INVEST IN ITALY

ITA ITALIAN TRADE AGENCY

INVITALIA

The Renewable Energy Market In Italy

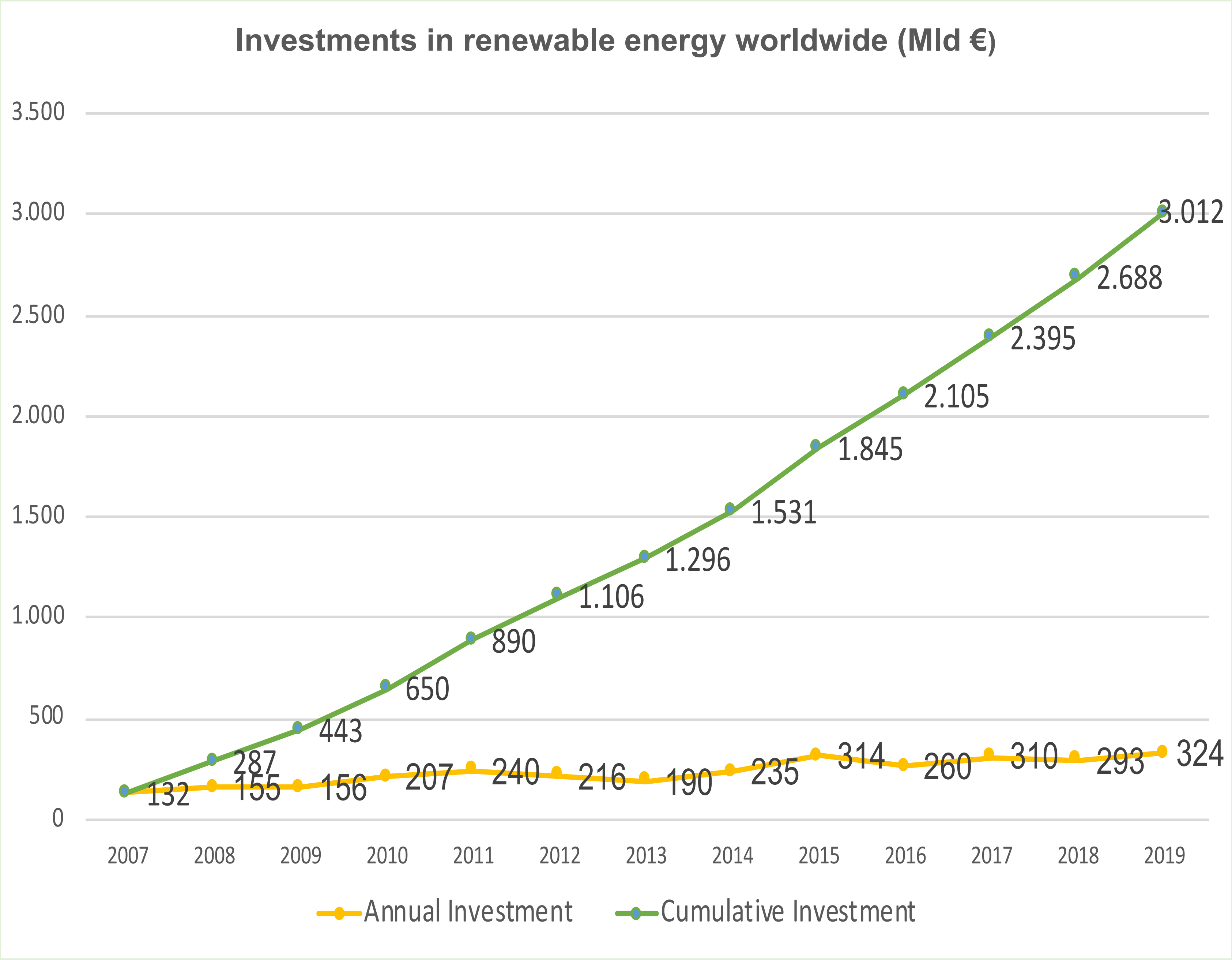
Investment opportunites & industrial collaboration

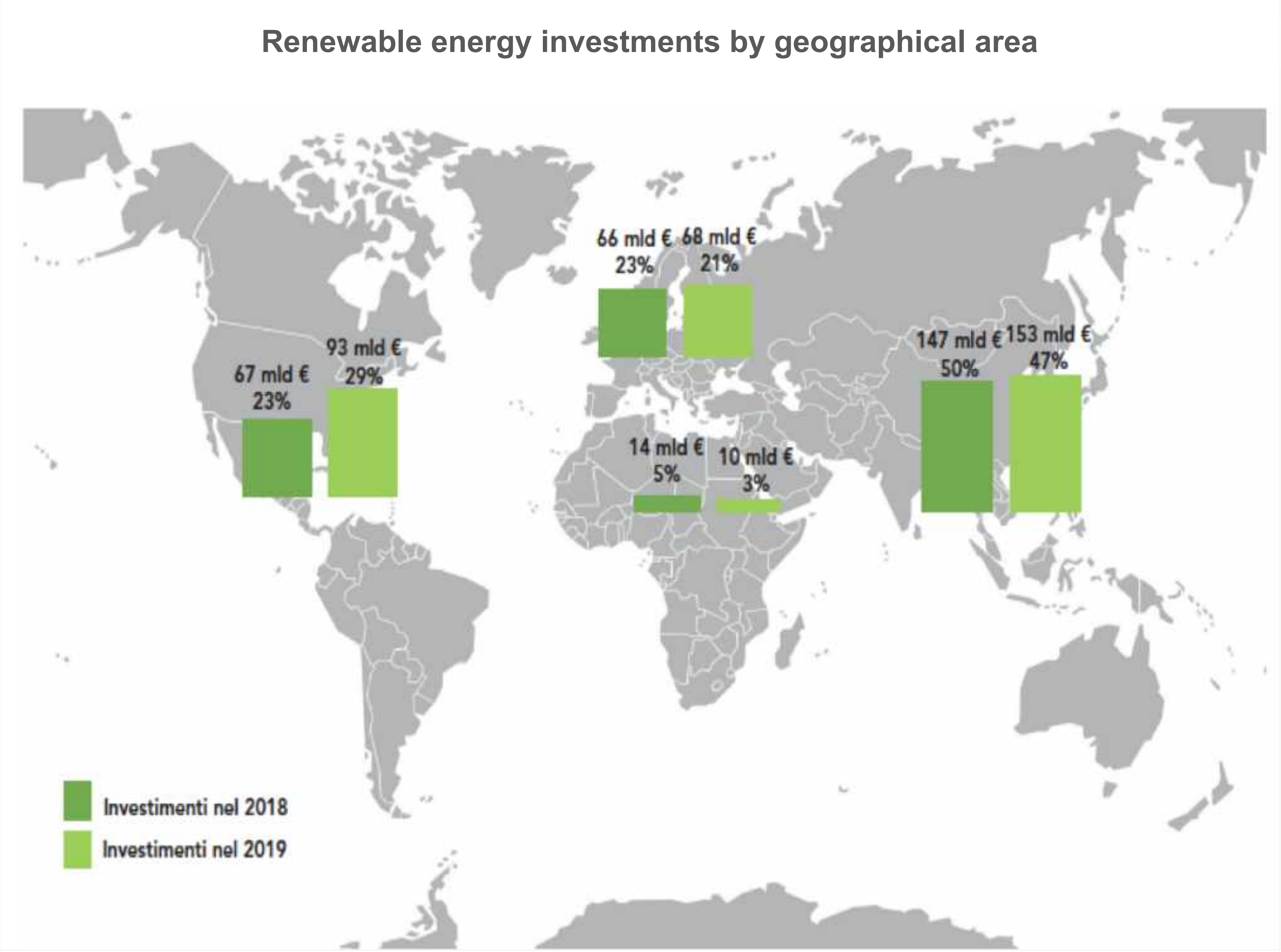
July, 2020

Summary

The trend of investments in renewable energy worldwide

In 2019, over € 320 billion were invested globally (+10,6%, 2019/2018) for new renewable energy plants.



