



PV, heating and cooling

A regulatory attempt

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The important innovation of the second feed in tariff system is that of taking into account the energy efficiency aspect following the guidelines of the decree 192/2005* implementing the European Directive 2002/91/EC (EPBD)** on the energy performance of buildings.

Therefore a further increase in tariffs is granted for:

- plants with a capacity up to 200 kW;
- operating in net-metering system (after 2008, net-billing);
- improving energy efficiency of the annexed building, with a limit to the tariff increase of 30%.

*Legislative Decree of 19 August 2005 n. 192 “Attuazione della direttiva 2002/91/CE sul rendimento energetico in edilizia”, Supplemento Gazzetta Ufficiale of 23 September 2005.

**Energy Performance Building Directive 2002/91/EC of 16 December 2002, Official Journal of the European Communities of 4 January 2003.

First phase, second Feed-in Premium.

The additional incentive for PV plants coupled with energy efficiency is given in two ways:

1. For existing buildings, where there must be, after the refurbishment, a reduction by at least 10% of **energy consumption for space heating and for hot water production**; the additional incentive is equal to half the percentage of the proved energy saving, but not over 30% of the basic incentive;
2. For new buildings, where an additional incentive of 30% is granted automatically if the **primary energy consumption for space heating** is lower by at least 50% compared to the standard thresholds set by the law.

First phase, second Feed-in Premium.

For applications concerning **existing buildings** we assume the following interventions:

- *25% of total applications is referred to solar thermal systems for hot water production;*
- *15% condensation boiler for space heating;*
- *15% high efficiency heat pump systems for space heating;*
- *15% house insulation;*
- *the remaining 30% other mixed interventions.*

For applications concerning **new buildings** we can estimate that most part of the heating systems were heat pumps.

It is important to underline that the Decree imposed specifically not to include the contribution of the PV in the calculation to determine the building energy indexes, in order not to incentivise twice the electricity produced by the PV plant.

Second phase, third and fourth Feed-in Premium (Tariff).

As defined in the second Feed-in Premium scheme, the additional bonus for building energy efficiency is recognised to:

1. existing buildings, where there must be, after the refurbishment, a reduction by at least 10% of building energy needs (**heating and cooling**); the additional incentive is equal to half the percentage of the proved energy saving, but not over 30% of the basic incentive; in order to calculate the bonus, the indexes of energy performance are referred to the needs of the building envelope;
2. new buildings, where an additional incentive of 30% is granted automatically if the **cooling energy needs index of the building envelope and the primary energy consumption index for heating** are lower by at least 50% compared to the standard thresholds set by the law.

Italian Feed in Premium (Tariff) and EPBD

Italian Feed-in scheme ended in 2013.

GSE received around 3000 requests for the above mentioned bonus under second, third and fourth Decree, of which 38% related to new building.

An average reduction of around 30% of the energy consumption was recognised for existing buildings. This means an average increase of the tariff of 15%.

We consider the introduction of this bonus in Italian FiT as a success case for a new awareness among PV operators.