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Municipalities Subsidiarity for Actions on Energy

MuSAE Networking meeting June 2015

Public Authorities and Citizens for Europe's 2020 Objectives
Life Projects Experiences

Rond Point Schuman, 14 - 1040 Brussels, Umbria's Head Office

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PILOT PROJECT

An indication came out from Perugia's FORUM, dated March 2013, was to improve the efficency of public buildings by the use of ICT.

So we have decided that our pilot action was to provide an useful example that could be replicated in energetic requalification of existing public building, appling ICT.

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PILOT PROJECT

The building we were looking for

was one with a significant series of intervention already done on the building envelope, windows, roof, on the renewable sources and heating system, basically one that just needed to be improved with the application of ICT.

(because we had only 9.000€ to spend)

The building that had all these features is a school recenty restructurated. It was build in 1950, Ramazzano, situated on the suburb of Perugia.

The building has three floors.

The supporting wall has a thickness of 45cm, the materials are stones and mixture of lime and cement, the top is in tiles (square slab for roof), both the wall and the top were without any insulation.

The window fixtures made of wood with single glass, without any insulation.

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Thanks to the European and Regional financing program fund called **POR-FESR 2007/2013**, the building could afford an Energetic requalification.

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The works made with POR FESRS 2007-2013:

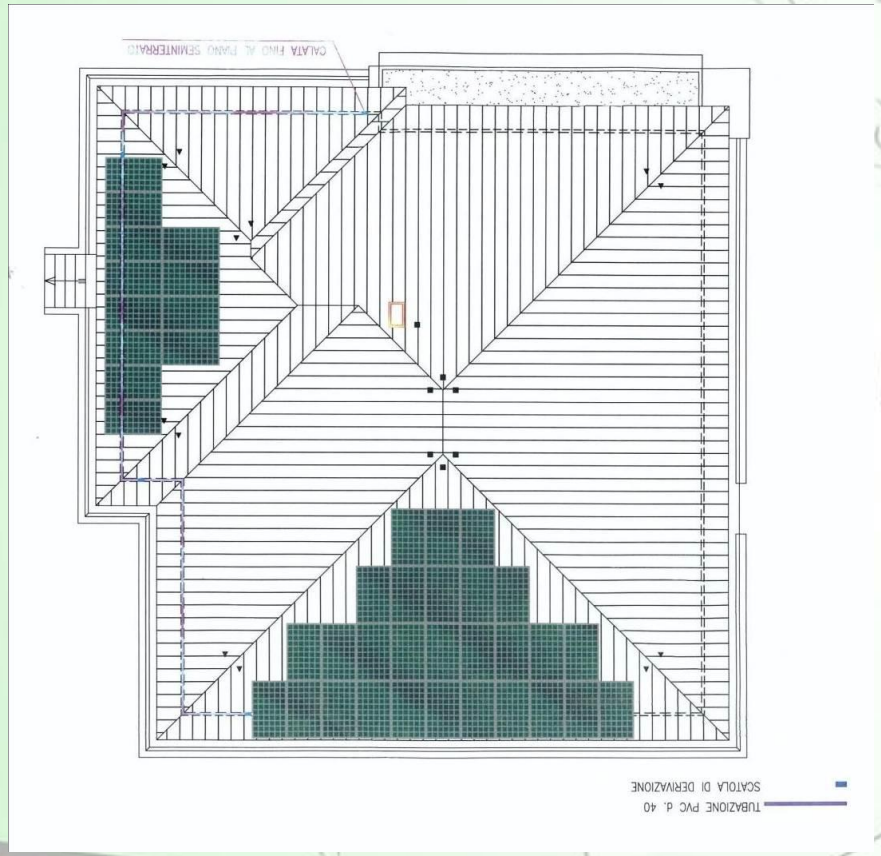
- **Roofing insulation** with mineral panels hight density, thickness 8 cm;
- **Insulating coat** with mineral wool hight density, at ground zero thickness 10 cm, and with styrofoam on the first and the second floor, thickness 10 cm;
- **Substitution** of all the **window fixtures and single glasses** with Insulated glazing (IG), as double glazing 6/7–16–6/7;
- Installation of **termostatic valves** on each radiator;
- Installation of **photovoltaic system** on the roof (power 10kWp);
- Installation of **heat pumps** for heating and cooling.

- **Insulating coat** with styrofoam at first and second floor, thickness 10 cm;

- **Insulating coat** with mineral wool hight density, at ground zero thickness 10 cm;

Installation of **termostatic valves** on each radiator;

- **Substitution** of all **window fixtures and single glasses** with Insulated glazing (IG), as double glazing 6/7–16–6/7;



- Installation of **photovoltaic system** on the roof (power 10kWp)

The fulfilled actions have increased the building's energetic classification from **class G** (global energy need ante operam 37,8 kWh/m^3 for year), to **class A** (global energy need post operam 7,6 kWh/m^3 for year).

