

AN OVERVIEW OF HYDROPOWER IN ITALY

To avoid further deterioration of our waterways is the first and most smart form of restoration. This approach is much less expensive and gives better results than trying to fix the damages that have already happened.

In Italy since 2009, about 2000 new plants were authorized and built, with the financial support of government funds, while in the same frame of time the hydroelectric production practically stagnated.

It is now of the utmost importance to protect what is left of the Italian waterways.

The 3123¹ mini-hydro plants $P < 1\text{MW}$ (plants with a capacity of less than 1MW) existing in Italy in 2018 produce about 3 TWh, corresponding to 6.2% of hydroelectric energy, 1% of electricity consumed annually in Italy, 0.2% of Italian total energy consumption.

HPP of capacity up to 1 MW were 1270 in 2009 and 3123 in 2018

HPP of capacity from 1 MW to 10 MW were 682 in 2009 and 900 in 2018

HPP of capacity over 10 MW were 297 in 2009, 303 in 2014 and 308 in 2018

For this reason, the members of the association Free Rivers, together with dozens of other national, regional and local associations, have for years been asking the Italian government to stop giving financial support to projects which entail the exploitation of rivers, one of the worst types of land consumption.

We ask for hydropower plants on natural waterways to be no longer authorized.

We ask for an immediate stop to state aids to new plants on natural waterways.

A few months ago, the European Commission sent the Italian authorities a third formal notice relating to the irregular renewal of the concessions for large hydroelectric plants².

In this letter, the European Commission confirms what the associations have witnessed, and have been repeating for years:

"In Europe, Italy is among the top three hydroelectric energy producers, together with France and Spain, with a current installed capacity of approximately 18092 MW. The potential of hydroelectric resources in Italy is used to approximately 95% and the maximum possible exploitation limit has been reached."

There is no doubt that the Italian authorities are aware of this over-exploitation. In fact, for many years the National Energy Strategies have placed the emphasis only on maintaining the production of large plants, and lately on the revamping of big hydroelectric storage plants, with no further development of small hydroelectric plants.

Nonetheless, the Italian government state aids for hydropower plants are amongst Europe's highest.

This is true for feed-in tariffs, but also as a total amount and as percentages allocated to hydroelectricity out of the total amount allocated for renewable energies.

Please see the table below.

The economic return to producers is disproportionately high, paid by people through their electricity bills.

¹ Source: 2018 G.S.E. Report in www.gse.it

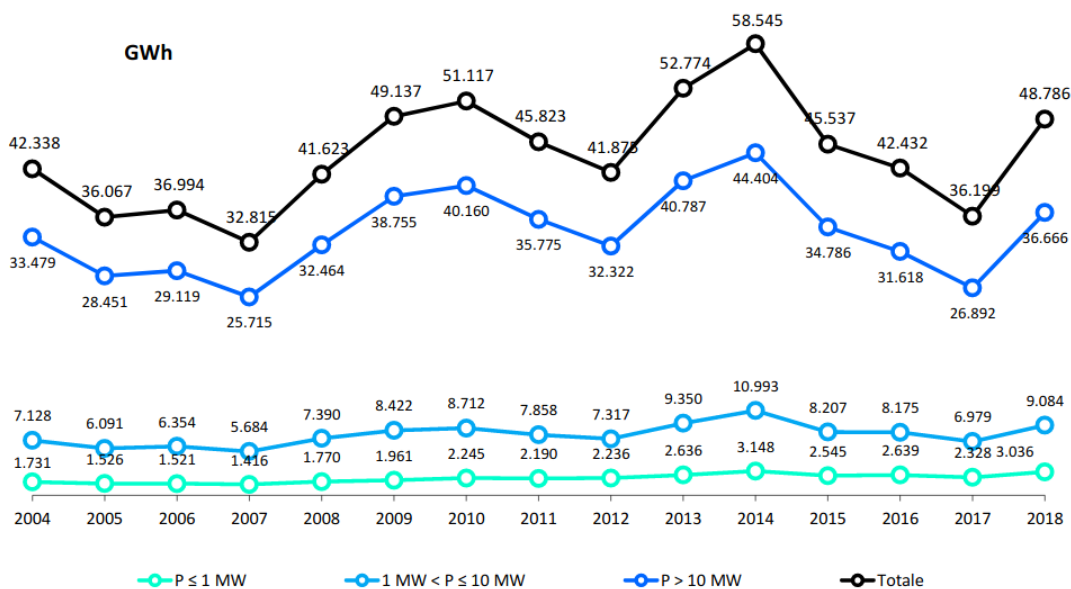
² <https://www.camera.it/temiap/2019/09/17/OCD177-4133.pdf>

