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Let's Use Energy Usefully

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LET'S USE ENERGY USEFULLY

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RENEWABLE ENERGY IN TURKEY

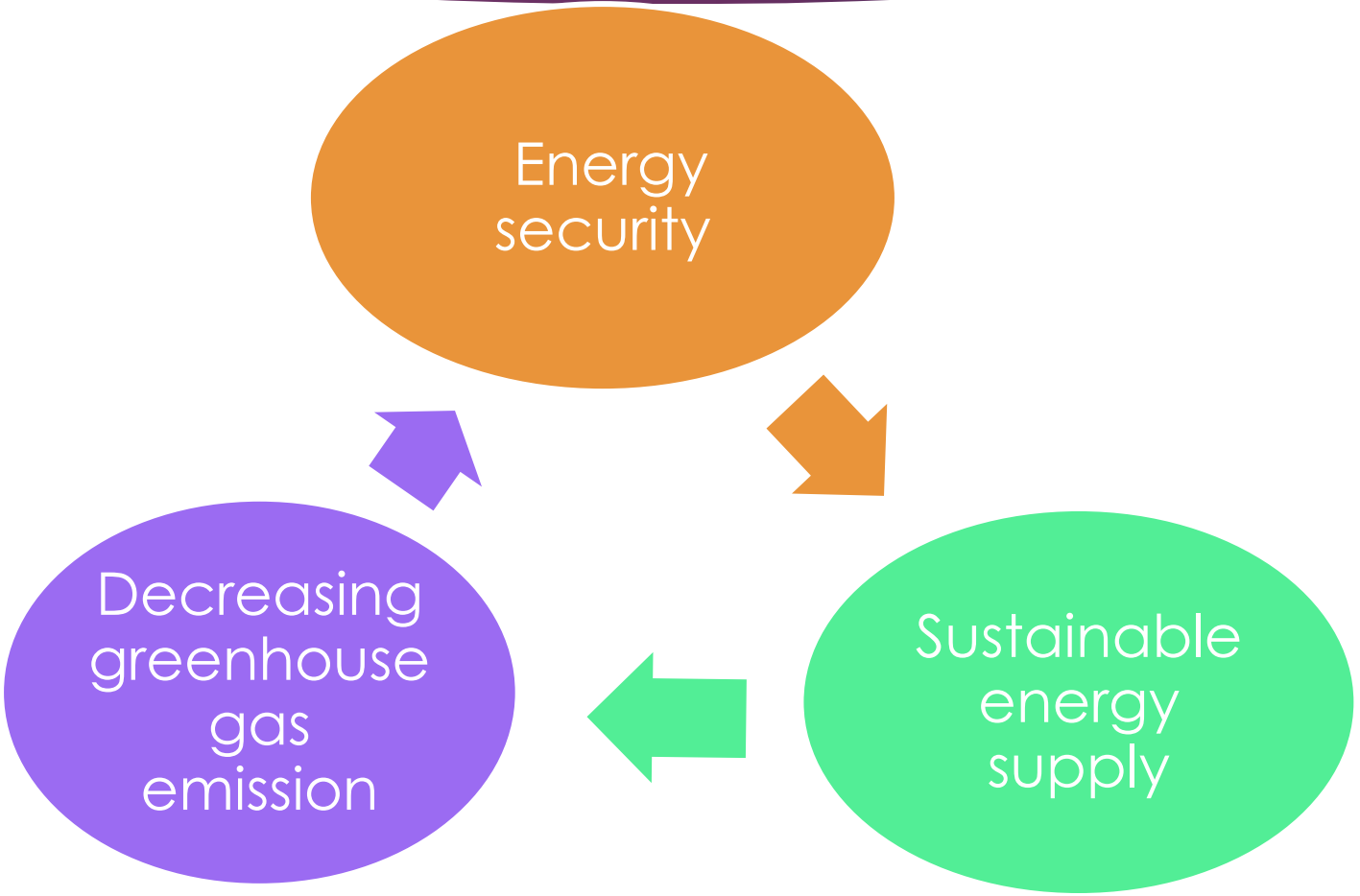
WHAT IS ENERGY?

“The ability to make any movement or ready to do is called energy.”

WHAT IS RENEWABLE ENERGY?

