Development of Solar Energy in Turkey

23.10.2018

DEVELOPMENT OF RENEWABLE ENERGY CAPACITY

Turkey: Solar Energy Potential

SOLAR RESOURCE MAP

PHOTOVOLTAIC POWER POTENTIAL

TURKEY

Long term average of PVOUT , period from 1994 (1999 in the East) to 2015

Daily totals:	3.0	3.4	3.8	4.2	4.6	5.0	kWh/kWp
Yearly totals:	1095	1241	1387	1534	1680	1826	

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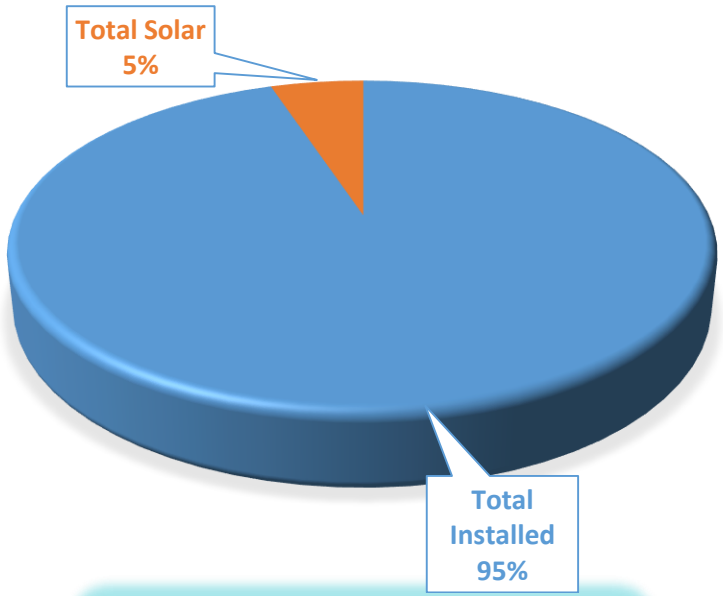
DEVELOPMENT OF WIND ENERGY IN TURKEY

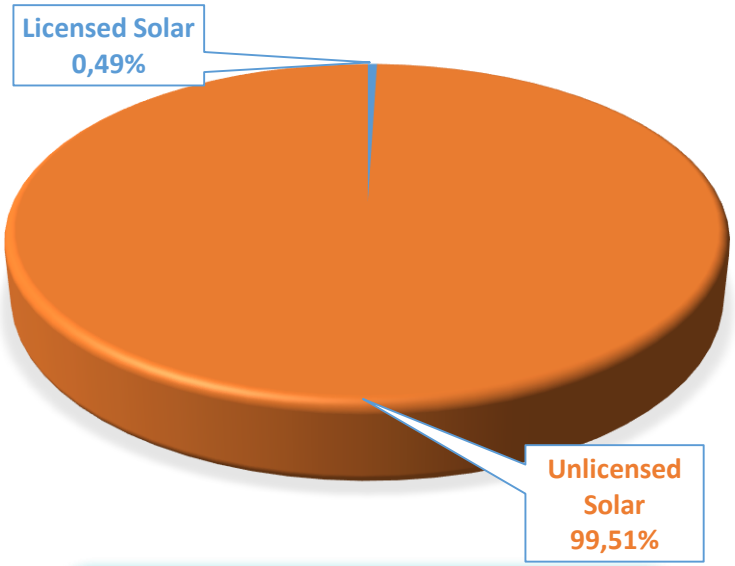
Installed Solar Capacity as of July 2018

