

# RENEWABLE ENERGY IN ANDALUSIA

OECD CONFERENCE  
SUSTAINABLE GROWTH, BUILDING THE GREEN ECONOMY  
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Secretary General for Industrial and Energy Development



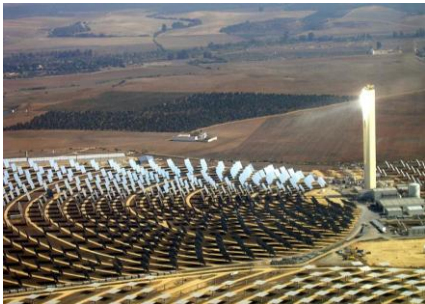
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## Andalusian energy system

### Andalusian Sustainable Energy Plan (Plan Andaluz de Sostenibilidad Energética 2007 -2013)

#### New energy model:

- **More efficient and distributed**
- **Commitment to renewable energy:** currently contributing approx. 13.9% of total energy
- **More sustainable:** in 2010 6.6 Mt of CO2 emissions were avoided



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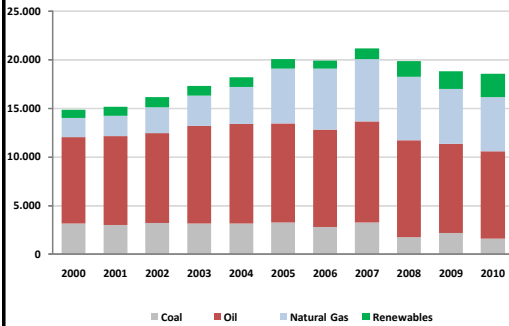


## Evolution of energy consumption

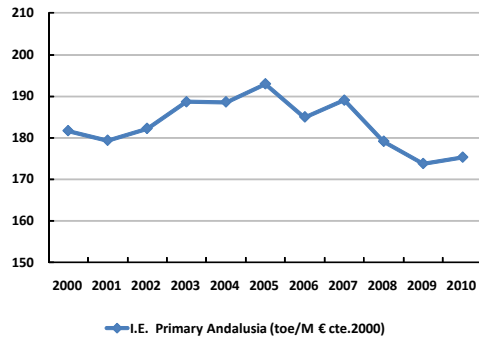
Energy consumption growth in Andalusia: 5.5% with respect to 2006

Reduction of energy intensity: 5.2% with respect to 2006

Evolution of primary energy consumption in Andalusia



Evolution of intensity



Note: Estimated data for 2010 (electrical balance not included)