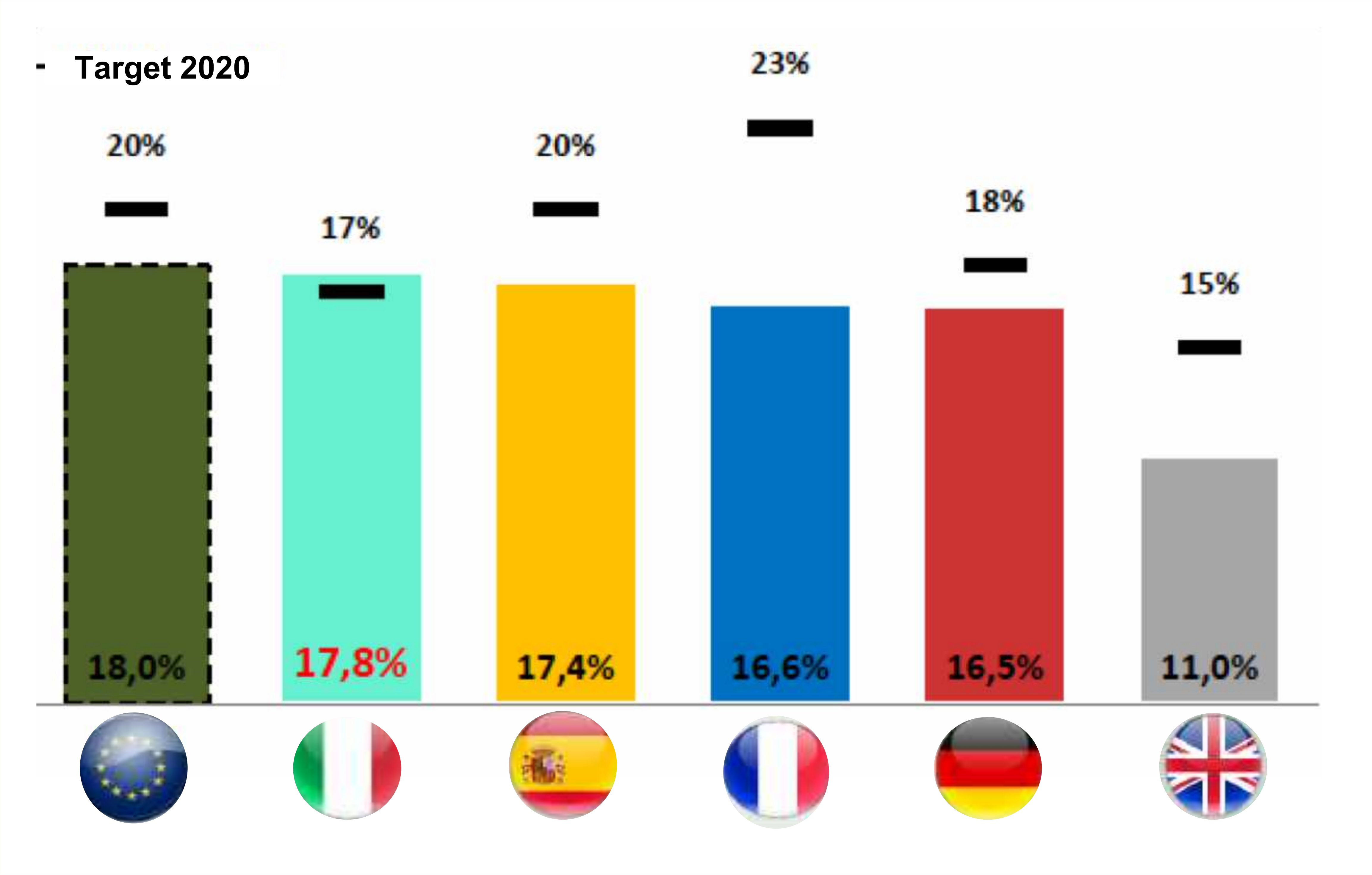


Source: Energy & Strategy Group – Politecnico di Milano

2020 target on RES share on gross final consumption

In 2018, Italy is the only country in EU to have reached the 2020 target of RES share on gross final consumption.

2020 target set by Directive 2009/28/EC



Source: Gestore Servizi Energetici

Final electric consumption from renewable energy in 2018

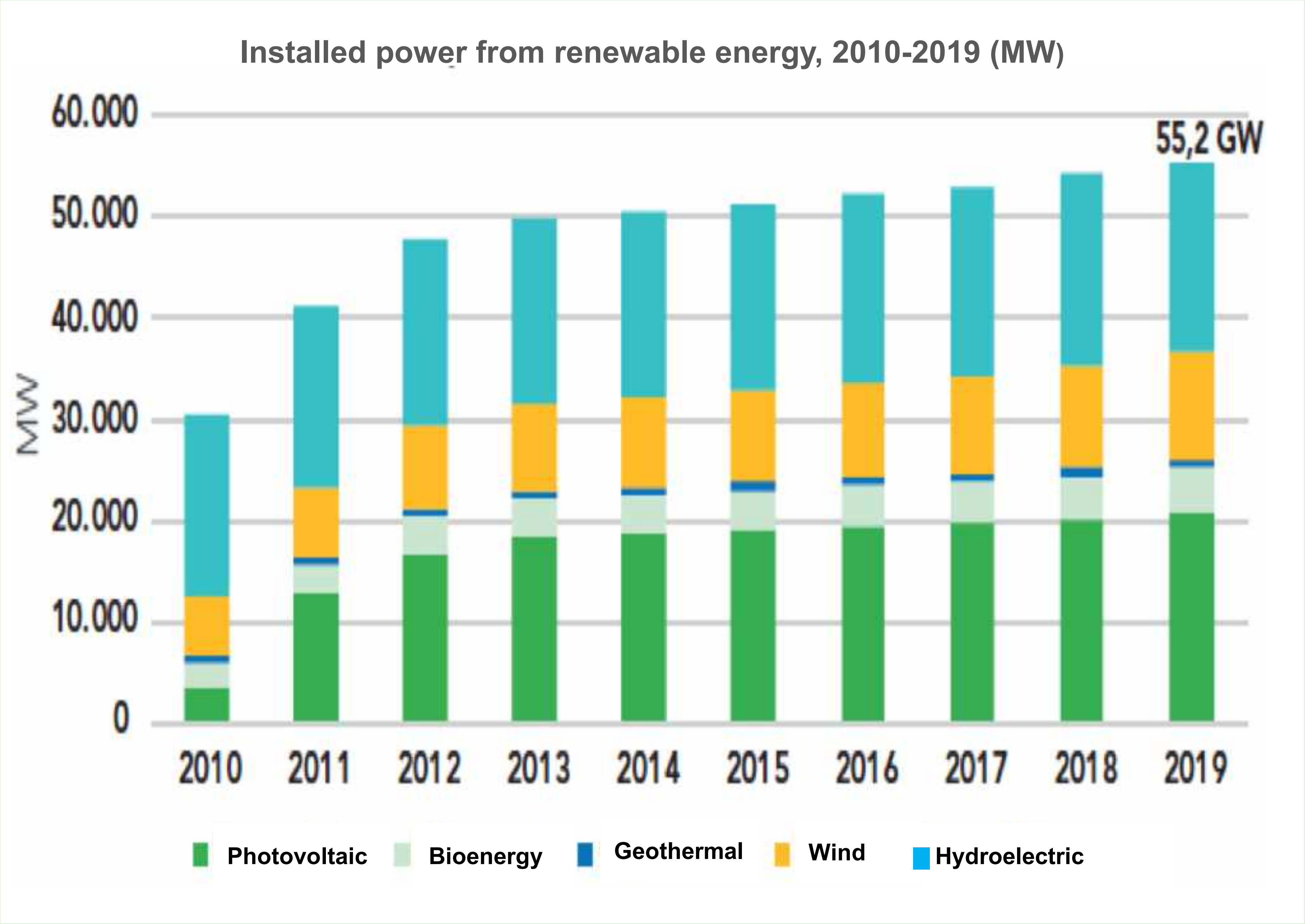
Europe is steadily moving towards a cleaner energy mix.