Renewable Energy is the energy from the existing energy flow in the ongoing natural processes. These sources include solar energy, eolic energy, geothermal energy, hydraulic energy, biomass energy and hydrogen energy.

MAIN POLICY OF TURKEY'S CONCERNS



TARGETS FOR 2023

The whole economically feasible hydropower potential of Turkey will be provided for generating electrical energy.

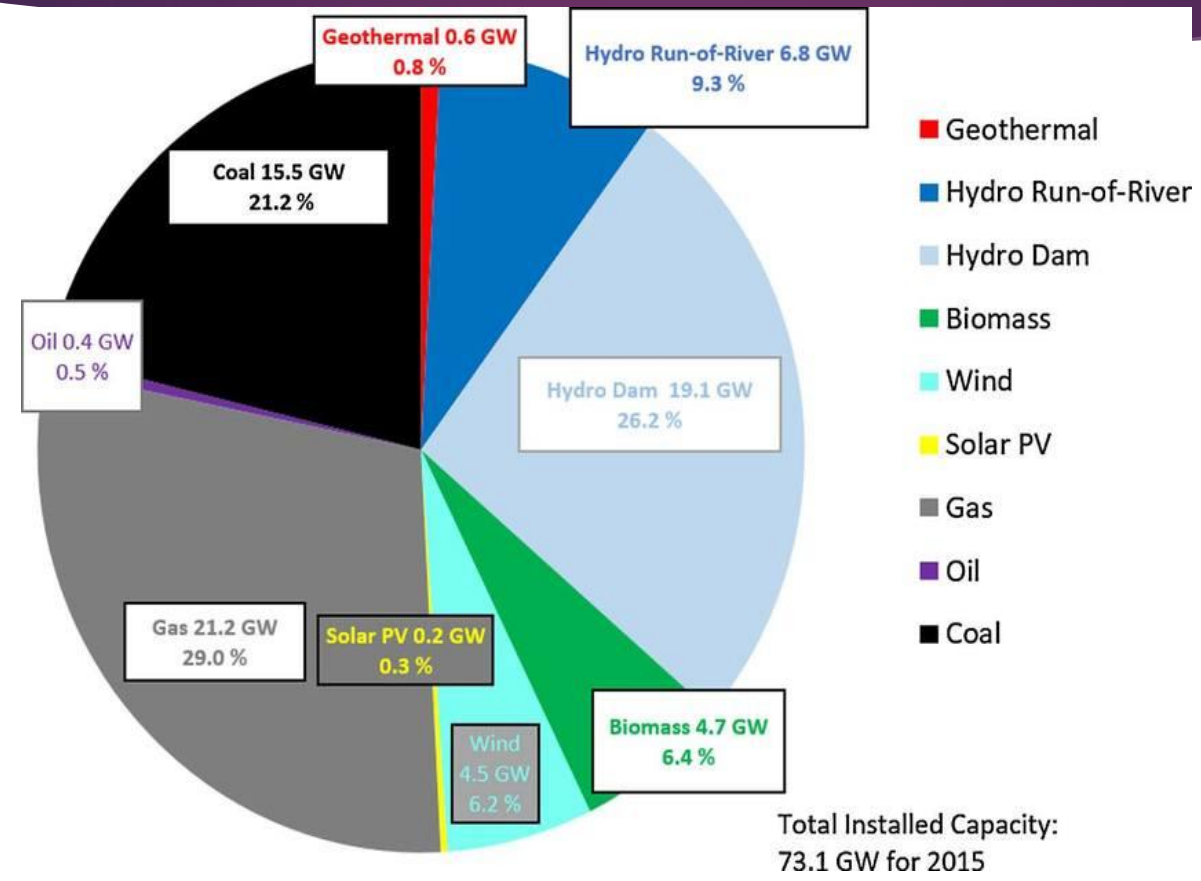
20,000 MW capacity of wind power plant will be in operation.

Minimum 3000 MW of solar energy capacity will be reached.

1500 MW installed capacity for Biomass energy.

Minimum 600 MW geothermal will be implemented.

TOTAL INSTALLED CAPACITY OF TURKEY



Total Installed Capacity:
73.1 GW for 2015

RENEWABLE POTENTIAL OF TURKEY

Turkey has substantial amount of renewable energy potential and the utilization rates are growing. Hydro, eolic and solar energy resources are the major portions of our renewable portfolio.