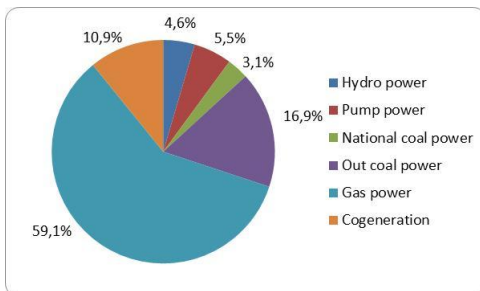
## Power generation

Total installed electricity power: 14,730.5 MW

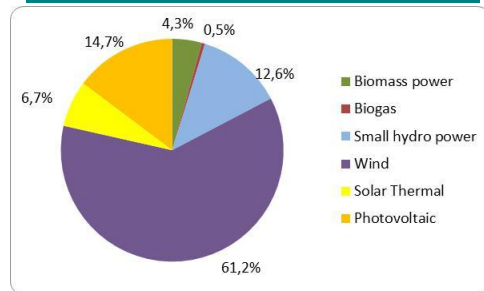
Fossil fuel installations: 68%

Renewable energy installations: 32%

Power generation 2010  
Fossil fuel

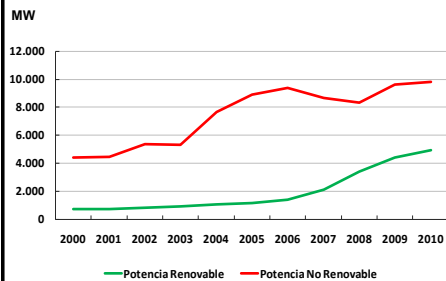


Power generation 2010  
Renewable energy

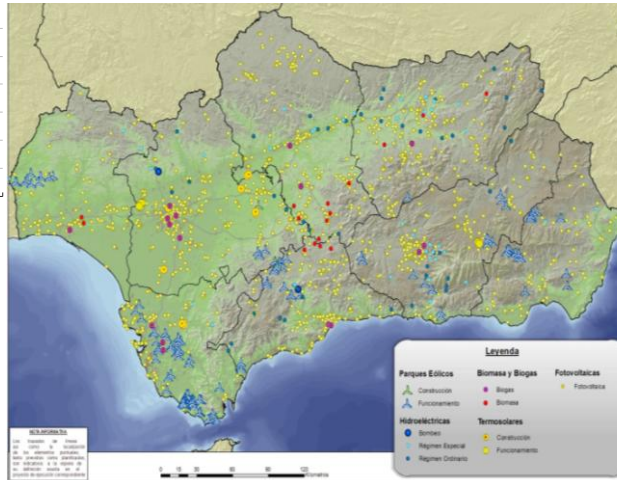


## Electricity generation using renewables

- Andalusia counts on a huge amount and variety of renewable resources
- The use of renewable energies has tripled since 2006
- Renewable electricity power has multiplied by 3.5 since 2006



Installed power (MW)	
Solar thermal	330.9
PV connected to the grid	724.5
Electrical biomass	210.4
Electrical biogas	23.5
Wind	3,008.7
Hydraulic (in s. r.)	617.3
<b>Total (MW)</b>	<b>4,915.4</b>



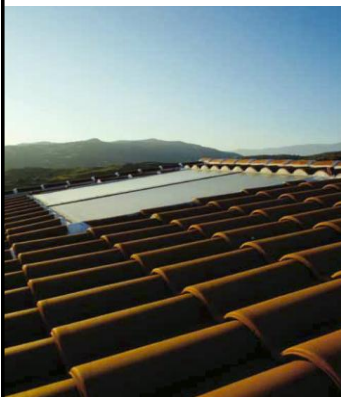
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## Thermal energy produced with renewable energies

Andalusia is pioneer in Spain in the use of solar energy and biomass:

- **Solar thermal energy:** 668.615 m<sup>2</sup>
- **Biomass:** 629.7 ktoe
- **Geothermal:** currently in great expansion



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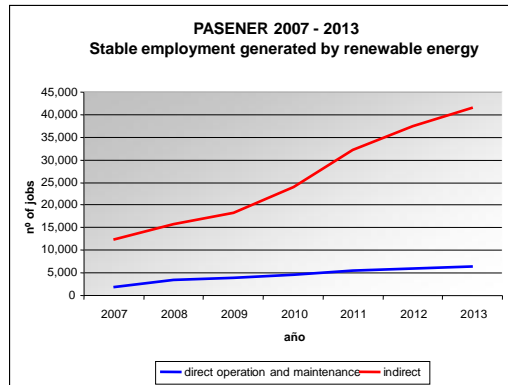
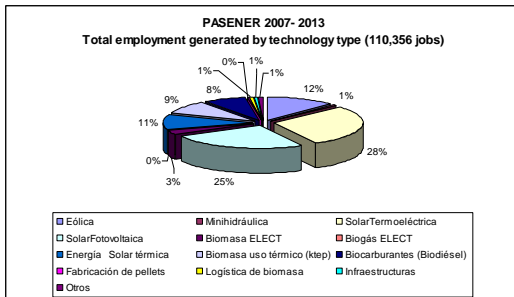
## Renewable energy and employment

**Employment foreseen** in the renewable energy sector in the period 2007 – 2013:

**110.000 jobs** (44% O&M. operation and maintenance, 56% Construction)

Companies: more than 1,500 companies dedicated to the realisation of installations:

all related solar thermal energy (37%), photovoltaic (30%), biomass (15%) and wind (16%).



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## Energetic industrial network

Andalusia has developed an industrial network relating to the manufacturing of biofuels, pellets, equipment and other renewable components (wind blades, pv modules, biomass boilers, solar thermal collectors, etc.).

➤ 50 companies

➤ 2.600 jobs



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## Energy R+D+i in Andalusia

Andalusia has been and is pioneer in the research and development of solar technology:

- Solar Platform of Almeria (Plataforma Solar de Almeria (PSA))
- INTA

Centres for R+D+i (of renewables):

- Advanced Technological Centre of Renewable Energies (Centro Tecnológico Avanzado de Energías Renovables (CTAER))
- Universities

Promotion R+D+i:

- Agency IDEA
- Andalusian Technological Corporation



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