Country	Hydropower	Wind	Solar PV and CSP	Biomass	Biogas	Bioli quids	Geothermal	Total amount support	% Hydro on total support
France	215.7	1008.7	2694.1	239.3	183.8	-	0.7	4340	4,9%
Greece	29	229	1022	-	18	-	-	1298	2,2%
Italy	1138	1480	6000	783	1518	526	134	11579	9,8%
Portugal	78	685	131	80	20	-	-	994	7,8%
Spain	78	1255	3711	312			-	5356	1,4%

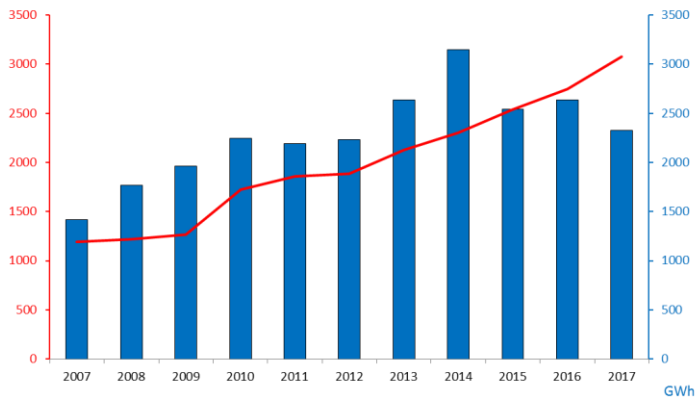
INCENTIVI ALLE RINNOVABILI - ANNO 2016 IN MILIONI DI EURO
STATE AID TO RENEWABLES - YEAR 2016 - MILLION EURO

France, Italy: *4th Progress Report covering 2015 and 2016*, Greece, Spain, Portugal: Council of European Energy Regulators asbl: *Status Review of Renewable Support Schemes in Europe for 2016 and 2017*, 14 December 2018.

Every year the GSE Gestore Servizio Elettrico (national manager of the electrical services in Italy) reports on the monitoring of the deployment of renewable sources: the following data and figures are taken from this source.³



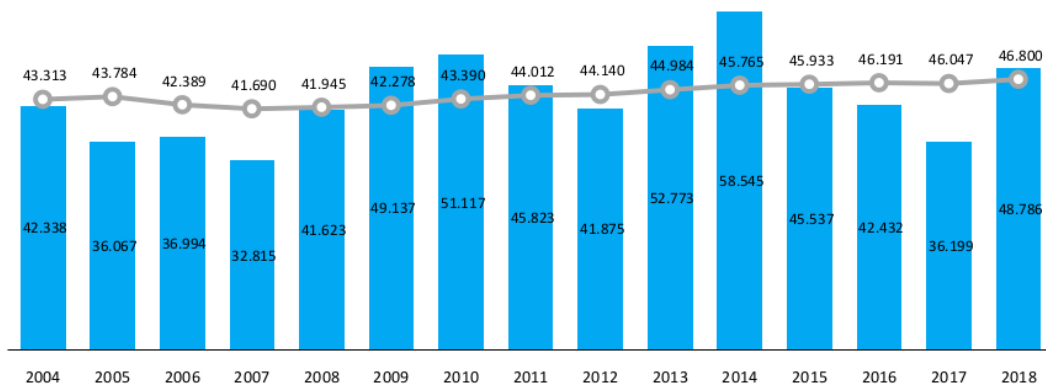
PRODUZIONE IDROELETTRICA IN GWh PER CLASSE DI POTENZA 2004 – 2018.
HYDROELECTRIC PRODUCTION IN GWh BY POWER CLASS 2004 - 2018.