Turkey has at least;

-160,000 GWh/a. economic hydro,

-48,000 MW wind capacity

-1,500 kWh/m2-year of average Global Solar Radiation

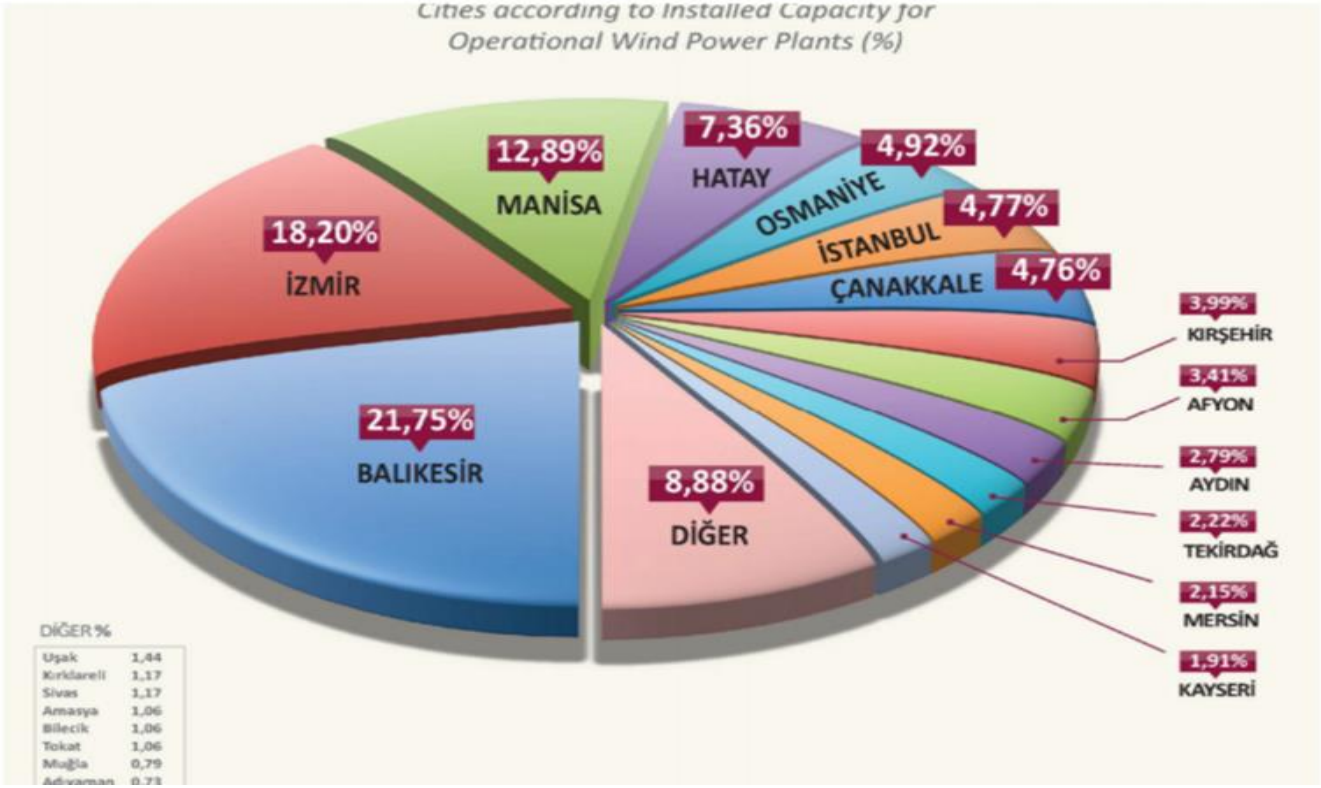
-31,500 MWt geothermal capacity

EOLIC ENERGY IN TURKEY

The first wind power plants in Turkey has been started in 1998.Turkey has the serious wind energy potential. Turkey has 11GW stock of the current project and the capacity of 20 GW for the national targets in 2023 in terms of Eolic Energy, therefore, Turkey plays a vital role in the European market. In the future Turkey will probably play an important role in shaping the investment opportunities.