-90% **energy save**, more than 9TEP/year;

-**Reduction foot print** CO_{2eq} 21 t/year;

-**Save money** 8.500,00 €/year;

-The Pilot Action of the MuSAE Project has been providing a custom smart system to supervise the building:

-**All the electrical loads;**

-**the photovoltaic production**;

-**Hydrothermal, heat pumps;**

-**Alarm, TVCC, Fire proof**;

A panel inside the school shows to the students the energy production;

The project concerns also an electric storage system

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Comune di Perugia

CERIP

sinapsi SYSTEM INTEGRATOR

Produzione dal 01/01/2014

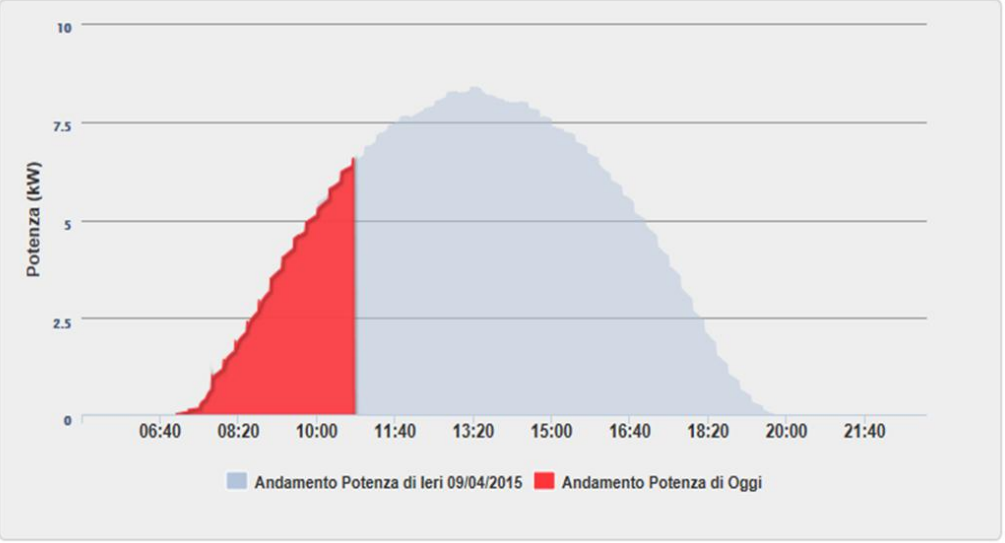
925,1 kWh

Produzione da inizio giornata

12,066 kWh

Potenza Istantanea

6.585 W



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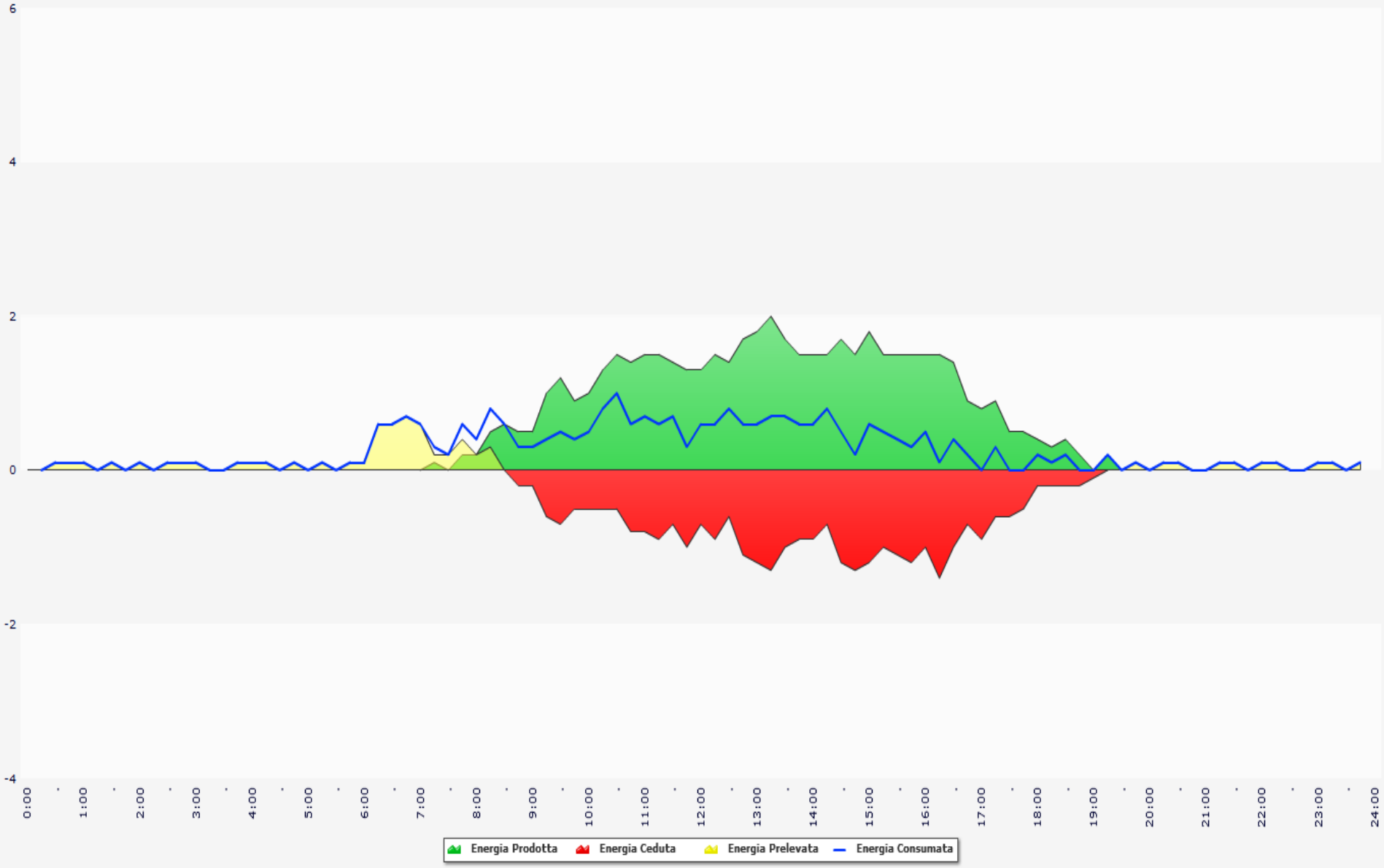
Flussi di energia impianto 16/04/2015



