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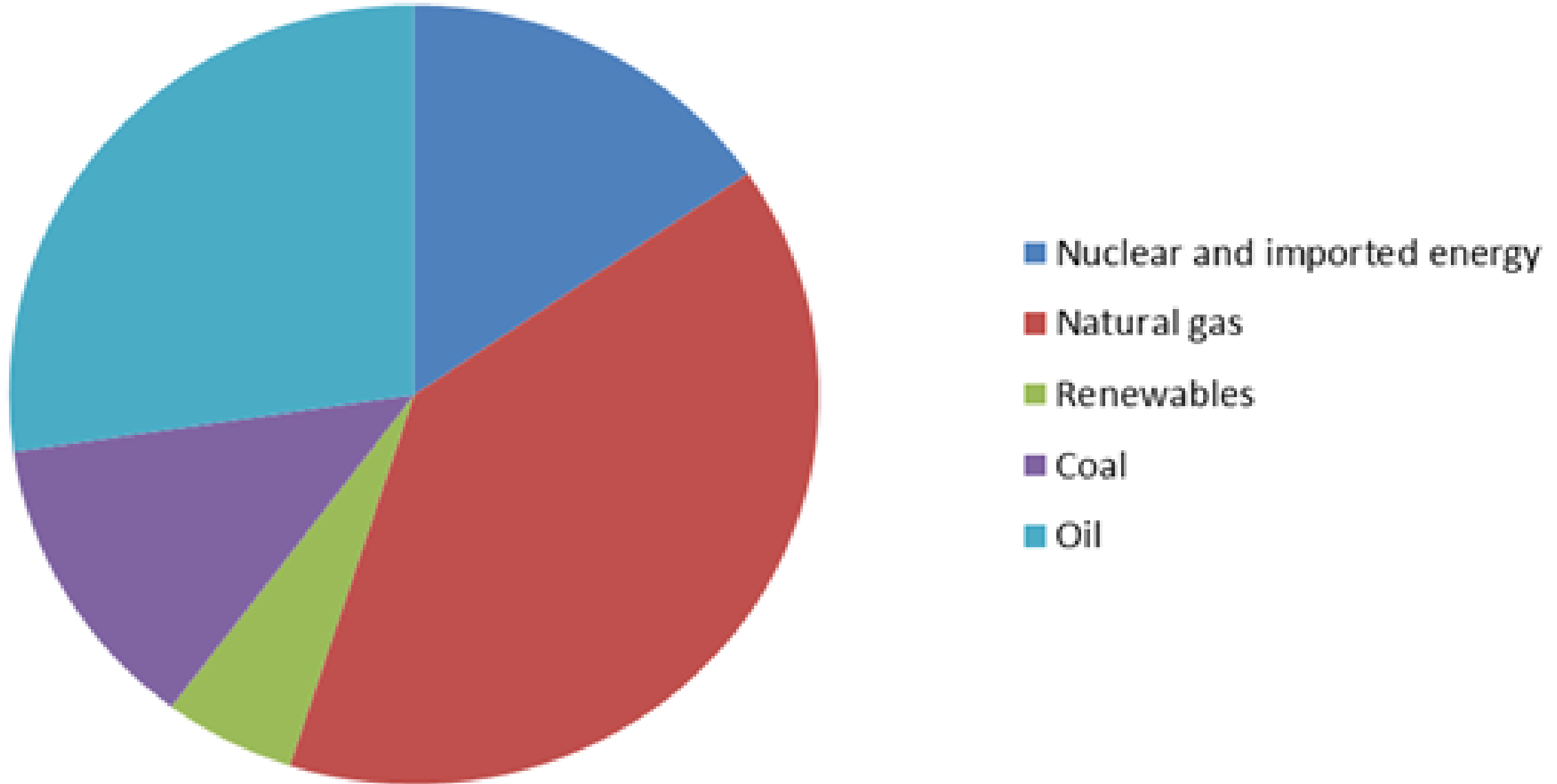
Renewable energy in Hungary

CREATED BY: HUNGARIAN TEAM

The EU strategy in Hungary

- ▶ Hungary is a member of the European Union and thus takes part in the EU strategy to increase its share of renewable energy. The EU has adopted the 2009 Renewable Energy Directive, which included a 20% renewable energy target by 2020 for the EU. By 2030 wind should produce in average 26-35% of the EU's electricity and save Europe €56 billion a year in avoided fuel costs. The national authors of Hungary forecast is 14.7% renewables in gross energy consumption by 2020, exceeding their 13% binding target by 1.7 percentage points. Hungary is the EU country with the smallest forecast penetration of renewables of the electricity demand in 2020, namely only 11% (including 6% and 3%).