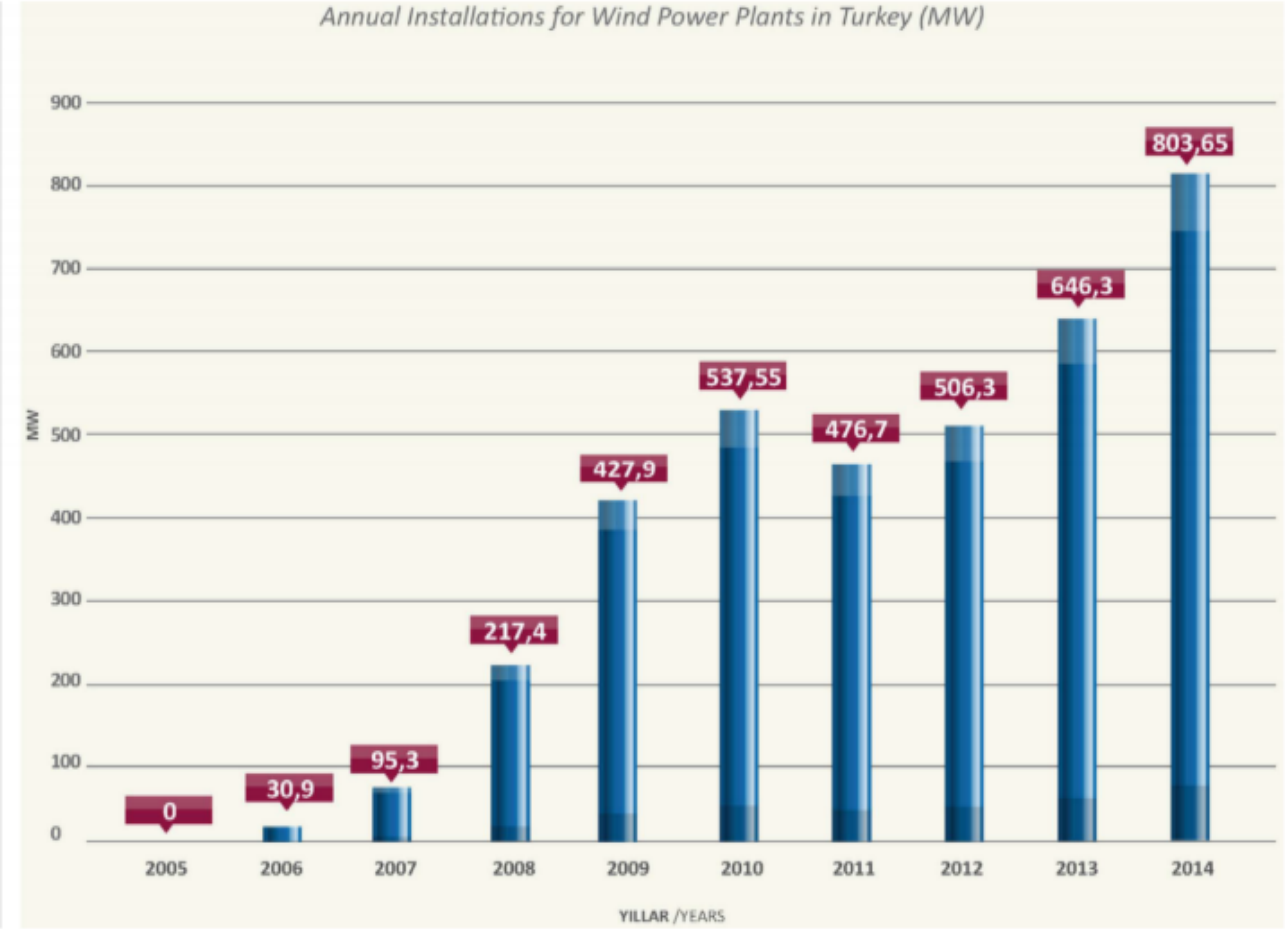
TOTAL CAPACITY **47,849.44**

Below you will find the cities according to installed capacity for operational wind power plants (%)