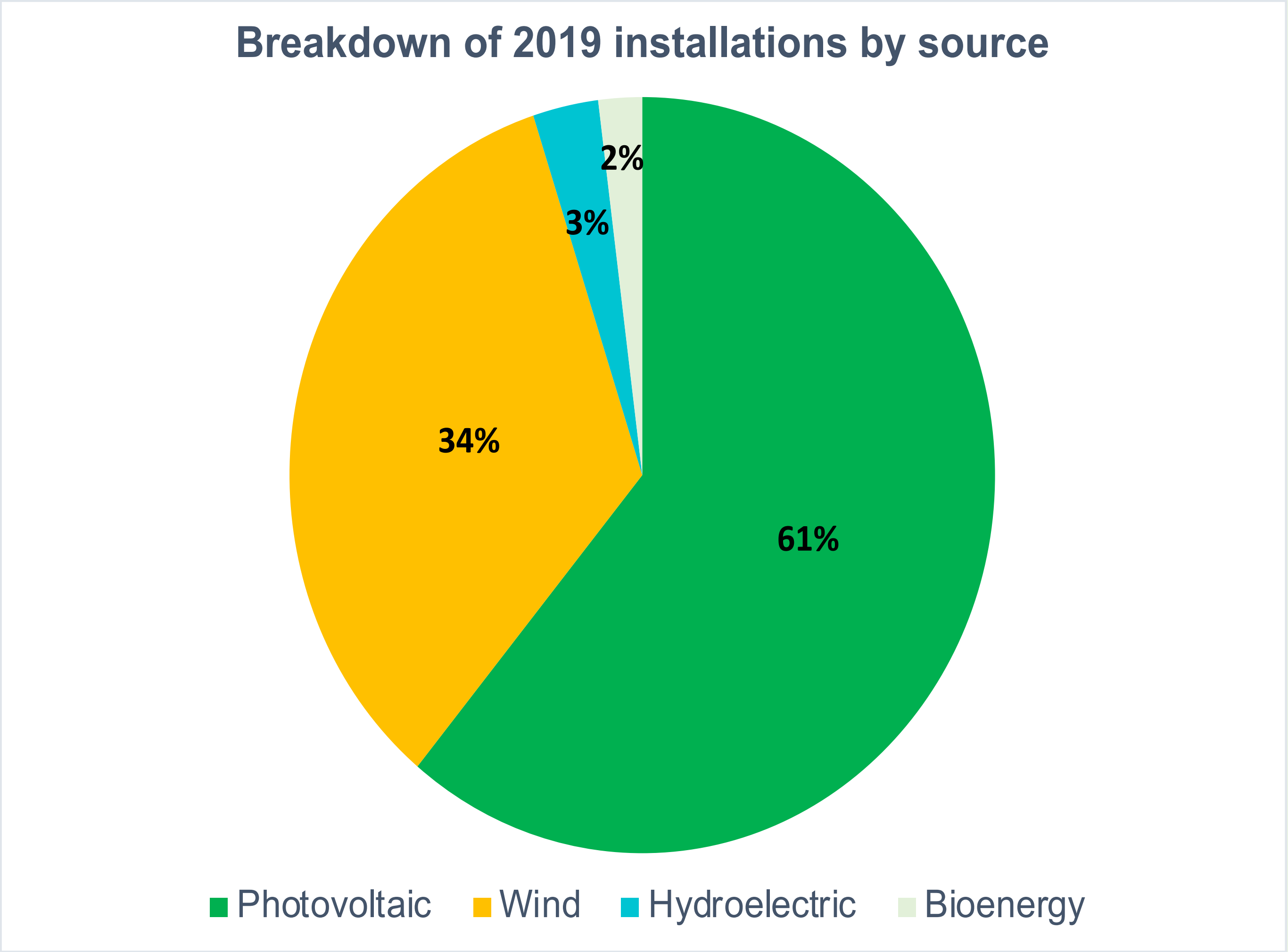
Country	PV	Wind	Hydroelectric	Biomass	Geothermal		Petroleum	Carbon	Gas	Nuclear
	9%	6%	14%	6%	2%	37%	6%	12%	45%	0%
	6%	16%	3%	8%	0%	33%	4%	37%	13%	12%
	5%	18%	8%	2%	0%	33%	13%	17%	16%	21%
	4%	11%	9%	6%	0%	30%	2%	23%	20%	25%
	3%	15%	3%	8%	0%	29%	1%	7%	41%	21%
	2%	5%	10%	2%	0%	19%	1%	1%	7%	72%
	0%	8%	1%	6%	0%	15%	3%	77%	5%	0%

Source: Energy & Strategy Group on Anie Rinnovabili data

The total power installed from renewables in Italy

In 2019 the stock of renewable installed plants in Italy reached 55 GW (+2% on 2018). The 45% of the national electric power network comes from renewables. The photovoltaic sector is leading the ranking of new installations (61%) followed by wind (34%), hydroelectric (3%) and bioenergy (2%).