GSE - CONFRONTO TRA NUMERO IMPIANTI E PRODUZIONE NEGLI ANNI 2007-2017 DOPO INTRODUZIONE INCENTIVO

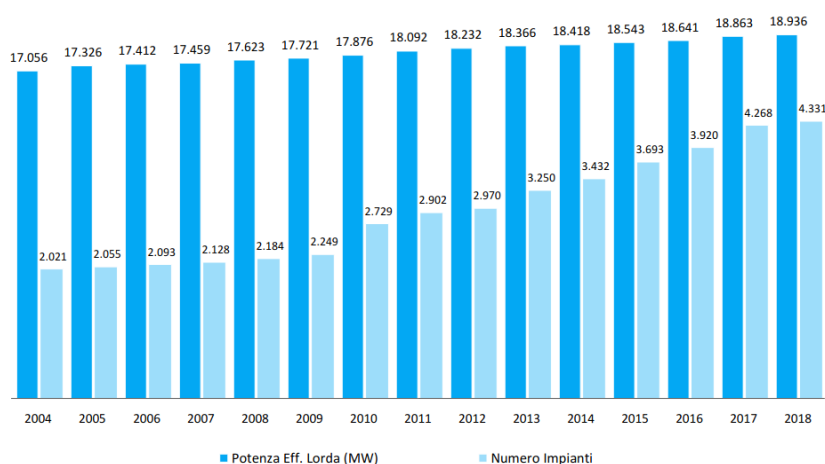
GSE - COMPARISON BETWEEN THE NUMBER OF PLANTS AND PRODUCTION IN THE YEARS 2007 2017 AFTER THE INTRODUCTION OF THE INCENTIVE

3.4.9 Confronto tra produzione effettiva e normalizzata degli impianti idroelettrici



CONFRONTO TRA PRODUZIONE EFFETTIVA E NORMALIZZATA DEGLI IMPIANTI IDROELETTRICI
COMPARISON BETWEEN ACTUAL AND NORMALIZED PRODUCTION OF HYDROELECTRIC PLANTS

3.4.3 Evoluzione del numero e della potenza degli impianti idroelettrici



The graph above shows the installed capacity in MW (dark blue) and the number of plants (light blue) in Italy since 2004. In 2018, the capacity increased by 1880 MW and the number of plants increased by 2310 compared to 2004.

INSTALLED CAPACITY IN ITALY

	2009	2014	2016	2018
P<1MW	465,6	678,5	769	858
1MW>P<10MW	2189,6	2493,9	2626	2676
Tot P<10 MW	2655,2	3182,4	3395	3534
P>10MW	15066,3	15245,1	15246	15400
Tot	17721,5	18472,5	18641	18935

ITALIA – IDROELETTRICO -- POTENZA INSTALLATA SUDDIVISA PER CLASSE DI POTENZA (MW) - 2009-2018.
 ITALY HPP -- INSTALLED CAPACITY DIVIDED BY POWER CLASS (MW) - 2009-2018.