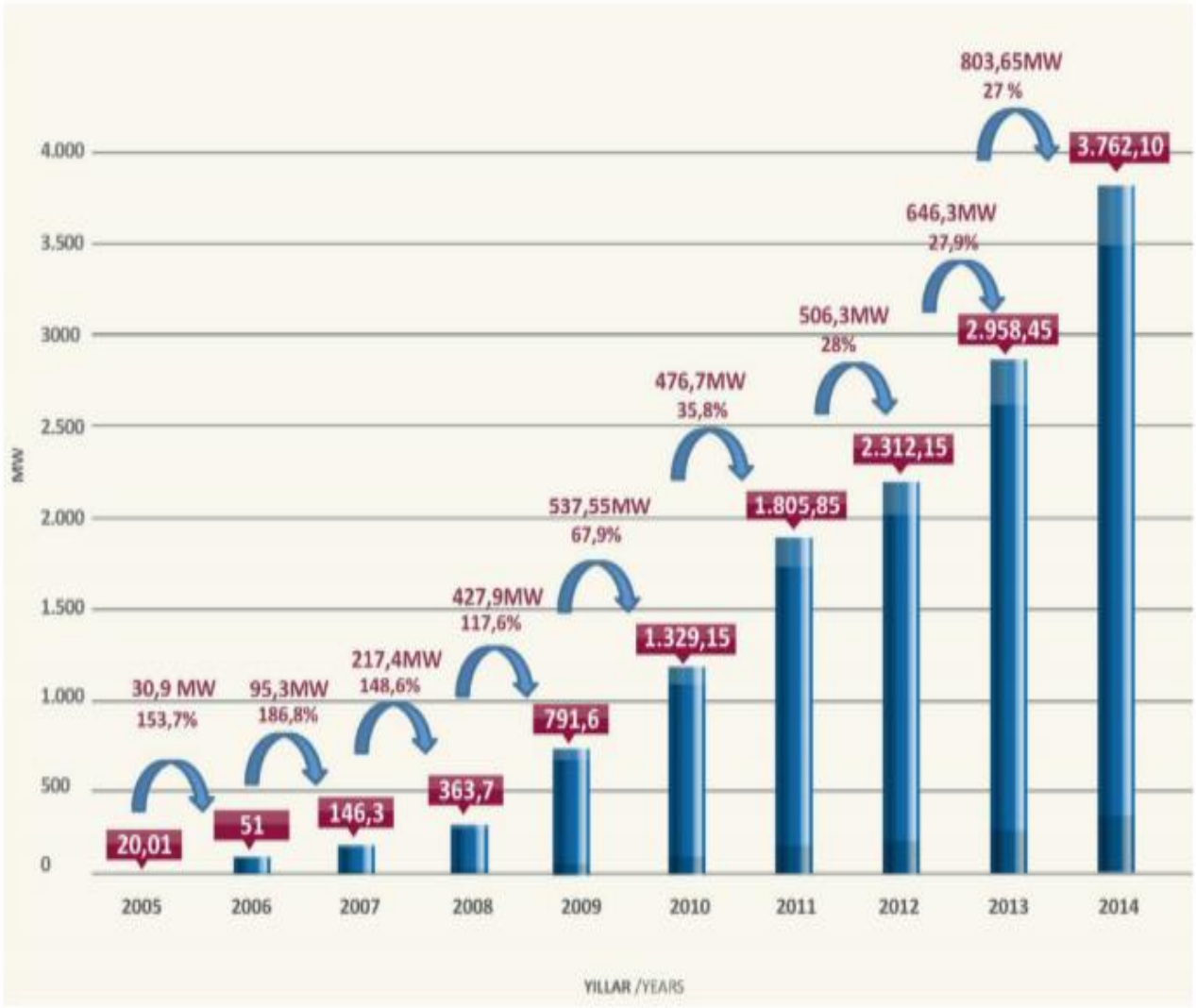


Below you will find in picture 1, the annual installations for wind power in Turkey (MW) and in picture 2, the cumulative installations for wind power in Turkey (MW).