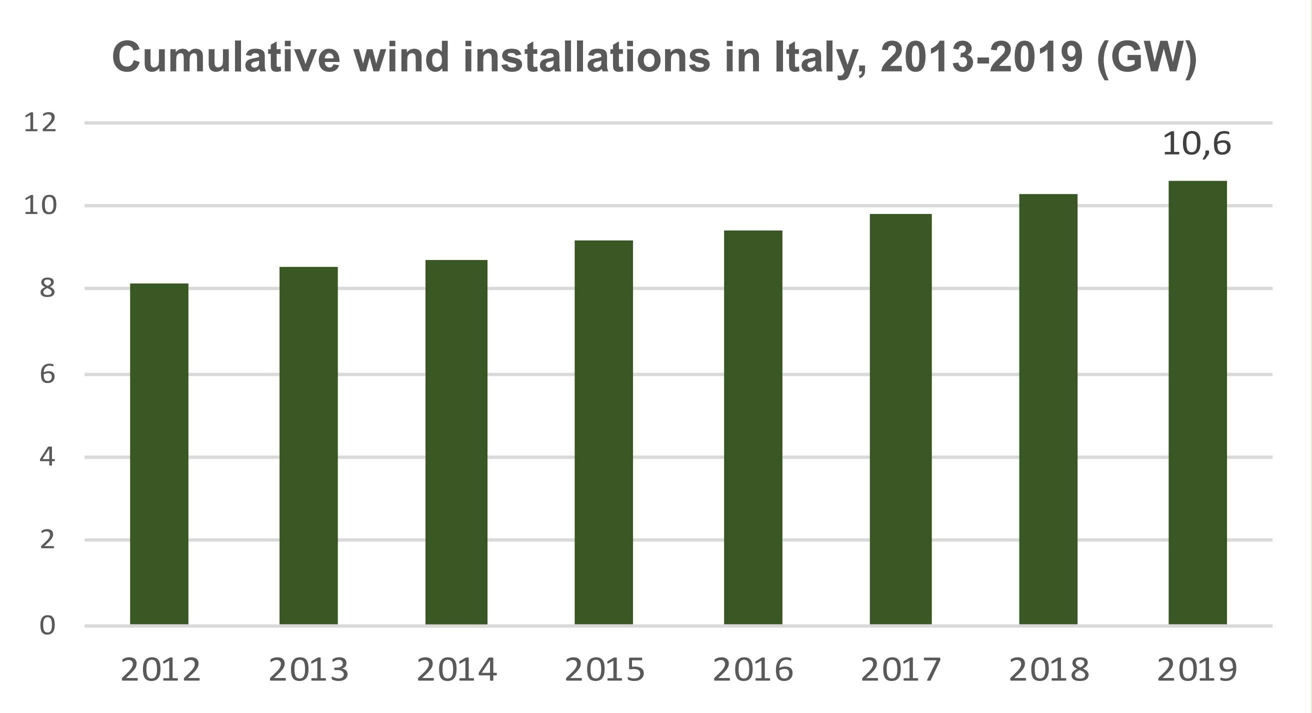


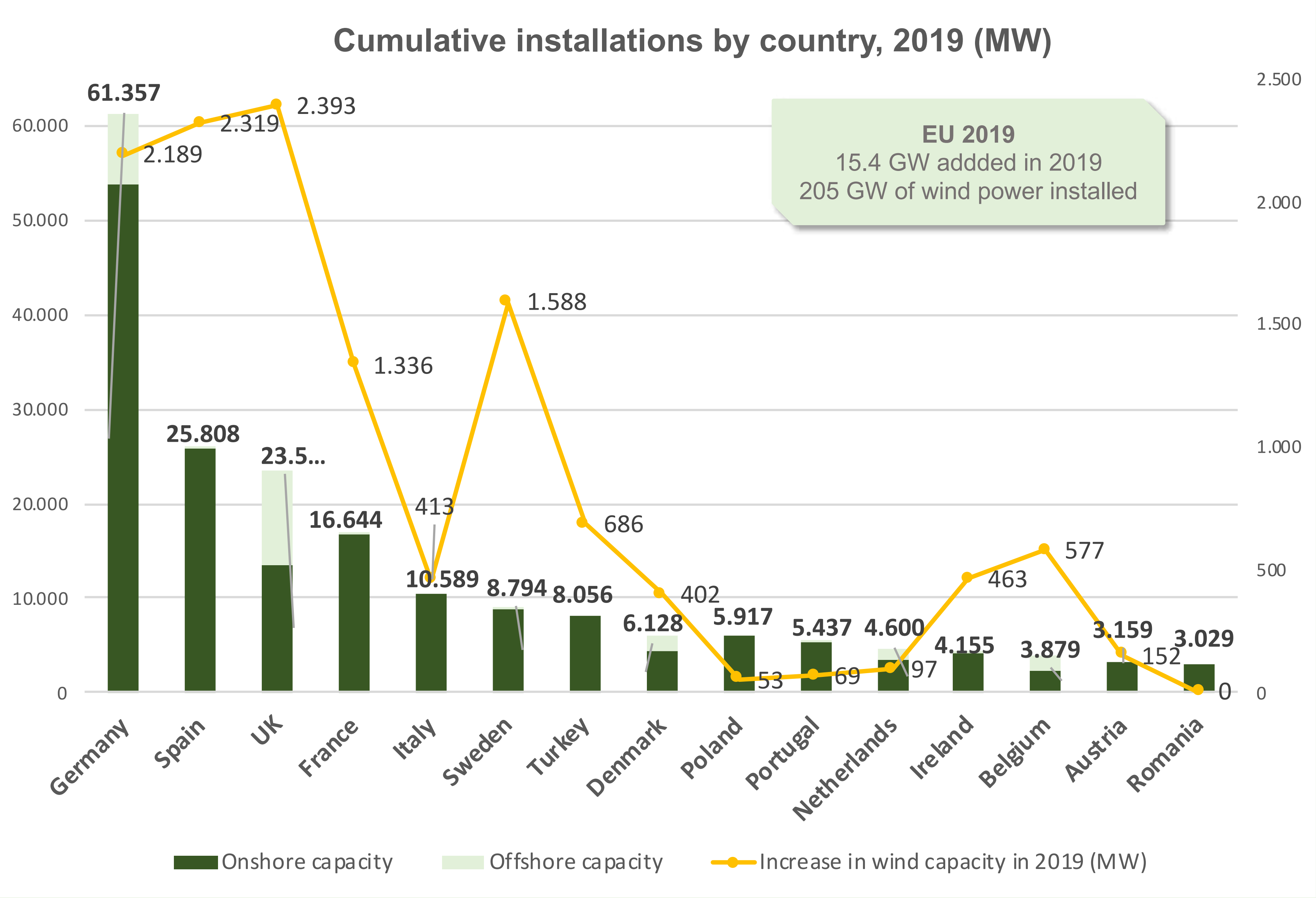


Source: Energy & Strategy Group on Anie Rinnovabili data

The Wind Market in Italy

In Italy the total volume of installed wind power reached, in 2019, 10,6 GW with 413 MW of new installed power.