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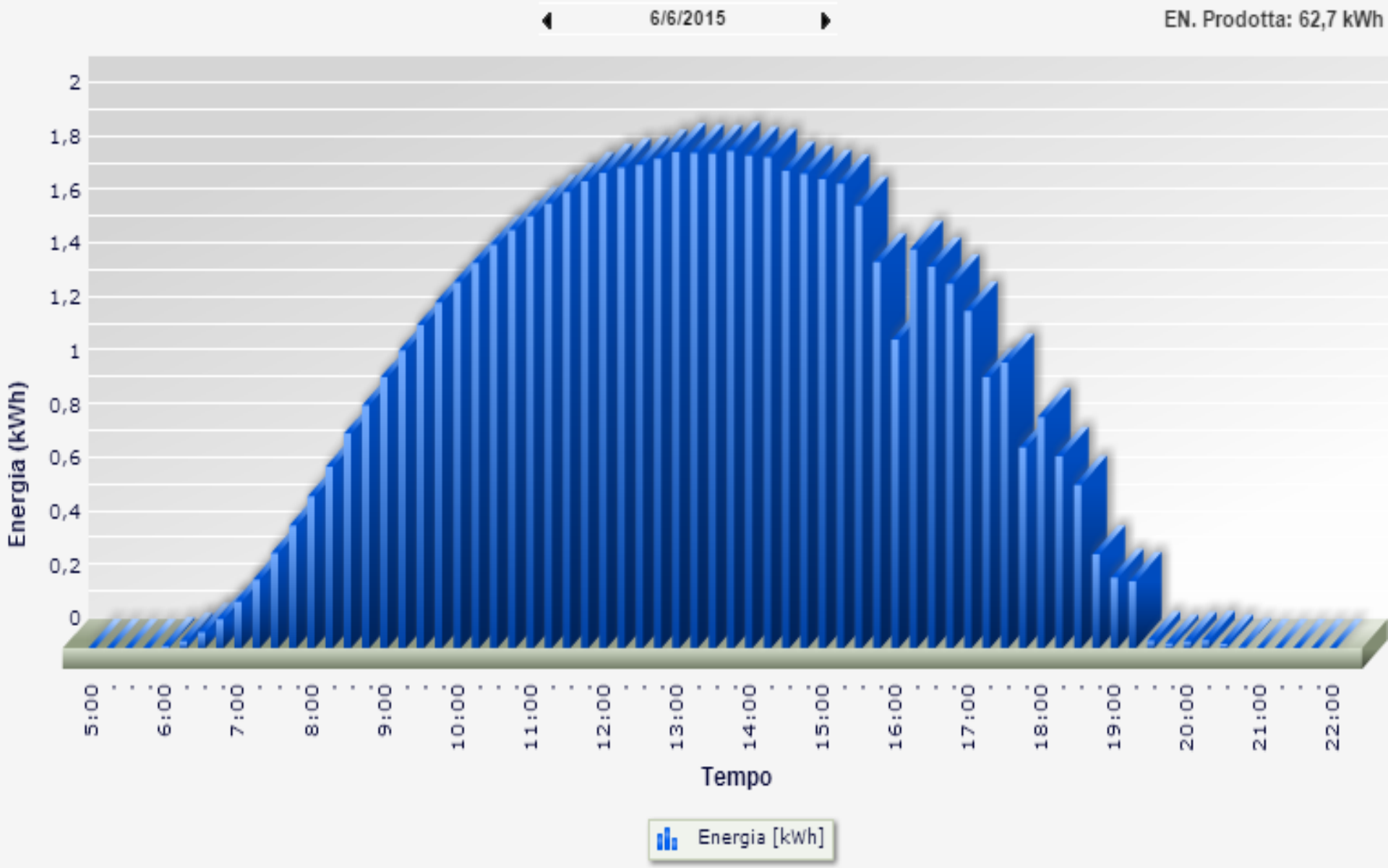

