SolarSuperState

SolarSuperState Prize 2018 category SolarSuperState for Paraguay

Paraguay‘s three major renewable electricity production facilities are at or close to the Parana river. The governments of Alfredo Stroessner, president of Paraguay from 1954 to 1989, were responsible for the planning or construction of all three dams. The Acaray hydropower station produces electricity since 1968.
In the oil crisis year 1973, Paraguay signed two dam construction treaties with its neighboring states. The two dams caused the flooding of some 1000 and 700 square kilometers of the Paraguayan forests and agricultural land. The Itaipu electricity production started in 1984, and the one for Yacyreta 9 years later in 1993.
The Itaipu dam is owned equally by Paraguay and Brazil and the Yacyreta dam equally by Paraguay and Argentina. The neighboring state at the left side of the Parana river acted as a guarantor for the initial loans of Paraguay used to build each dam. The owners of the dams pay these loans with the dams‘ electricity sales.
Between 1985 and 2016, Paraguay produced every year renewable electricity that exceeded at least 300 % of its domestic electricity consumption.
Therefore, Paraguay wins a SolarSuperState Prize 2018 in the category SolarSuperState.

SolarSuperState Prize 2018 in the category SolarSuperState for Uruguay

Between 1900 and 1945, Uruguay burned mainly petroleum to produce electricity. President Gabriel Terra ordered in 1936 the construction of the first renewable power station of Uruguay at the river Rio Negro. This hydroelectric power plant commenced production in 1945. Since 1979, Uruguay has four hydropower stations. In years with low hydroelectricity production, Uruguay had the choices of a reduction of its consumption, an increase of the petroleum electricity production and an increase of the electricity import. For this reason, president Tabaré Vazquez decided in 2008 to diversify the renewable electricity production by biomass and wind energy. Uruguay introduced a quota system for new electricity generation capacity. In just five years between 2009 and 2014, Uruguay increased its renewable electricity production share versus consumption from some 58 % to 106 %. Under the new president José Mujica (2010 and 2015), Uruguay exceeded the official quotas for biomass and wind energy by a factor of two to three.
Uruguay increased its national gross electricity consumption between 2004 and 2017 by 34 percent. Since 2014, Uruguay produces every year more than 100 % renewable electricity. Therefore, Uruguay wins a SolarSuperState Prize 2018 in the category SolarSuperState.

3. SolarSuperState Prize 2018 category Wind for Sweden

In the year 2006, the Swedish parliament introduced a certificate system for electricity. A significant portion of the electricity users is obliged to buy electricity certificates. The purchase price paid to producers of electricity from new wind power is the sum of the market price for electricity and the market price for electricity certificates. Both price components are very volatile. They depend on the weather and governmental decisions about the design of the certificate system.
Since 2009, Sweden shortened the permitting procedure for new wind turbines. The permitting process is since then based only on the Environmental Code instead of several different regulations.
The Swedish Energy Agency has suggested suitable areas of national interest for wind energy production. The counties, local authorities, and the Swedish Energy Agency check the planning of the municipalities. This procedure aims to identify enough sites for new wind turbines.
At the end of the year 2017, Sweden ranks third in the world with a cumulative installed wind power of some 660 Watt per capita. Sweden wins the 3. SolarSuperState Prize 2018 in the category Wind.

2. SolarSuperState Prize 2018 in the category Wind for Germany

The German parliament designed in 1991 the world-first national feed-in tariff law for electricity production from renewable energy sources (Stromeinspeisungsgesetz). This law guaranteed a feed-in tariff for wind power and photovoltaic electricity equivalent to 90 percent of the average retail electricity price. In 1990, the cumulative installed power was still below 1 watt per capita. In 2000, this capacity exceeded 74 watts per capita. In the same year, the German parliament replaced the old feed-in tariff law by a new one (Erneuerbare-Energien-Gesetz). The feed-in tariff system encouraged farmers, individuals, small and big businesses to install photovoltaic modules on the roofs of buildings in all 16 states of Germany. The new wind power installations in the calendar year 2017 were still driven by the old feed-in tariff system. In 2017, Germany achieved a new national wind power deployment record. At the end of the year 2017, Germany ranks second in the world with a cumulative installed wind power of some 670 watts per capita. Germany wins the 2. SolarSuperState Prize 2018 in the category Wind.

2. SolarSuperState Prize 2018 in the category Solar for Germany

The German parliament designed in 1991 the world-first national feed-in tariff law for electricity production from renewable energy sources (Stromeinspeisungsgesetz). This law guaranteed a feed-in tariff for wind power and photovoltaic electricity equivalent to 90 percent of the average retail electricity price. The purchase price paid to producers of photovoltaic electricity was not high enough to allow a profitable production. In 1999, the cumulative installed photovoltaic power was still below 1 watt per capita. In 2000, the German parliament replaced the old feed-in tariff law by a new one (Erneuerbare-Energien-Gesetz). This law guaranteed for photovoltaic electricity producers fixed feed-in tariffs and grid access at a very low bureaucracy (at least in the first years until 2012). Over one million photovoltaic electricity producers including private investors, energy cooperatives, and small and medium-sized enterprises deliver electricity to the public grid. The feed-in tariff system encouraged farmers, individuals, small and big businesses to install photovoltaic modules on the roofs of buildings. Later ground-mounted plants became popular too. At the end of the year 2017, Germany ranks second in the world with a cumulative installed photovoltaic power of some 510 watts per capita. Germany wins the 2. SolarSuperState Prize 2018 in the category Solar.

1. SolarSuperState Prize 2018 in the category Solar for Liechtenstein

In 2008, the government of Liechtenstein proposed and the parliament approved a feed-in tariff law for photovoltaic electricity. This law guarantees a constant payment for photovoltaic electricity produced by new installations with a power of up to 250 kilowatts for ten years. In an ordonnance to this law, the government specifies investment aids and the feed-in tariff for photovoltaic electricity. This legal framework encouraged owners of buildings to add photovoltaic installations on the roof-tops. At the end of the year 2017, Liechtenstein achieved the highest cumulative installed photovoltaic power of all states of the world with some 620 watts per capita. Liechtenstein wins the 1. SolarSuperState Prize 2018 in the category Solar.