

SolarSuperState Prize 2017



Laudation 1. SolarSuperState Prize 2017 in the category SolarSuperState for Uruguay

Uruguay is a state in America between the Atlantic ocean and the Uruguay river. It has an area of 176000 square kilometer. The highest mountain is some 500 meter above sea level. Between 1900 and 1945, Uruguay's electricity supply was based on fossil oil. All fossil energy had to be bought outside the state and financed by the export of agricultural products. In 1904, Uruguay started the planning of the first renewable electricity power station. In 1936, president Gabriel Terra ordered the construction of the first renewable power station of Uruguay at the river Rio Negro by German companies. This hydro power station started operation in 1945. Since 1979, Uruguay has 4 hydro power stations. Depending on the varying annual rainfall, Uruguay several times produced more than 100 % hydro electricity compared to the gross electricity consumption, for example in 1998. The surplus has been exported to Brazil and Argentina.

The drought year 2004, the insecure electricity import from Argentina and Brazil and the expected increase of the national electricity consumption caused an intensified state planning for nuclear, fossil and renewable energies at the same time. This behavior is not specific for Uruguay. It can be observed in many countries of the world.

The immediate measure of the state was the tripling of the fossil oil electricity production between 2005 and 2008 from 11 to 38 percent compared to the consumption. Parallel to the subsequent growth of renewable electricity production, the oil electricity production was reduced to below 5 % in 2016. The final success of Uruguay can be explained by the actions of two presidents that were in power from 2005 to 2010 and 2010 to 2015. The biggest achievement of the first term as president of Tabaré Vázquez is the inclusion of the two only quantitative targets in the national "energy plan 2005 - 2030": 2015 electricity production capacity of 200 Megawatt for biomass and 300 Megawatt for wind power. This opened the doors for domestic and international investors to build biomass and wind power plants in Uruguay. The biggest achievement of president José Mujica is, that Uruguay exceeded the initial targets for biomass and wind power by more than 100 %. In similar positions in the past, other head of states, especially in the European Union, have stopped or slowed down immediately new additions of renewable electricity generation capacities.

According to one of the three state electricity balances, all three renewable electricity sources hydro, wind and biomass were necessary to lift Uruguay slightly over the bar of 100 % renewable electricity production relative to the gross consumption in the years 2014, 2015 and 2016. This can be regarded as a first milestone toward a national 100 percent renewable energy economy which should be achieved in the short-term because of climate protection. Therefore, Uruguay wins the first SolarSuperState Prize 2017 in the category SolarSuperState.

Laudation SolarSuperState Prize 2017 category WIND for Sweden

In the year 2006, the Swedish parliament made a law with the obligation for almost all electricity users to buy a certain part of the new renewable energy electricity to be produced during the next 10 years.

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 other regulations.

The Swedish Energy Agency has pointed out suitable areas of national interest for wind energy production. The counties, local authorities and the Swedish Energy Agency control the planning of the municipalities in order to get enough sites for new wind turbines.

At the end of the year 2016, Sweden ranks second in the world with a cumulative installed wind power of some 650 Watt per capita.



Laudation 1. SolarSuperState Prize 2017 in the category Federal State for Nevada



Nevada is a desert state in the United States of America with a total area of 286000 square kilometer and with a population of 3 million inhabitants. The most important transport corridor is from Los Angeles in California via Las Vegas in Nevada to Salt Lake City in Utah. This corridor includes a street, a railway line, an electric transmission line, a petroleum product line and a natural gas line. Two third of the population of Nevada live in this corridor. The fossil electricity production between 1990 and 2015 constituted more than 80 % of the total electricity production. In 2015, the official Renewable Portfolio Standard stands at 20 percent. Energy efficiency and other policy measure actions can be used by the utilities to fulfill the required 20 percent. The real renewable electricity share has grown from some 4 percent in 1990 to 13 percent - mainly geothermal electricity - in 2015. The vicinity of Las Vegas to the population center of California with Los Angeles and the existence of strong electric transmission lines is an important advantage for Nevada. The governor and parliament of California are pushing stronger for solar energy than the colleagues in Nevada. For different internal bureaucratic reasons, California utilities were not able to get sufficient solar electricity produced inside the sunshine state California. Therefore, independent photovoltaic electricity producers were able to finance several utility scale power plants in Nevada and to sell the electricity with power purchase agreements to Californian utility companies. In 2016, Nevada doubled its cumulative photovoltaic power. At the end of 2016, Nevada achieved the highest cumulative peak power (direct current) per population of all Federal states of the USA with some 680 Watt per capita. Nevada wins the first SolarSuperState Prize 2017 in the category Federal State.

Laudation 1. SolarSuperState Prize 2017 in the category Region for Moapa River Indian Reservation



The Moapa River Indian Reservation is in the northeastern Mojave desert and includes 3600 meter of the Moapa river valley. Most of the some 400 inhabitants of the Indian Reservation live in this river valley . Most of the inhabitants are members of the Moapa Band of Paiutes. The Moapa River Indian Reservation is governed by a tribal council formed by members of the Moapa Band of Paiutes. Most of the territory of some 300 square kilometer is outside the river valley and consists of creosote bush scrub land. The major road, train, electricity, natural gas and petroleum product lines from Los Angeles via Las Vegas to Salt Lake City cross the Moapa River Indian Reservation. A gas pipeline transports natural gas from the US states Wyoming and Utah through the Indian Reservation to the southwest of the territory where 5 gas power plants produce electricity.

In 2008, the Moapa River Indian Reservation started planning solar electricity power stations on the their territory. Several different project developers tried to install utility power plants on the Indian Reservation. The Bureau of Indian Affairs which belongs to the Department of Interior of the government of the United States of America drafted 3 different Environmental Impact Statements for 3 different solar projects. In these documents with up to 400 pages each, the environmental impacts and the conditions of construction and operation of the power plants are described. The first of the 3 power plant projects was finished in March 2017 and produces now electricity. A Swiss company owns the power plant and the utility company of the city of Los Angeles in California buys the electricity for 94 Dollars per Megawatthour for 20 years. The peak power (direct current) is 344 Megawatt. The cumulative installed peak power per population of the Indian Reservation is more than 800 kilowatt per capita. This power is more than 1000 times bigger than the figure for the whole state of Nevada or for the globally leading sovereign state Liechtenstein. Therefore, the Moapa Indian Reservation wins the first SolarSuperState Prize 2017 in the category REGION.