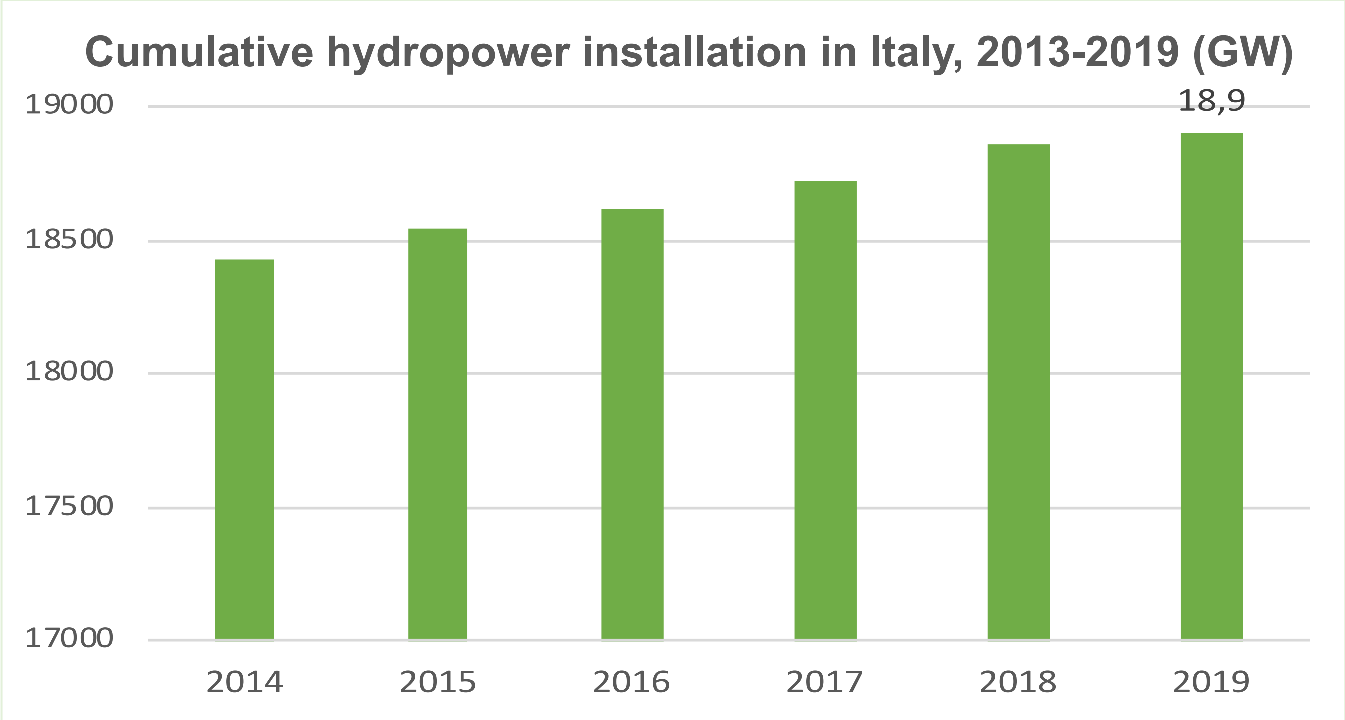


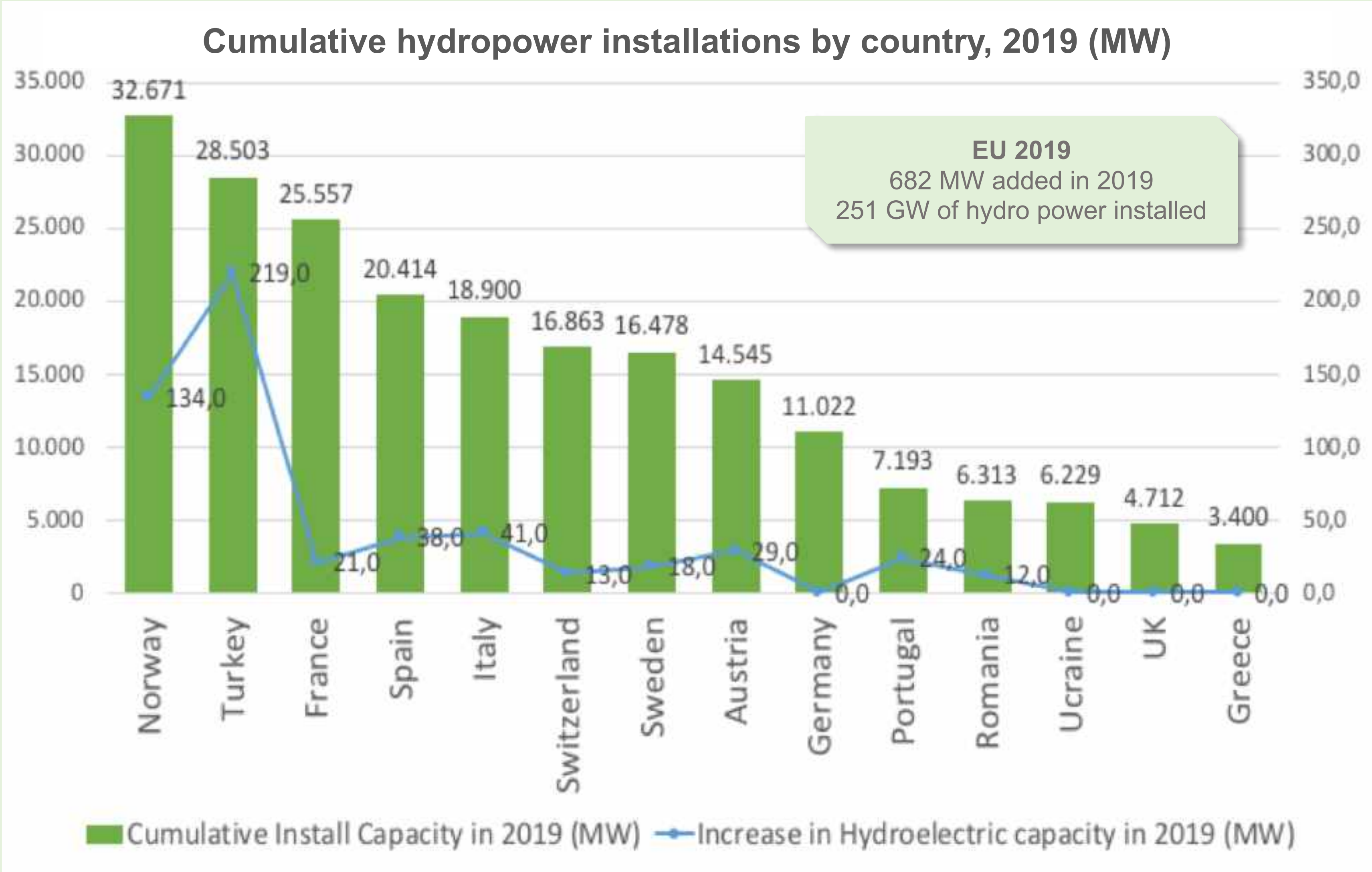


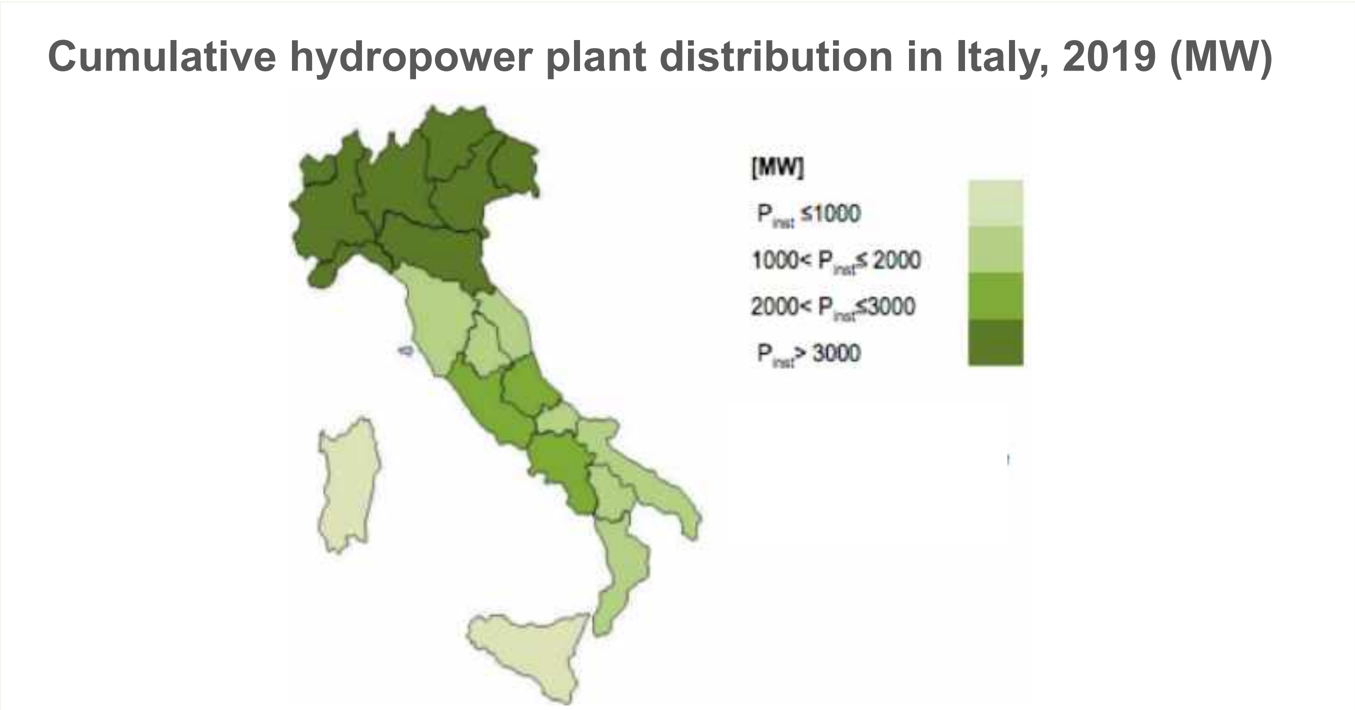
Source: Energy & Strategy Group on Anie Rinnovabili data; WindEurope

The Hydroelectric Market in Italy

In Italy the total volume of installed hydro power reached 18,9 GW in 2019 with 41 MW of new installations.





