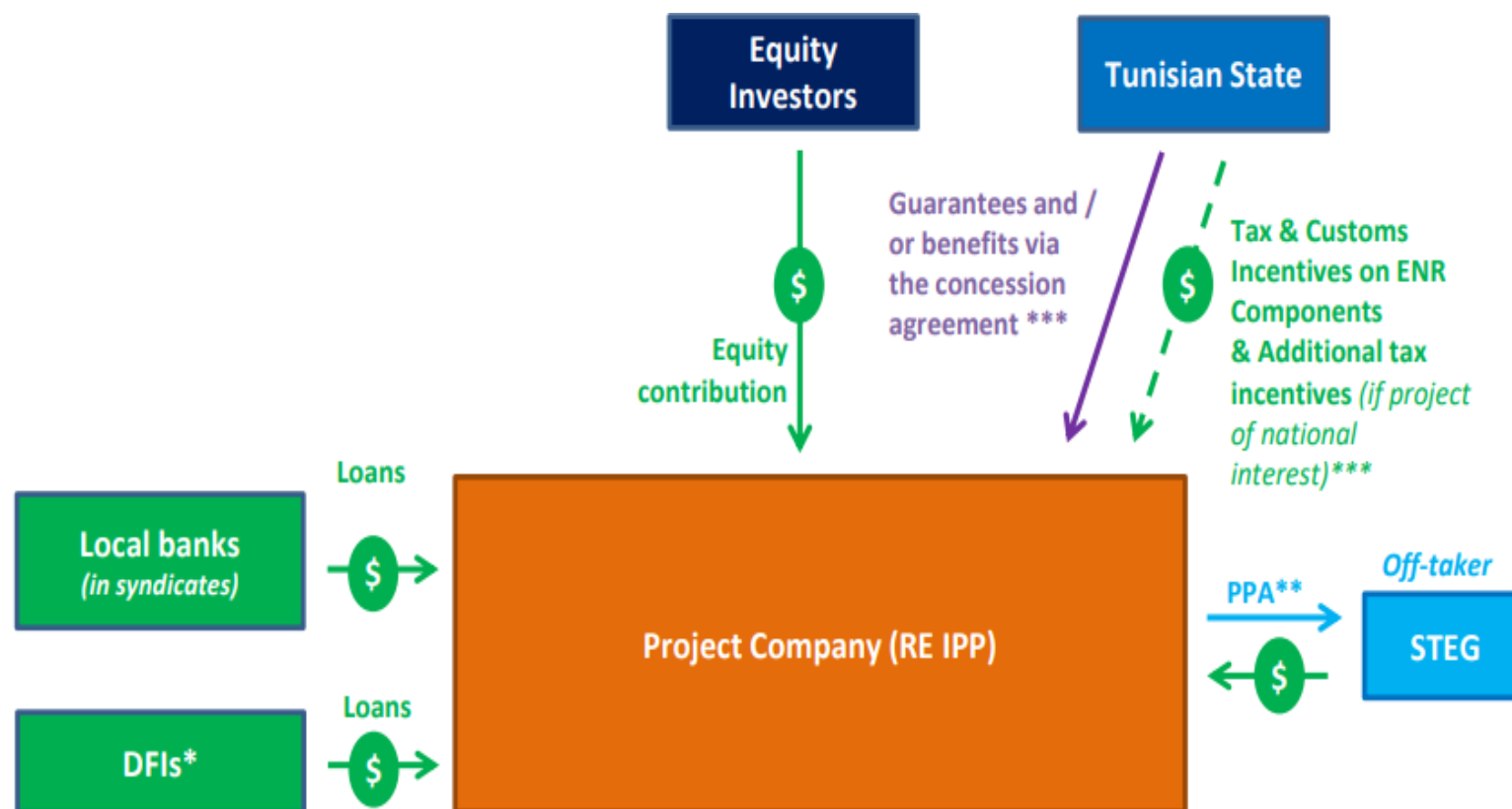
SCHEME FOR FINANCING INDEPENDENT RENEWABLE ENERGY PRODUCERS (IPP) PROJECTS UNDER THE AUTHORIZATION SCHEME



* DFI = Development Finance Institution

**Power Purchase Agreement - Contract for the sale to the STEG of electric energy produced from renewable energies subject to an authorization

SCHEME FOR FINANCING INDEPENDENT RENEWABLE ENERGY PRODUCERS (IPP) PROJECTS UNDER THE CONCESSION SCHEME



* DFI= Development Finance Institution

**Power Purchase Agreement - Contract for the sale of electricity to STEG specific to the concessions scheme

*** According to the specific contents of each concession agreement

IMPLEMENTATION OF THE PROGRAM

Authorization Scheme:

- 2 round launched in 2017 and 2018 → 30 preliminary agreements with non-subsidized tariffs
- Launch of a third call for (16) PV projects (70MW) in July 2019.