Total Solar Cap.
4.658 MW



Total Installed Cap.
87.208 MW

Unlicensed Solar Cap.
4.635 MW

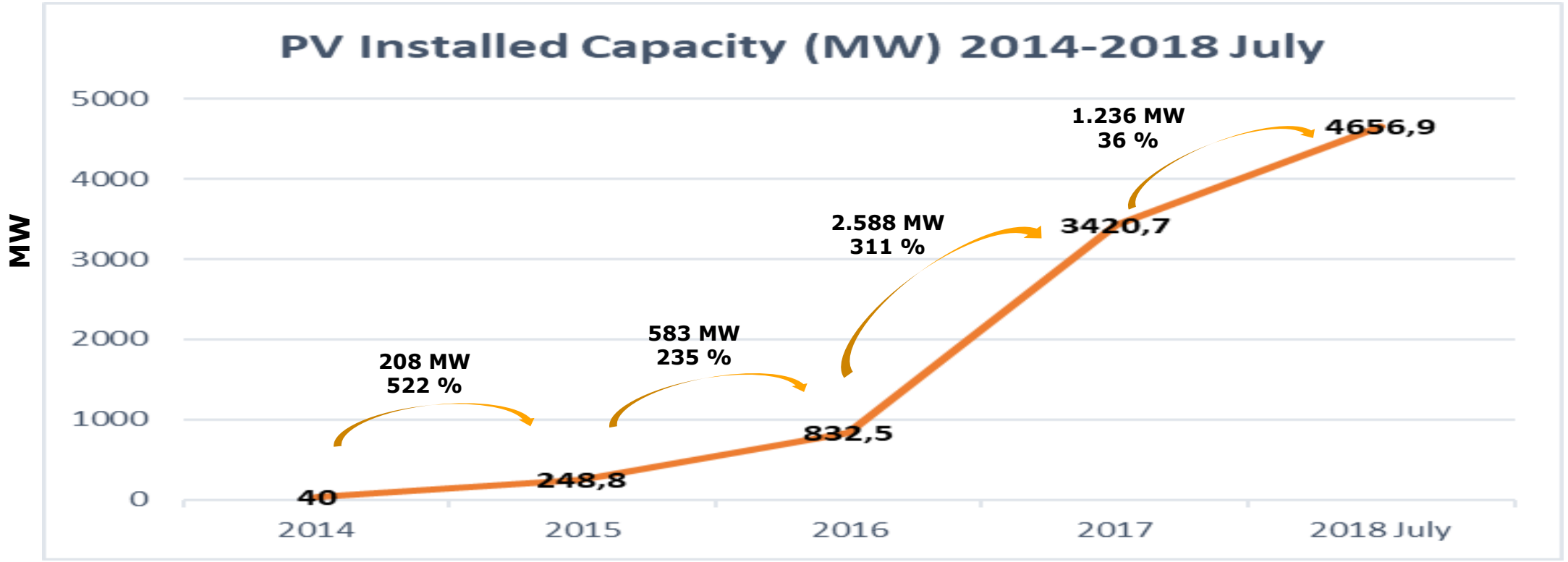


Licensed Solar Cap.
23 MW

*EPDK Electricity Market Sector Report, July 2018

DEVELOPMENT OF SOLAR ENERGY IN TURKEY

Cumulative Installations



SOLAR ENERGY PROJECT PIPELINE

Existing Solar Project Pipeline

Operational	Pre-licensed	Licensed under const.	Unlicensed to be const.	YEKA-1
4.658 MW	333 MW	60 MW	~800 MW	1.000 MW