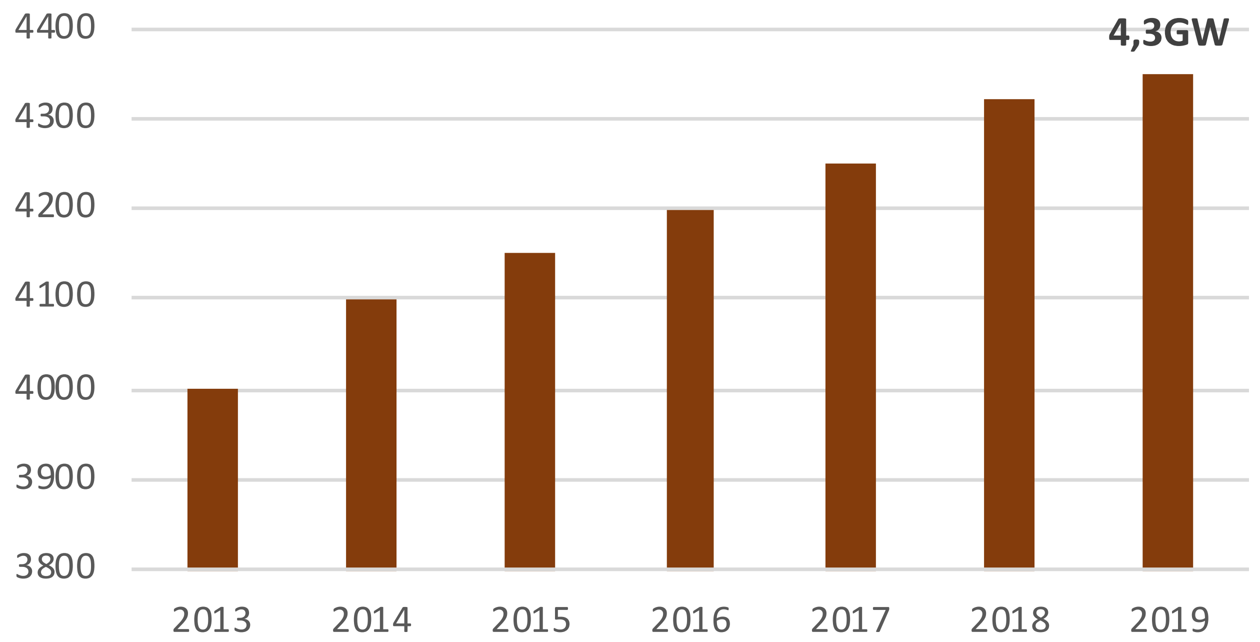


Source: Energy & Strategy Group on Anie Rinnovabili data; Terna Energia; IHA – International Hydropower Association

The Biomass Market in Italy

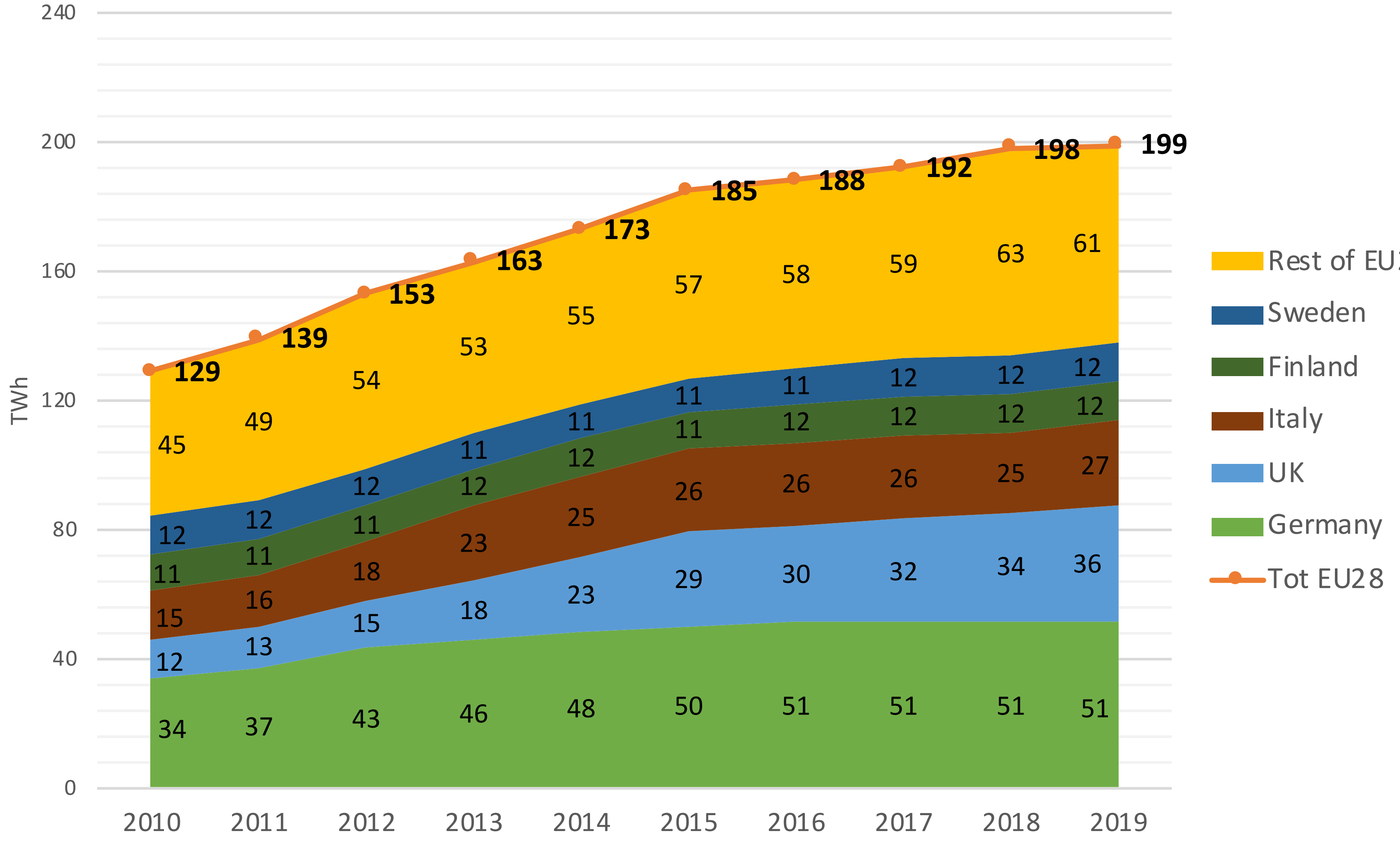
The biomass cumulative power in Italy in 2019 is of 4,3 GW in 2019, with 20 MW of new installations.

Installed power in Biomass plants in Italy, 2009/2019 (GW)



Biomass power of plant distribution in Italy, 2019

Biomass electricity generation by country, 2010- 2019 (TWh)