Projects	May 2017 call for projects	May 2018 call for projects
Solar PV	10 MW : 6 selected projects (April 2018) 1 MW : 4 selected projects (April 2018)	10 MW : 6 selected projects (March 2019) 1 MW : 10 selected projects (April 2019)
Wind	-	30 MW : 4 selected projects (January 2019)

Concession Scheme:

Projects	May 2018 pre-qualification call for tenders	Pre-qualification results (November 2018)
Solar PV	5 projects on state-owned land (total of 500 MW)	16 selected sponsors (projects on state-owned sites)
Wind	<ul style="list-style-type: none">• Total of 300 MW across 2 state-owned sites• Total of 200 MW on private sites	12 selected sponsors (projects on state-owned sites) <i>Private sites: Results still pending</i>

PV (500MW):

- Launch of a restricted call for tenders for 500MW in PV in March 2019
- Submission of bids in July 2019
- Opening commercial offers in public (the lowest tariff (24 \$/ MWh))
- the announcement of the final results is expected in October
- Wind (500 MW) :in progress

IMPLEMENTATION OF THE PROGRAM

Self production regime:

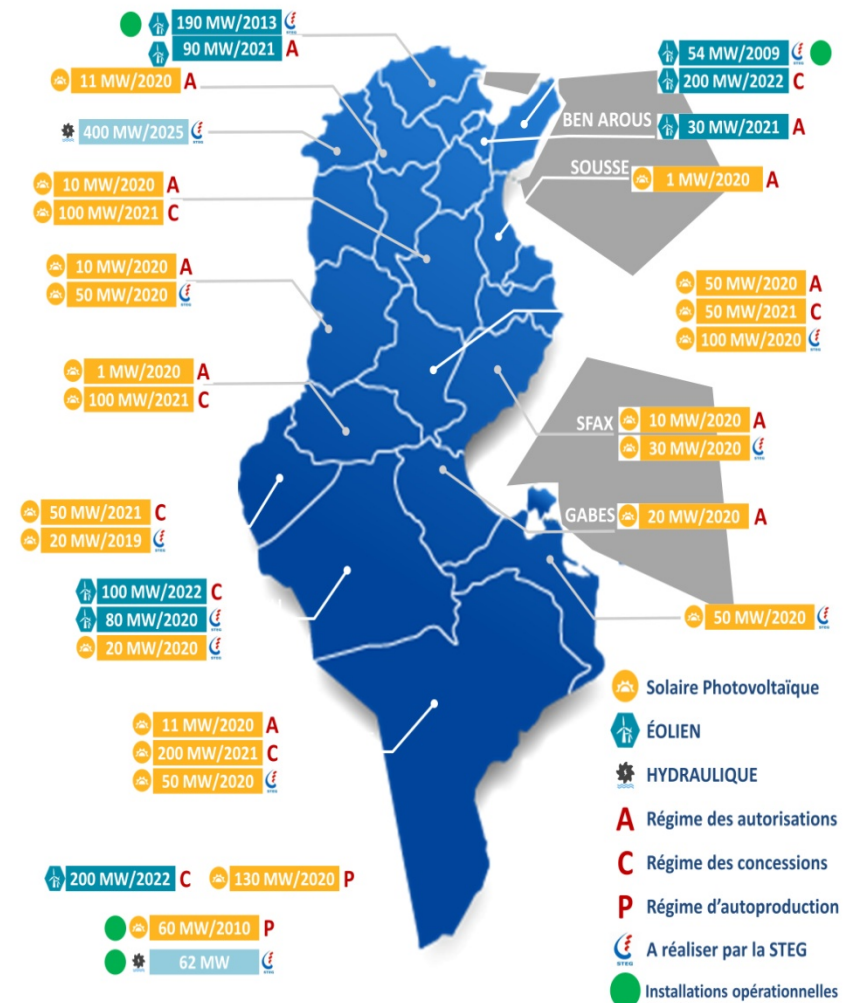
- 140 agreements granted by the Ministry for medium voltage projects
- Installation of more than 60MW in Low Voltage

STEG:

- construction of 20 MW PV in Tozeur.

Carte des projets renouvelables en Tunisie

366 MW opérationnelles - 1860 MW à installer avant 2022





THANK YOU FOR YOUR ATTENTION

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<http://www.tunisieindustrie.gov.tn/>