**EPDK license database*

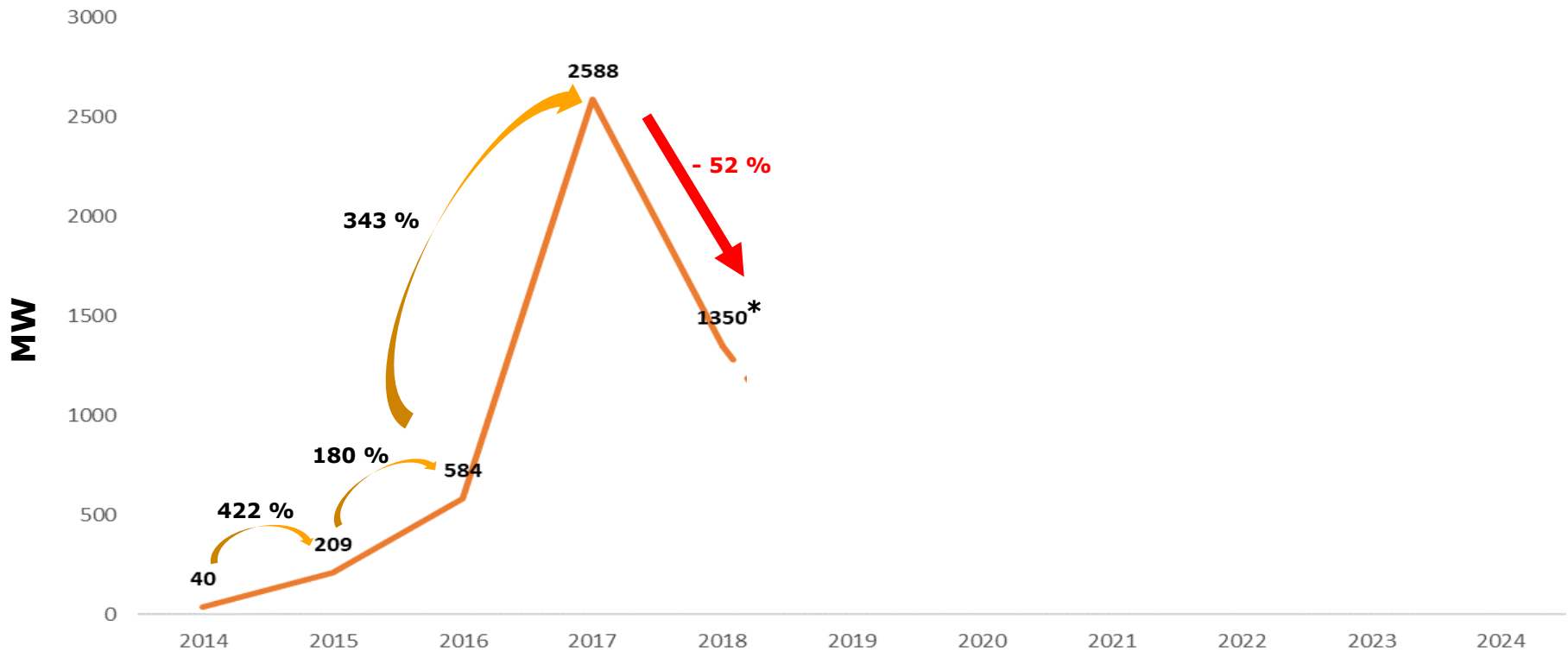
*As of September 2018, TEİAŞ has sent *Call Letters* to projects with a total capacity of 6.270 MW out of which 4.635 MW is operational.

Recent & Upcoming Tenders

YEKA-2 tender announcement → October 2018

DEVELOPMENT OF SOLAR ENERGY IN TURKEY

Annual Installations & Projection



2018 total addition is estimated 1.350 MW

POLICY

ETKB 2015-2019 Strategic Plan

- Access to capital, regulatory update and modernization of infrastructure needed in order to utilize the great potential of renewable resources Turkey has
- Utilization of renewable resources is of strategic importance in terms of resource diversification

2017 National Energy and Mining Policy

- TARGET → 10 GW solar and 10 GW wind capacity within the next 10 years
- Support all forms of renewable energy
- No fuel cost → reduction of current account deficit
- Localization of technology, employment
- Supply security
- Predictable market

POLICY

Recommendations

- Upgrades on insufficient grid capacity
  - Medium and long term strategic planning for extended solar capacity
- Market competitiveness
  - More inclusive market with more participants
  - Tenders for smaller capacities (smaller YEKA?)
  - Measures/policies against monopolistic market
- Robust legal framework for roof-top PV market
  - Tax incentives
  - Public & private building regulations
  - Annual offsetting
- Support mechanisms beyond 2020 (YEKDEM)
- Legal framework for innovative financing alternatives (such as crowdfunding, corporate PPAs)
- Incentives for value-added high tech local production; R&D support

POLICY

Recommendations

- Solar power potential in Turkey can:
  - Lead to energy independency
  - Decreased current account deficit
  - Increased employment
  - Contribute to value-added local production

- A public policy which is in more favor of the distributed generation concept will lead to:
  - More efficient energy systems
  - Reduced energy costs
  - Grid-independent systems
  - Reduced costs regarding transmission and distribution
  - Flexible load-balancing
  - More competitive market