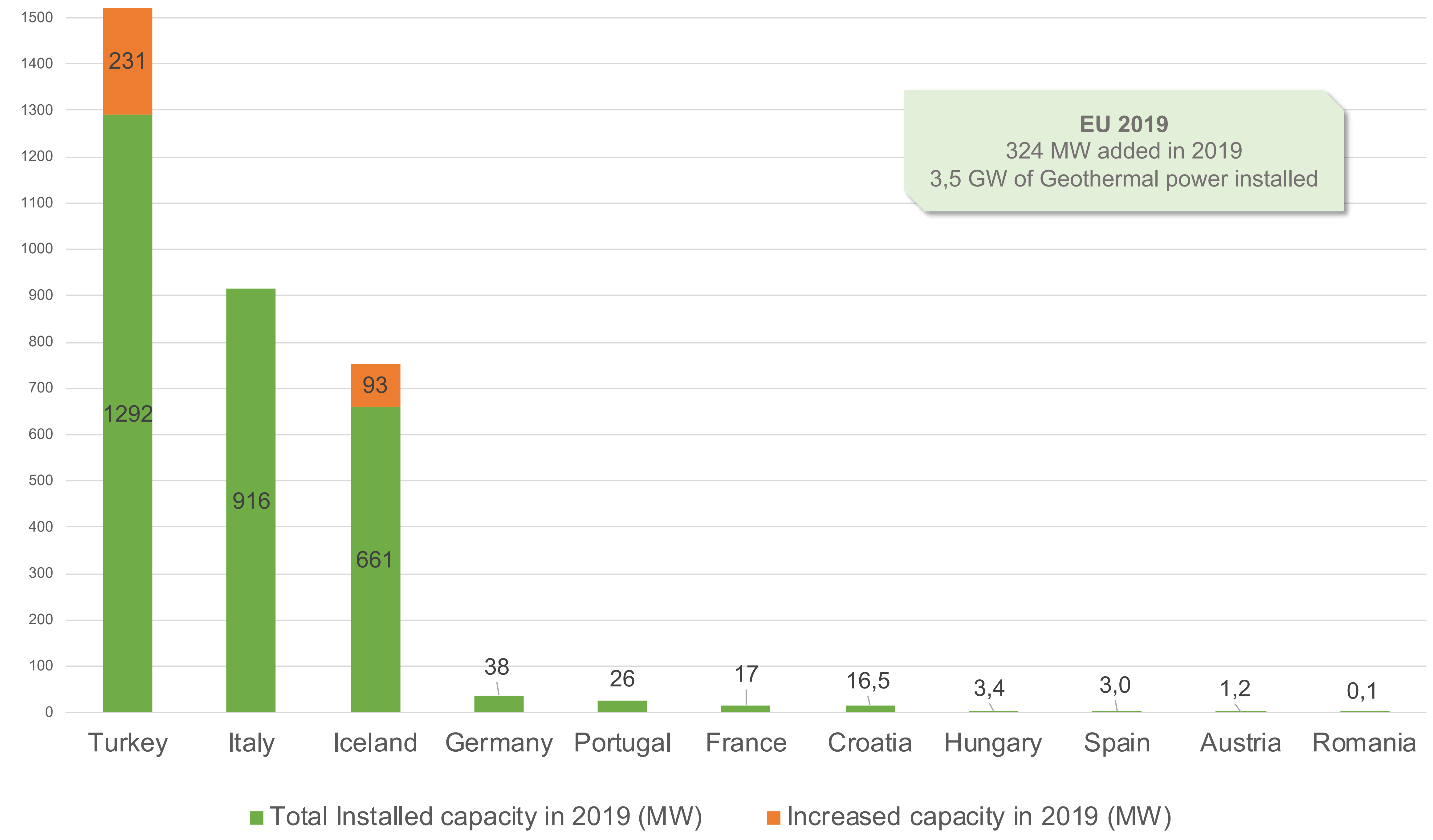


Source: Anie Rinnovabili;Agora energiewende; Gestore Servizi Energetici

The Geothermal Market in Italy

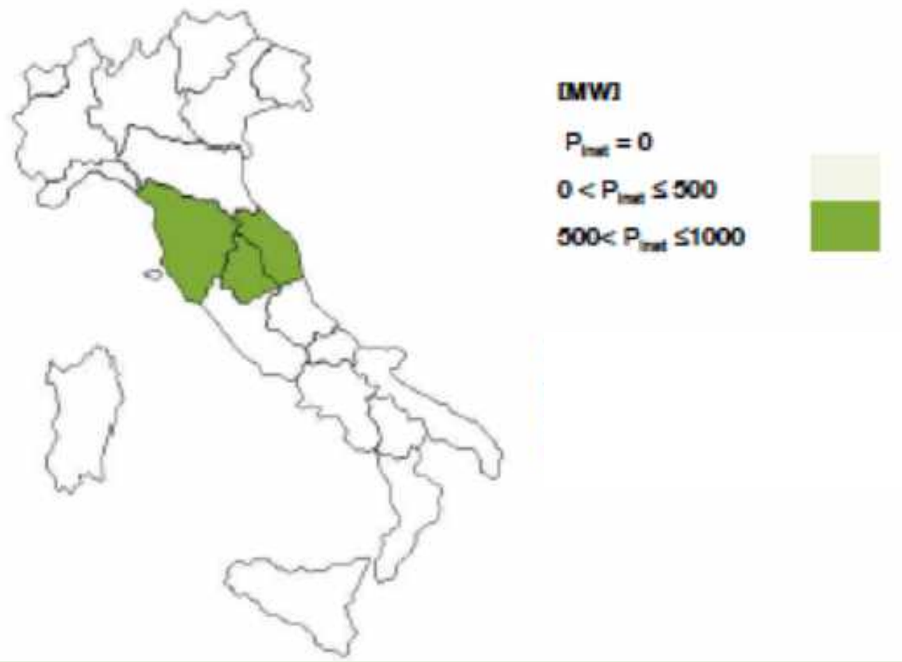
With 916 MW of installed capacity, Italy is the first in EU28. Central Italy, mainly in Tuscany, is the base of the Italian geothermal production.

Cumulative Geothermal installations by Country, 2019 (MW)



Geothermal production in Italy, 2018/2019 (GW)

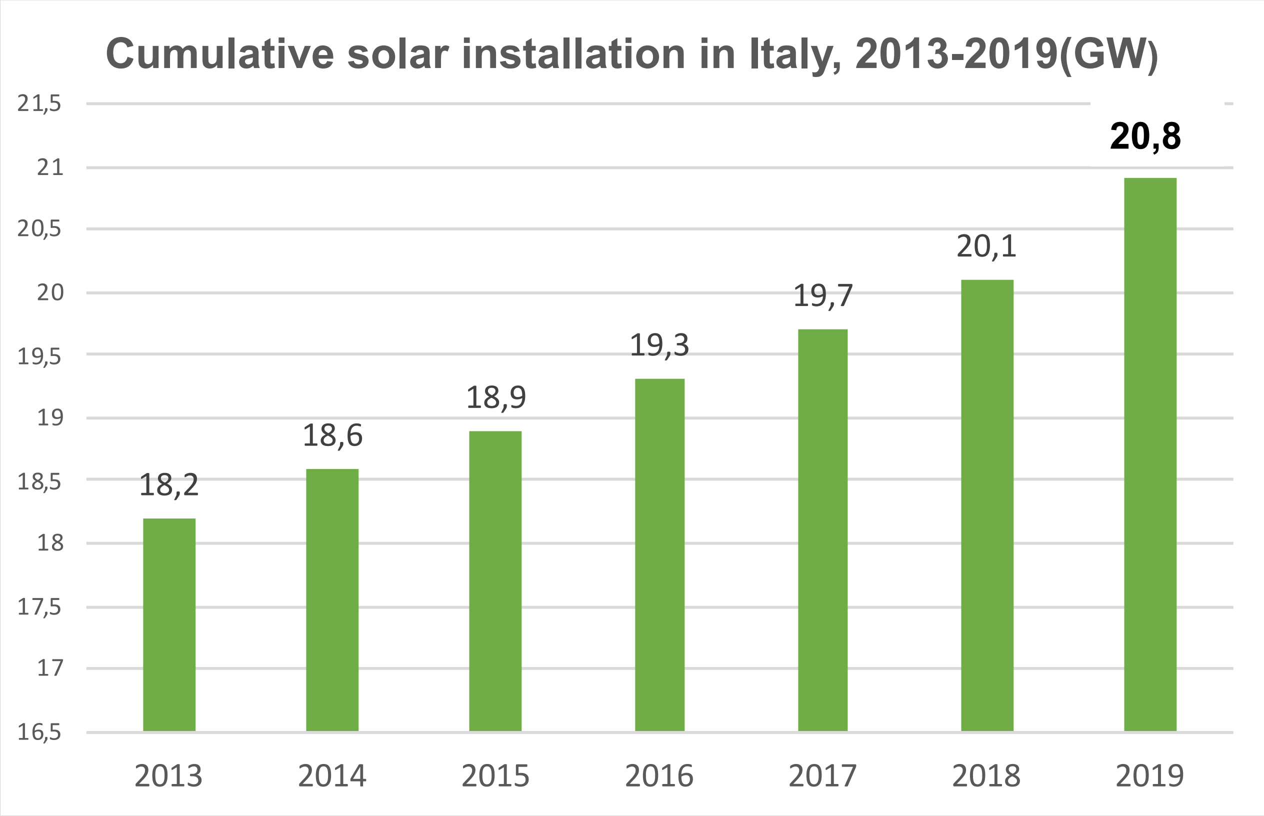
Geothermal power plant distribution in Italy, 2019