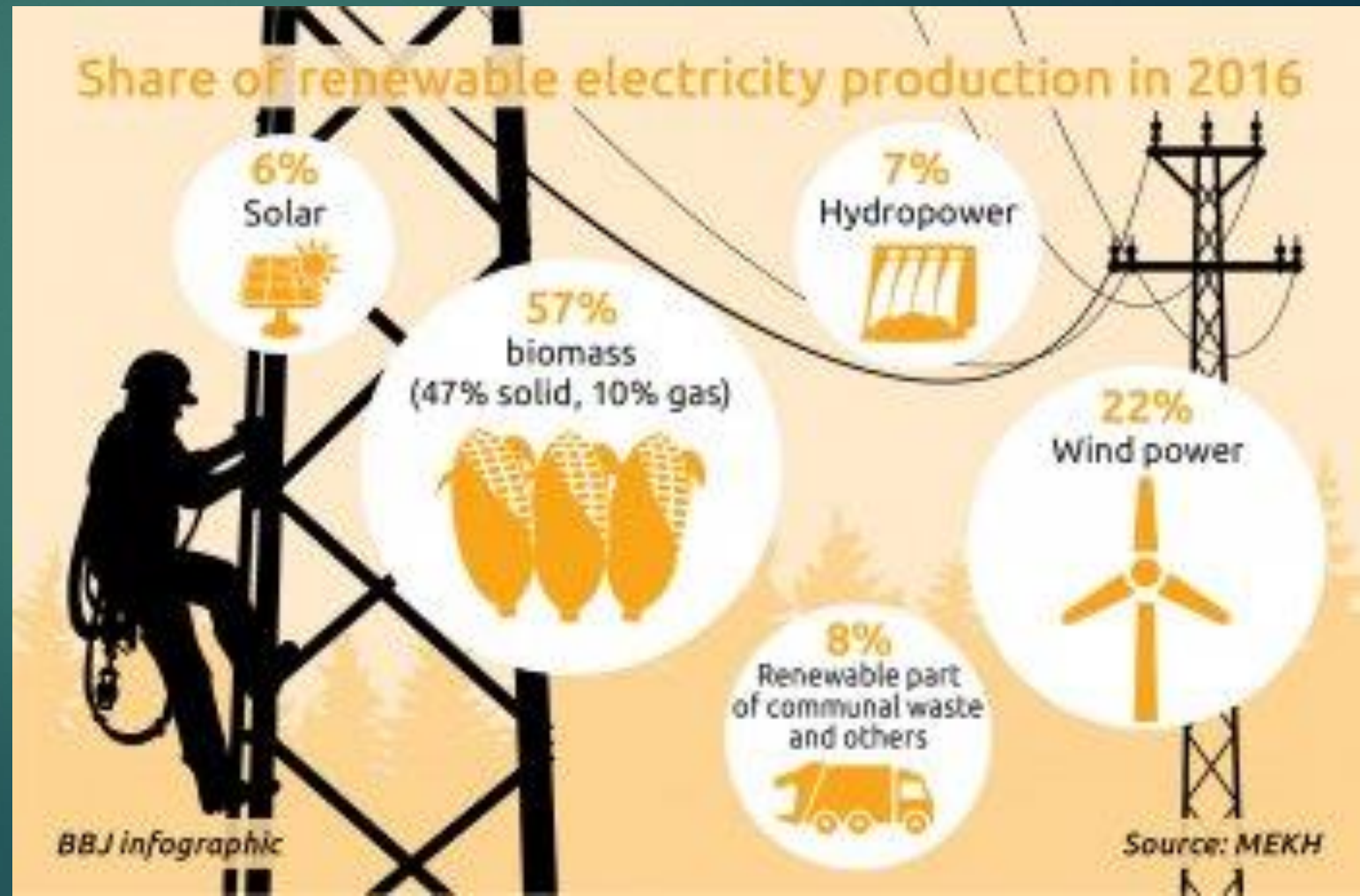
Percentage



Statistics

- ▶ In 2015, 10.5% of the gross Hungarian electricity production came from renewables, 52% of that amount was from biomass, 22% was from wind, 7% was from hydroenergy and 3% was from solar.
Renewable energy in Hungary by type (2016):

► <u>Type:</u>	<u>%:</u>
► <u>Biomass</u>	<u>46.4</u>
► <u>Biogas</u>	<u>10.4</u>
► <u>Wind Power</u>	<u>21.3</u>
► <u>Hydroelectricity</u>	<u>8.1</u>
► <u>Solar</u>	<u>6.3</u>
► <u>Waste-to-Energy</u>	<u>7.6</u>