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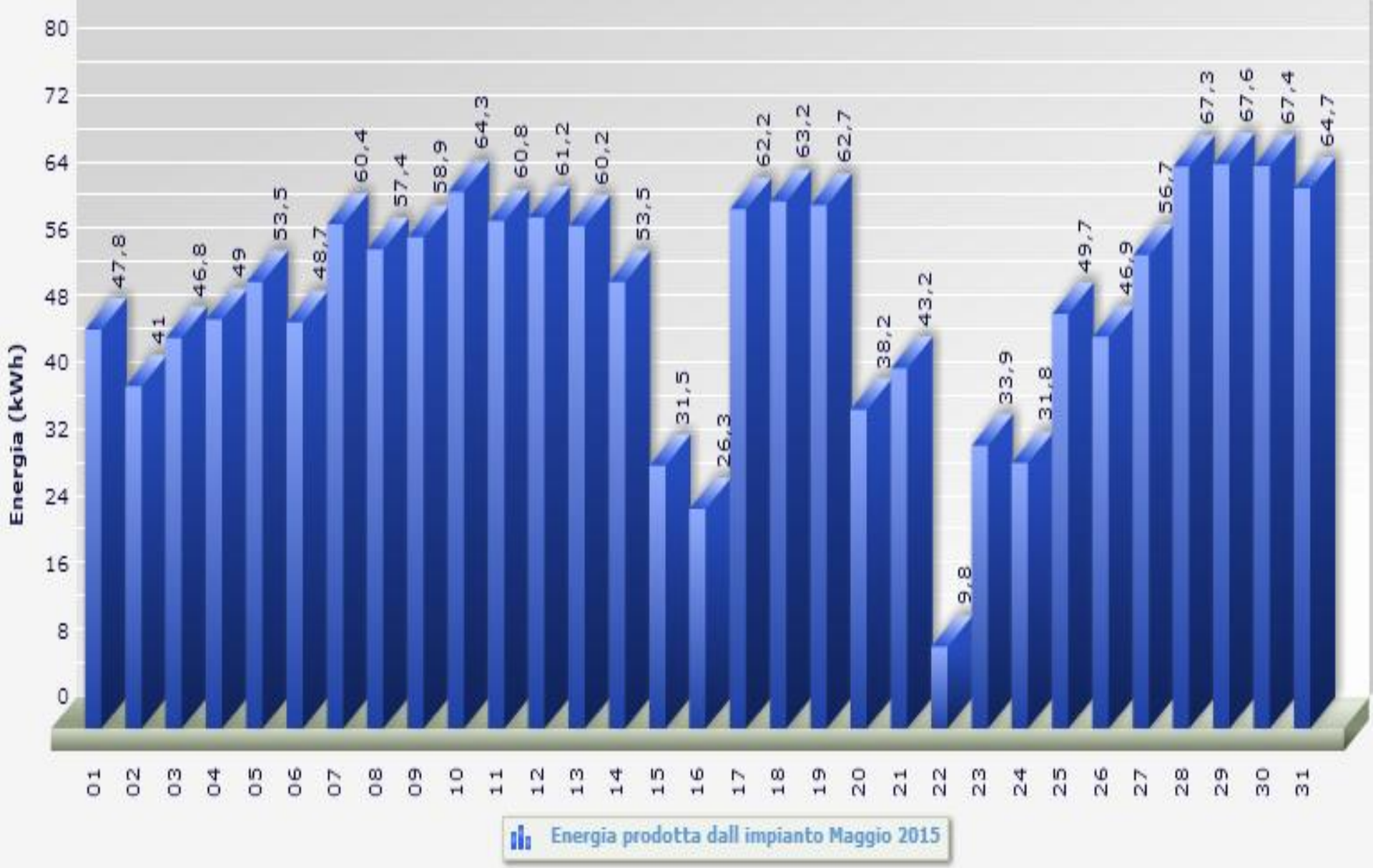

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