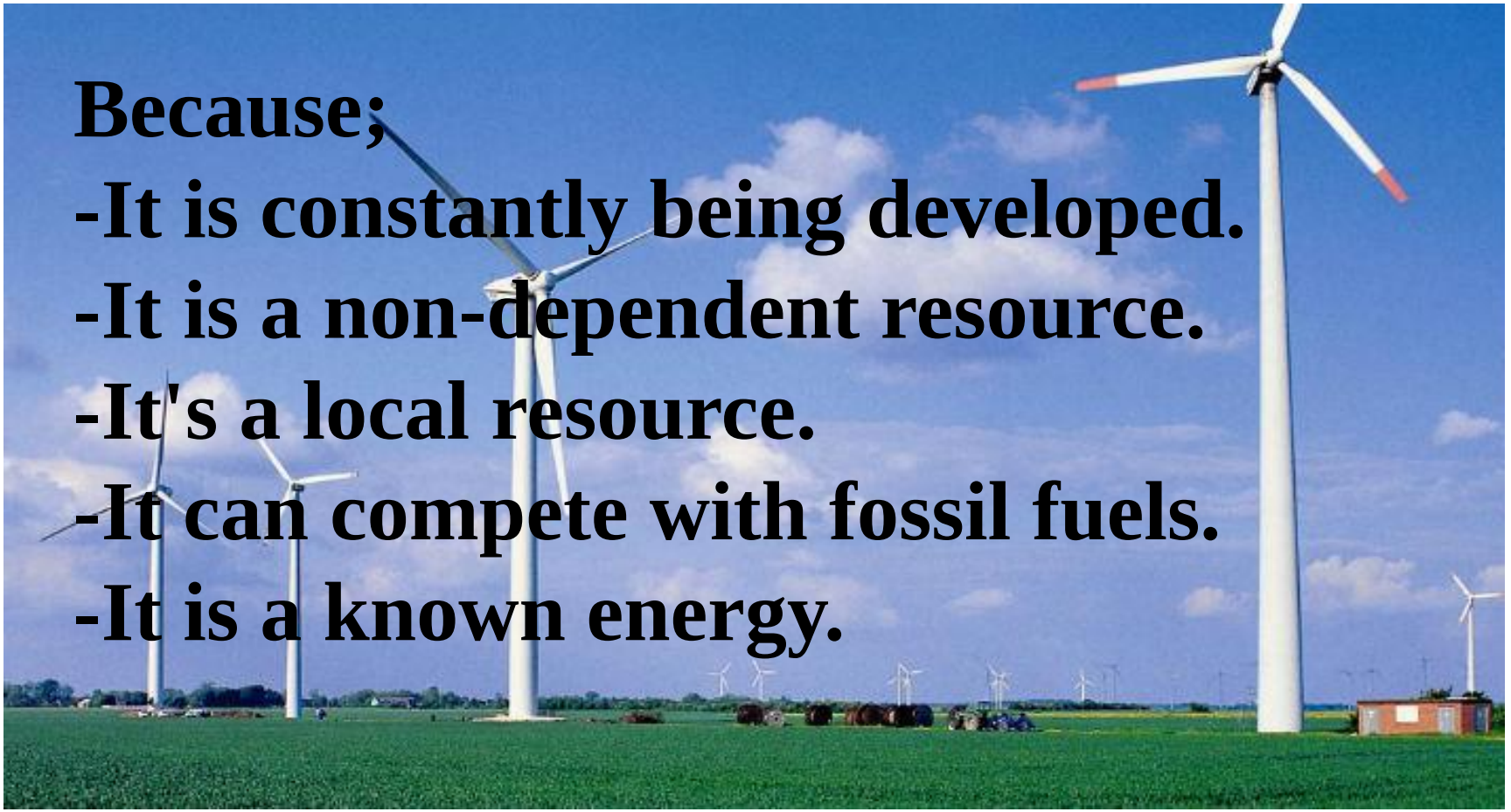
Picture 1:



Picture 2:


4.000
3.500
3000
2.500
2.000
1.500
1.000
500
0
MW
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
YILLAR /YEARS
20,01
51
146,3
363,7
791,6
1.329,15
1.805,85
2.312,15
2.958,45
3.762,10
30,9 MW
153,7%
95,3MW
186,8%
217,4MW
148,6%
427,9MW
117,6%
537,55MW
67,9%
476,7MW
35,8%
506,3MW
28%
646,3MW
27,9%
803,65MW
27 %

WHY EOLIC ENERGY?



Because;

-It is constantly being developed.

-It is a non-dependent resource.

