

## DIFFERENT SUPPORT FOR RES IN SLOVAKIA AND IN MACEDONIA

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**Annotation:** Paper deals with the different approach to the renewable energy support in two European countries from which one belong to European Union. Paper compares different geological and climate conditions of both countries but the main target is to compare national support and different background for increasing renewable energy sources in the energy sector.

**Keywords:** energy, renewable energy sources, energy policy

### 1. INTRODUCTION

Both countries, Slovakia and also Macedonia are located in Europe, and are continental countries. Slovakia is nearly one time larger than Macedonia and also number of inhabitants is one time higher. Both countries want to via their national politics support renewable energy sources. The main difference is that Slovakia belong to European Union and therefore in Slovak energy law are included directives and other documents of European committee and Slovakia has to reach national targets given in the renewable field. Republic of Macedonia is a European Union candidate country, but in the law and sub laws for energy, renewable energy sources have a key role.

### 2. SUPPORT OF RENEWABLE ENERGY IN SLOVAKIA AND IN MACEDONIA

Present state in the energy sector indicates many problems with our living environment. Therefore political and economical authorities are searching for new, stable and environmentally friendly models. Slovakia promotes renewable sources mainly via implementation of the EU directives to the state policy. Both countries have different climate and geographical conditions on the one hand, and on the other hand the governmental interest to support RES, whether legislative or financial, based on the different aims. In spite of that, share of RES have risen in Slovakia and Macedonia in recent years evidently.

#### 2.1 Situation in Slovakia

Slovakia is highly dependent on energy commodities import, mainly from Russian federation. Slovak energy sector structure is diversified in terms of the fuels used, with natural gas, nuclear power, solid fuels and to a lesser extent oil constituting a majority of primary energy supplies.

In 2011, total installed capacity in Slovakia reached 8 152 MW, with total electricity consumption at 28 862 GWh and total electricity production at 28 135 GWh. The share of RES in Slovakia is increasing. In 2010, 5 280 GWh were produced from renewable sources, at a share of 18.36% in total consumption (Table 1). It includes hydroelectric plants with above 10 MWh outputs. However, on excluding large hydroelectric plants, the share of RES drops to less than 2%. Consequently, electricity production from RES in Slovakia is largely shaped by the output of large hydroelectric plants. By now geothermal energy has not been used in Slovakia for electricity production purposes (geothermal energy rather finds use for heat production), share of photovoltaic is rapidly growing, and share of wind energy is very low.

Table 1: Total electricity production form RES in Slovakia from 2007 to 2010 (MH SR)

	2007	2008	2009	2010
<b>Total electricity production form RES (GWh)</b>	5 080	5 147	5 173	5 280
<b>Total electricity consumption (GWh)</b>	29 717	29 824	27 467	28 761
<b>Share (%)</b>	17,09	17,26	18,83	18,36

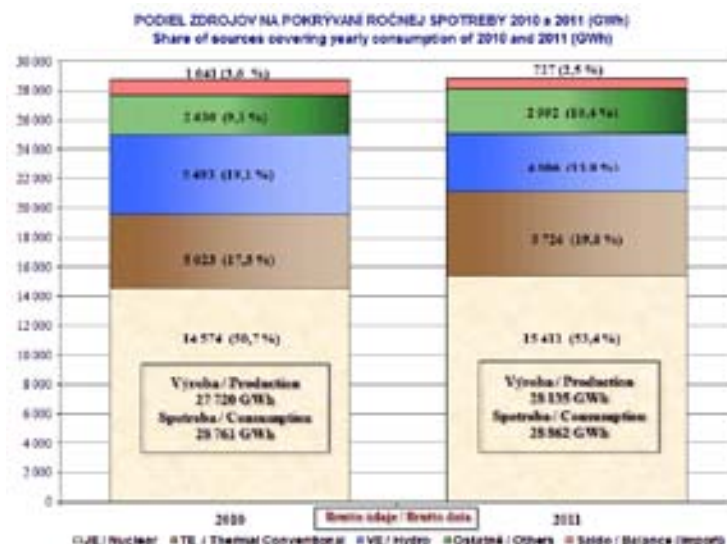


Figure 1 Share of sources covering energy consumption in 2010 and in 2011 in SR ([www.sepas.sk](http://www.sepas.sk))

## 2.2 Situation in Macedonia

Republic of Macedonia is, like Republic of Slovakia, highly dependent on energy commodities import. Apart from the whole consumption of natural gas and oil, 30% from the total annual consumption of electrical energy is from import.

In 2011, total electrical energy consumption was 8 985.3 GWh, total electricity production was 6 324.6 GWh (70.4% from electrical energy consumption) and import of electrical energy was 2 660.7 GWh (29.6% from electrical energy consumption). Renewable energy sources in the total electrical energy production are with 23.22% or 1 468.8 GWh and in the total electrical energy consumption are with 16.35%. In the electrical energy production from renewable energy sources 1 272.8 GWh are from big hydro power plants (more than 10 MW installed power) and the rest 196 GWh (3% from the total electrical energy production or 2.2% from the total electrical energy consumption) are from small hydro power plants (less than 10 MW installed power) and sun power plants (photovoltaic power stations).

In order to increase electrical energy production from RES Government of the Republic of Macedonia, together with Energy Regulatory Commission and Energy Agency brought new Energy Law and new regulations for renewable energy sources. For the different type of renewable energy source is determined a tariff (preferential price of electrical energy) and the guaranteed period for using the status privileged producer of electrical energy from RES.

The total electrical energy produced from the “Privileged Producer” (from RES), according to the Energy law must be purchased by the MEPSO - Market Operator with the preferential price of electrical energy determined by the Energy Regulatory Commission.

In order to limit the impact of the new RES to the end price of electrical energy not to be more than 4%, the Government of the Republic of Macedonia made a decision to limit the installed capacity from different types of RES for the status “Privileged Producer” of electrical energy with preferential price. In the next table are presented the limits of installed capacity from different types of RES in Macedonia (Table 2).

Table 2 Government decision for maximum installed capacity from RES in Macedonia

Type of RES	Installed capacity per plant	Total installed capacity in Macedonia
Small Hydro power plant	Up to 10 MW	unlimited
Wind parks	Up to 50 MW	150 MW
Photovoltaics	Up to 50 kW = 2 MW Above 50 kW = 8 MW	10 MW
CHPP	Up to 3 MW	10 MW
Power plant on biogas/biomass	Up to 500 kW = 2 MW Above 500 kW = 8 MW	10 MW