Wind power

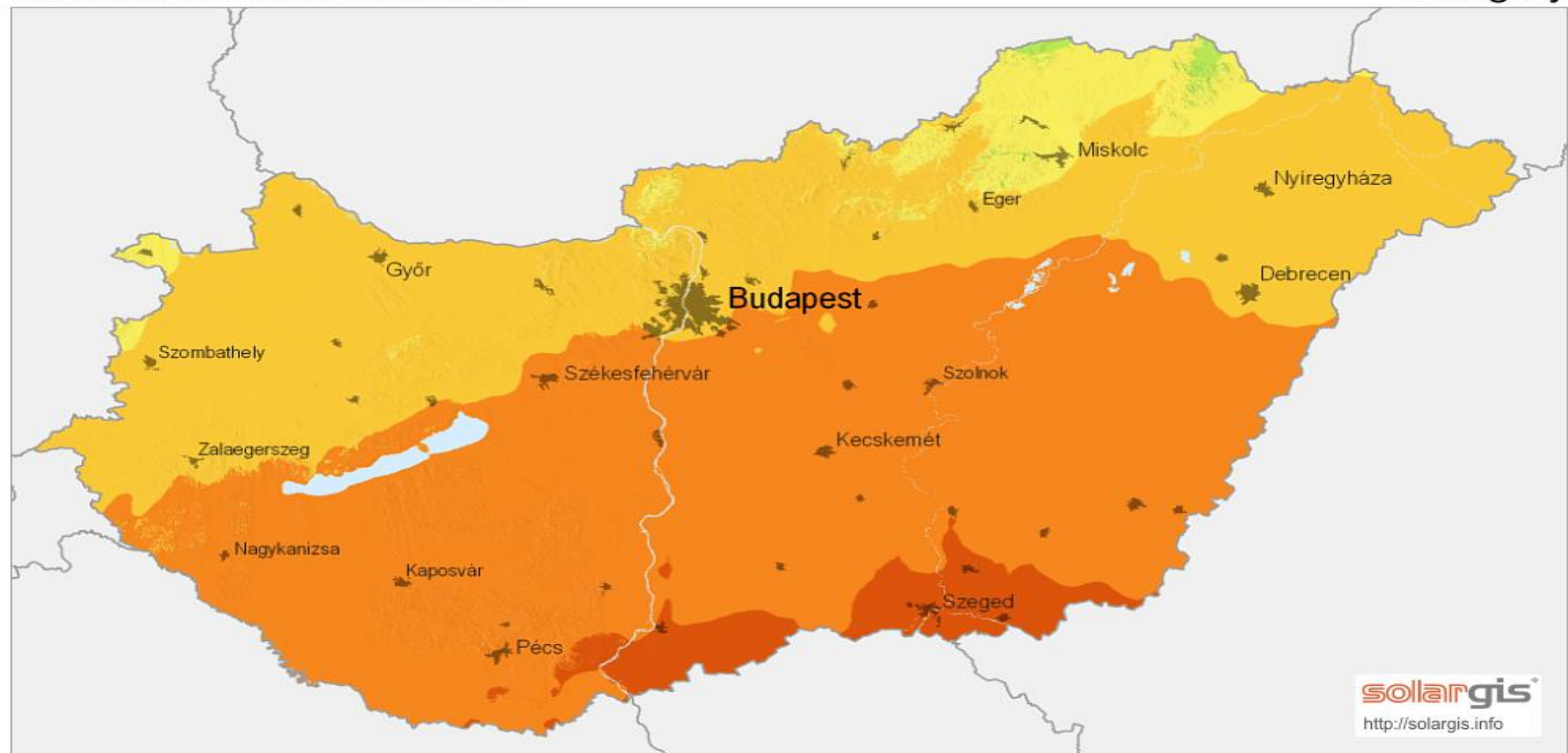
- ▶ The national forecast included 400 MW of new wind power capacity between 2010-2020. EWEA's 2009 forecast expected Hungary to reach 1.2 GW of installed wind capacity in this time.[1] In the end of 2010 wind power capacity was 295 MW.[4] However, since 2010, no further wind energy tenders were accepted. In 2016, the Hungarian government banned the installation of new wind energy capacities with administrative measures.[5] The current capacity of wind power in Hungary is 329 MW.



Solar power

- ▶ The Hungarian solar power generation is rapidly advancing, although from a small basis. By the end of 2015 Hungary had installed more than 110 megawatt (MW) of photovoltaics. The country's capacity is expected to double in 2016.





Average annual sum (4/2004 - 3/2010)




0 25 50 km

Hydro power

- ▶ Located in the Carpathian basin, Hungary has limited access to hydroelectricity. Since the unfortunate case of the Gabčíkovo–Nagymaros Dams project, the building of hydroelectric dams is extremely unpopular in the Hungarian society. The existing Croatian plans of building new dams on the shared sections of the river Drava are rejected by the Hungarian government. Hungary's two largest hydroelectric dams (Tiszaalk, Kisköre) are built on the river Tisza, with 12,5 MW and 28 MW capacities, respectively. The remaining power stations are usually former mills transformed to small hydroelectric dams.