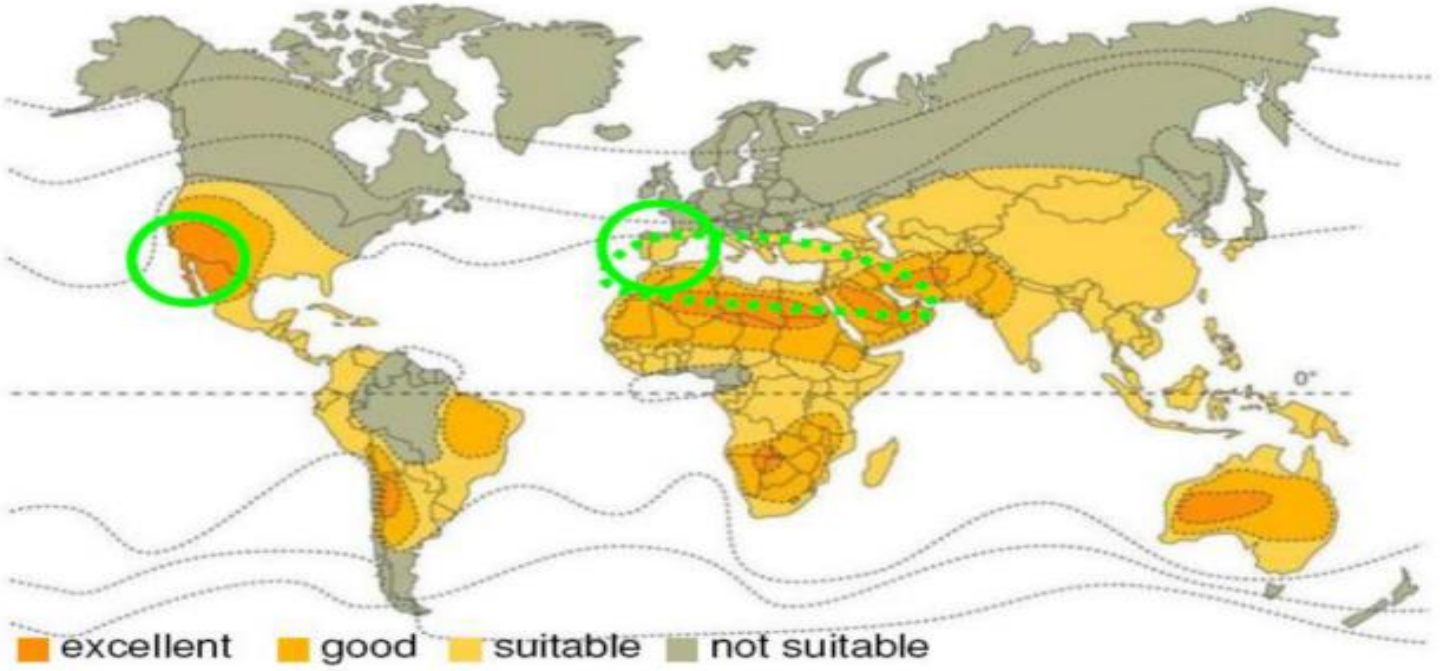
-It's a local resource.

-It can compete with fossil fuels.

-It is a known energy.

SOLAR ENERGY IN TURKEY

Turkey is very lucky to possess a high solar energy potential, in terms of its geographical location. See below;



WATER HEATING SYSTEM

- Solar energy utilization in Turkey is mainly composed of hot water generation systems which turn solar energy into thermal energy and are mostly used in the west and south regions of the country.
- 18 million m2 flat-plate solar collectors are in use.
- Turkey is one of the biggest Producers of the solar collectors İn the world. Some amount of this production is exported.

- In our country, although there are not any power plants that produce electricity from solar energy, there are many institutions and organizations that carry out R&D studies on this subject. Public institutions and organizations, especially universities, and the private sector have increased their research and working activities on this subject day by day.

SOME INSTITUTIONS and ORGANIZATIONS DOING RESEARCH FOR SOLAR ENERGY

- YEGM (General directorate of renewable energy)
- State Meteorological Institute
- TÜBİTAK (Marmara scientific and Industrial research institute)

TURKEY'S FIRST SOLAR-ENERGY BUS

- Middle East Technical University in Ankara, Turkey have started a project by suggesting the idea of performing a first bus powered by solar energy.
- The purpose of the project is to use the generated energy by storing it in the operation of the electric air conditioner.

THANKS FOR YOUR ATTENTION.