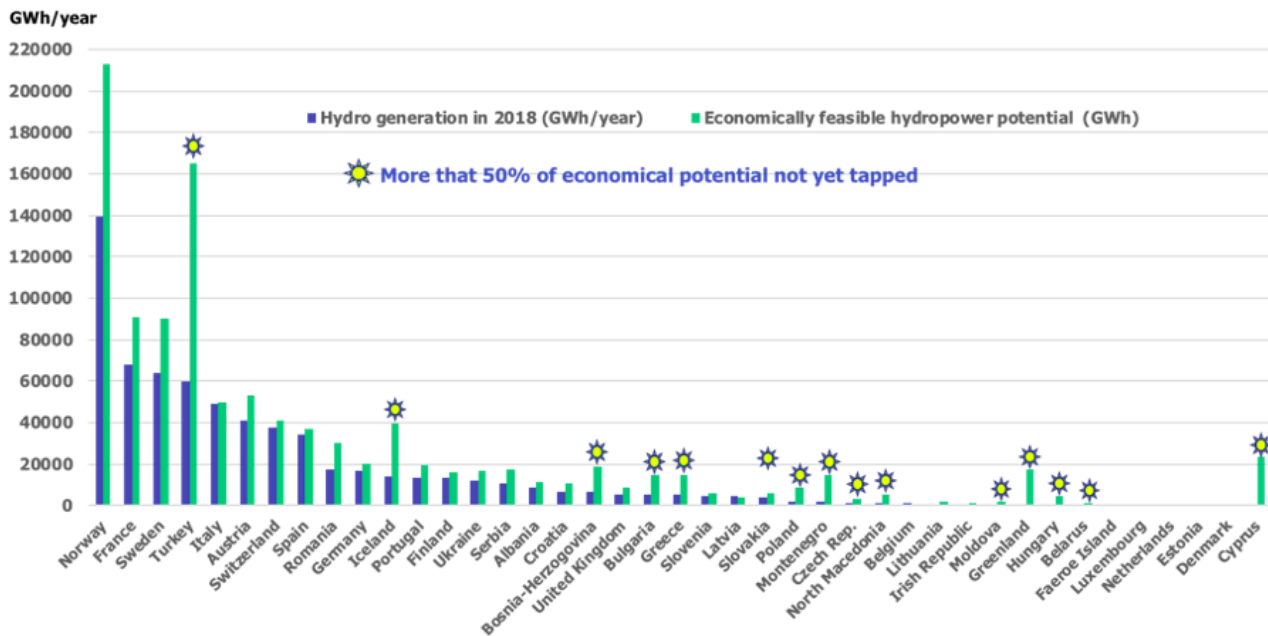
NUMBER OF PLANTS IN ITALY

	2009	2014	2016	2018
P<1MW	1270	2304	2745	3123
1MW>P<10MW	682	825	872	900
Tot <10 MW	1962	3129	3167	4023
P>10MW	297	303	303	308
Tot	2249	3432	3470	4331

ITALIA NUMERO IMPIANTI IDROELETTRICI SUDDIVISI PER CLASSE DI POTENZA 2005 - 2018 - DATI GSE
 ITALY NUMBER OF HPP DIVIDED BY POWER CLASS 2005 2018 - GSE DATA

Source **GSE** <https://www.gse.it/dati-e-scenari/statistiche>

IN ITALY THE MAXIMUM POSSIBLE EXPLOITATION LIMIT HAS BEEN REACHED



Generation and extension potential of hydropower in countries in the European region (according Hydropower & Dams World Atlas 2019). <https://hydropower-europe.eu/about-hydropower-europe/hydropower-energy/>

In Italy there is no official list of the projects under scrutiny and waiting for authorization.

The latest official national data about the number of projects and authorizations refers to 2014. In 2014 there were about 2000 projects under scrutiny⁴. (Note: the Italian government had to collect these data in order to answer the questions asked by the EU Commission in relation to the EU PILOT 6011 2014).

Currently, there are at least 500 new plants which already have an authorization and a concession and are waiting for government funds.

Despite the fact that Italian authorities are aware of this situation - which is also reflected in their documents - the Italian government still gives out subsidies for the further development of new plants, the impact of which severely damages the ecosystems of rivers and the environment at large.

01/10/2020

Coordinamento Nazionale Tutela Fiumi Free Rivers Italia

<http://www.freeriversitalia.eu/>



4 https://www.cirf.org/wp-content/uploads/2017/01/cirf_dossier_idroelettrico.pdf