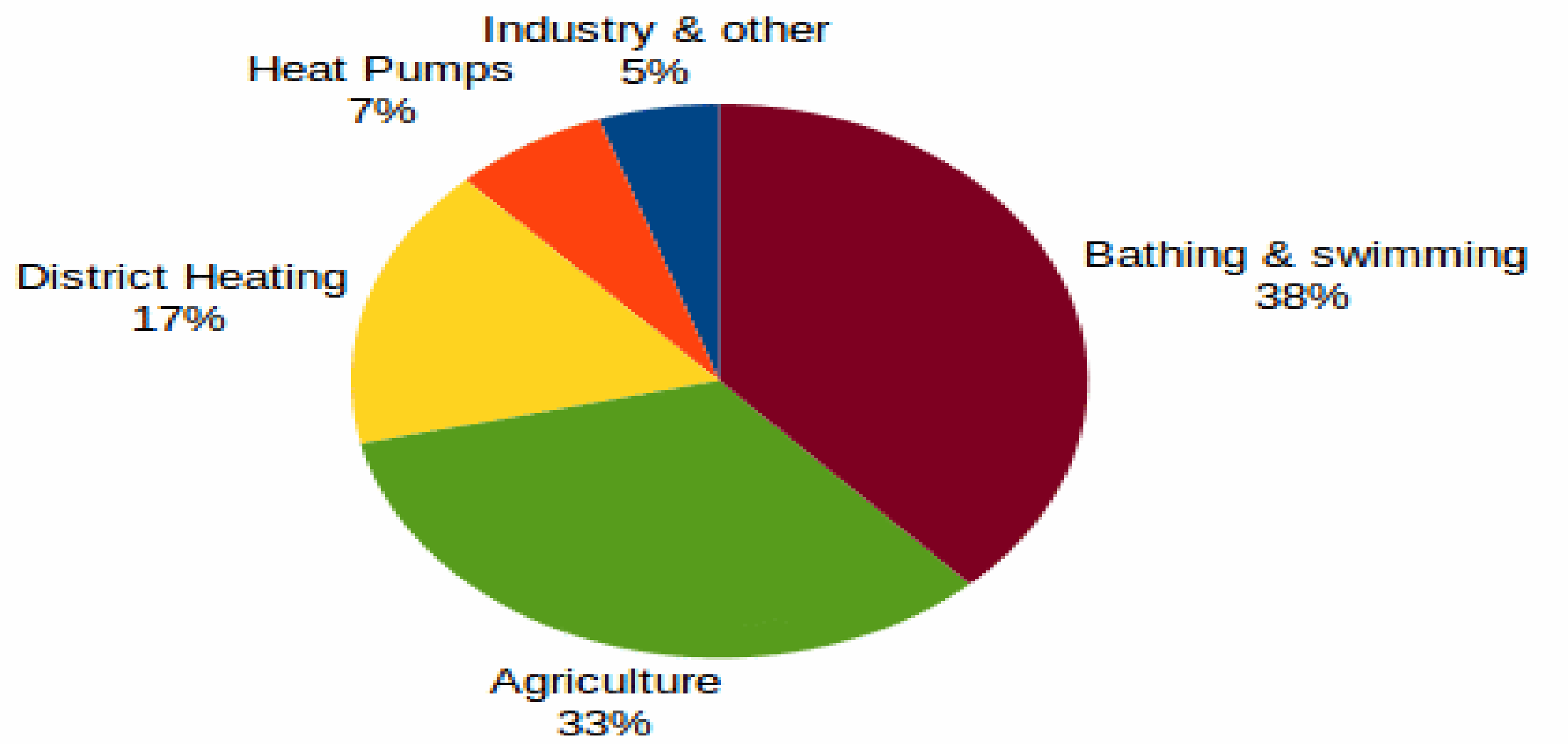
Small hydropower	2005	2007	2010	2020
<i>Total installed capacity (MW)</i>	12	12	14	28
<i>Generation (GWh)</i>	39	40	67	80
<i>Number of power plants</i>	34	34	36	42
<i>Potential (GWh)*</i>	69	68	58	28

Geothermal power

- ▶ Geothermal energy is widely used in Hungary for the heating of homes and industrial areas. The first power plant using geothermal energy is being built in Tura with the capacity of 2,6 MW. Its operation is expected to start in 2017.



Share of Geothermal Heat Production in Hungary in 2015



Sources : Geo-Heat Center, Toth, D. Linhart

THANK YOU FOR YOUR ATTENTION!