

## Successes and shortcomings from the development of roof-top PV installations

**Greece**

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### Quick facts

Zone	National Territory
Programme started	June 2009
Topic	Renewable Energy
Implementing Agencies	Ministry of Economy and Finance and Ministry of Development, Environment, Urban Planning and Public Works

### Policy details

In June 2009 Greece launched a country-wide programme to support the generation of electricity by roof-top PV installations of up to 10 kWp through a guaranteed feed-in tariff which was significantly larger than the market price of each kWh. Under this scheme, individual house owners and small enterprises would be obliged for a 25 year-period to sell the energy produced by the solar panels to the national energy supplier (DEI).

The decision was jointly taken on by the Ministry of Economy and Finance and the Ministry of Development, Environment, Urban Planning and Public Works. The initial timeframe for the programme was 10 years (FEK 1079/2009).

Public support to the programme was overwhelming as the national energy supplier was buying energy from small PV operators at 0.55 EUR/kWh (FEK 179/2009). Individual house owners and small enterprises saw a great investment opportunity that could yield profits within a period of just 5 to 6 years. For instance, a small

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installation of 10kWp could offer a tax-free income of approximately 7,500 EUR/year.

### Outcomes

Amid the financial crisis that had hit Greece since 2008 and soaring rates of unemployment (reaching almost 27% in 2013) the financial incentives of this programme in conjunction with other programmes promoting the development of small PV installations (up to 100 kWp) were a significant relief, as they led to the development of approximately 40,000 small roof-top PV units, the creation of almost 2,000 companies and 20,000 new jobs (Source: HELAPCO).

An important factor for the success of the programme was the financing of these investments through low interest rate loans. Several banks offered their clients “green loans” covering up to 100% of the installation costs (estimated at approximately 40,000 EUR for 10 kWp) for periods ranging from 10 to 25 years.

Within 4 years since the introduction of the programmes for PV installations, Greece’s energy generated by solar panels grew from 50 MW to 2,450 MW. As a result by 2013, its total capacity in PV was enough to cover 5.8% of its annual electricity demand, ranking 3rd in the world. Moreover, in 2013 alone, Greece ranked 8th in the world in PV installations adding an impressive 1,047 MW of new solar photovoltaic systems (Source: International Energy Agency 2014).

### Challenge

After reaching its peak in 2013, the PV market in Greece started slowing down. The main reason was that the high feed-in tariffs generated a large deficit to the national fund used to pay renewable energy producers (Source: Econews 2014). The result was that PV operators had to wait 8-10 months

in order to be compensated for the electricity they produced. At the same time they were unable to pay off the bank loans.

Facing this unsustainable system of tariffs, the government was forced to impose a levy on PV energy production and make significant retroactive cuts to the feed-in- tariffs. In return for these cuts, all contracts with PV electricity producers were extended for an additional five years. Recognising the need to protect small investors and operators, roof-top and small scale installations (up to 100 kWp) were excluded from these cuts. A temporary ban was imposed on new applications for PV energy producer licences. This ban was recently lifted with the introduction of a “new deal” law for PV systems (see Law 4254/2014). Furthermore, a new net metering system was introduced whereby solar energy system owners were credited for the unspent electricity they add to the grid. An additional tax in support of renewable energy sources was introduced for all electricity consumers.

### Conclusion

In sum, the example of Greece clearly demonstrates the great potential that the development of PV systems may have as well as the risks associated with unsustainable governmental policies. A careful analysis is therefore necessary and financial incentives should be offered on a realistic basis to avoid market distortions and failures.

### References

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Helapco, Hellenic Association of Photovoltaic Companies