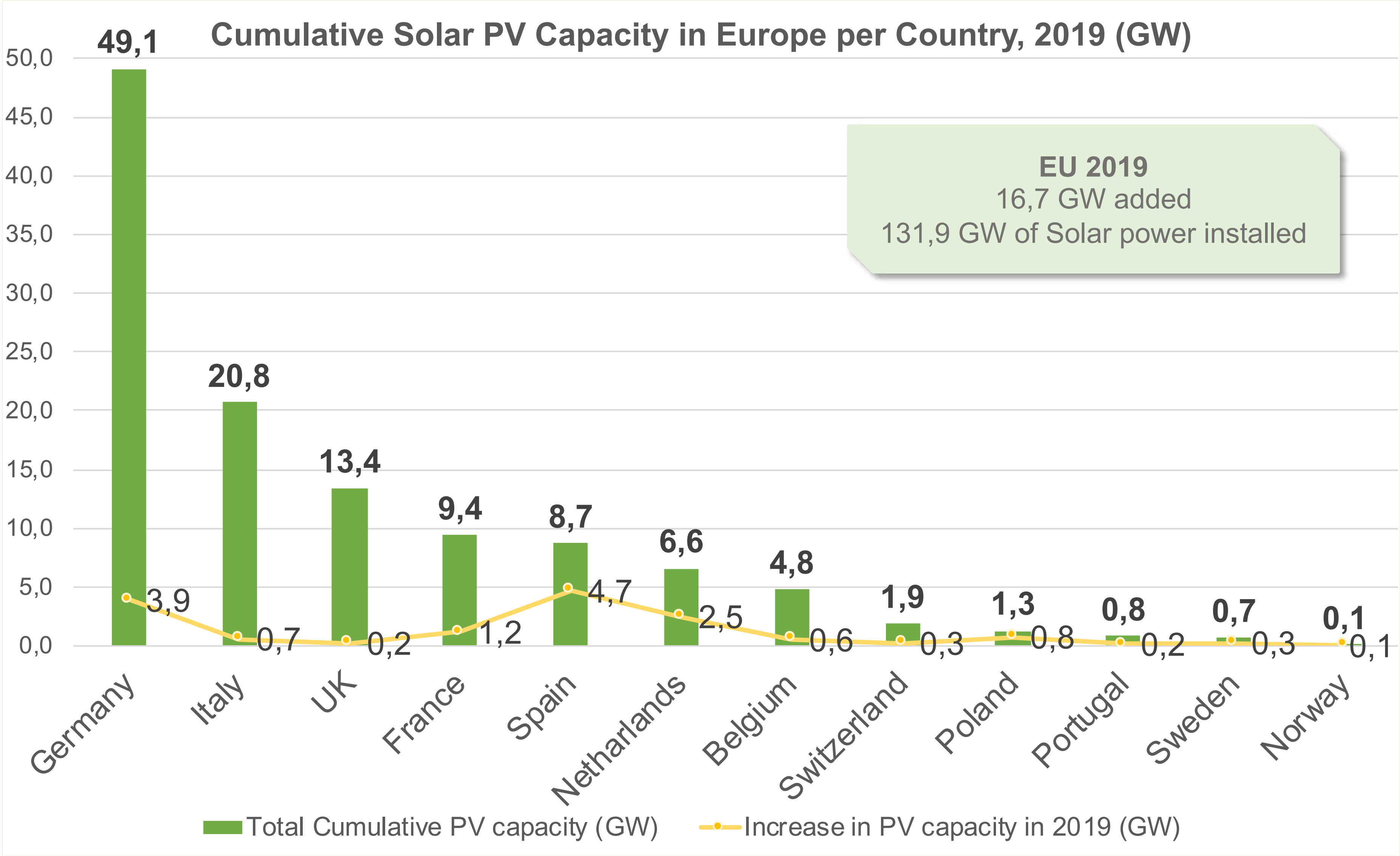


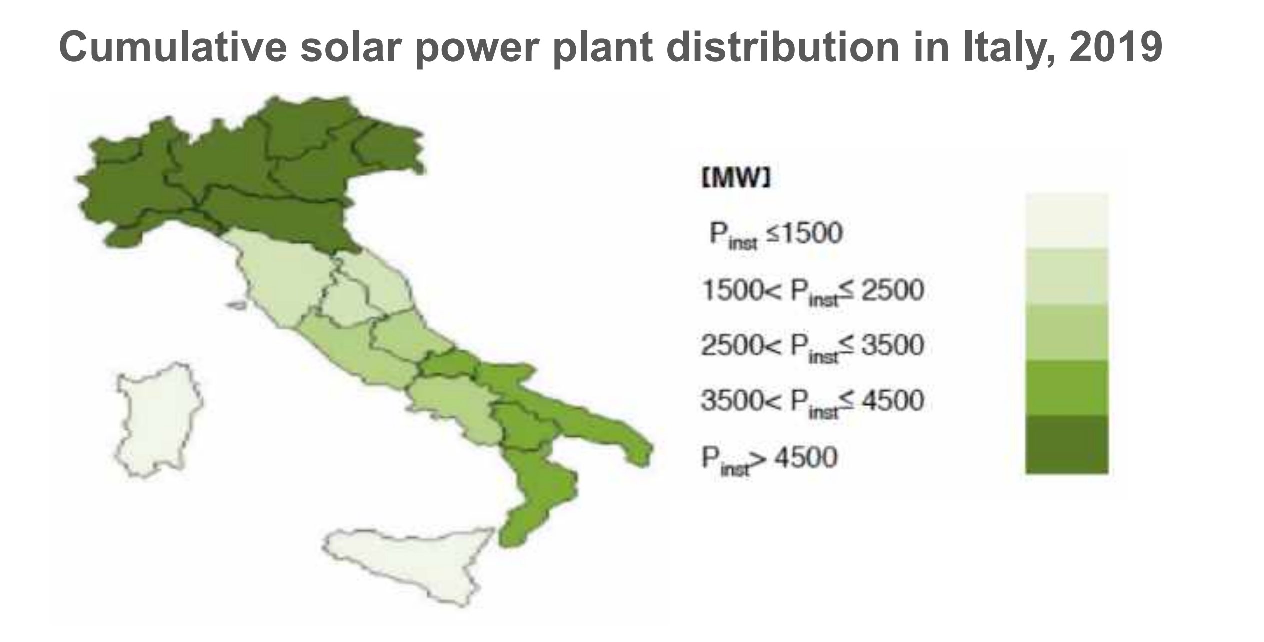
Source: European Geothermal Energy Council EGEC; Terna Energia

The Solar Market in Italy

In Italy in 2019 the new installed capacity reached 737 MW (+69%, 2019/2018) with a cumulative solar installation of 20,8 GW. In Europe, Germany is the first country for cumulative photovoltaic power installed (49.1 GW) followed by Italy (20.8 GW) and UK (13.4 GW).







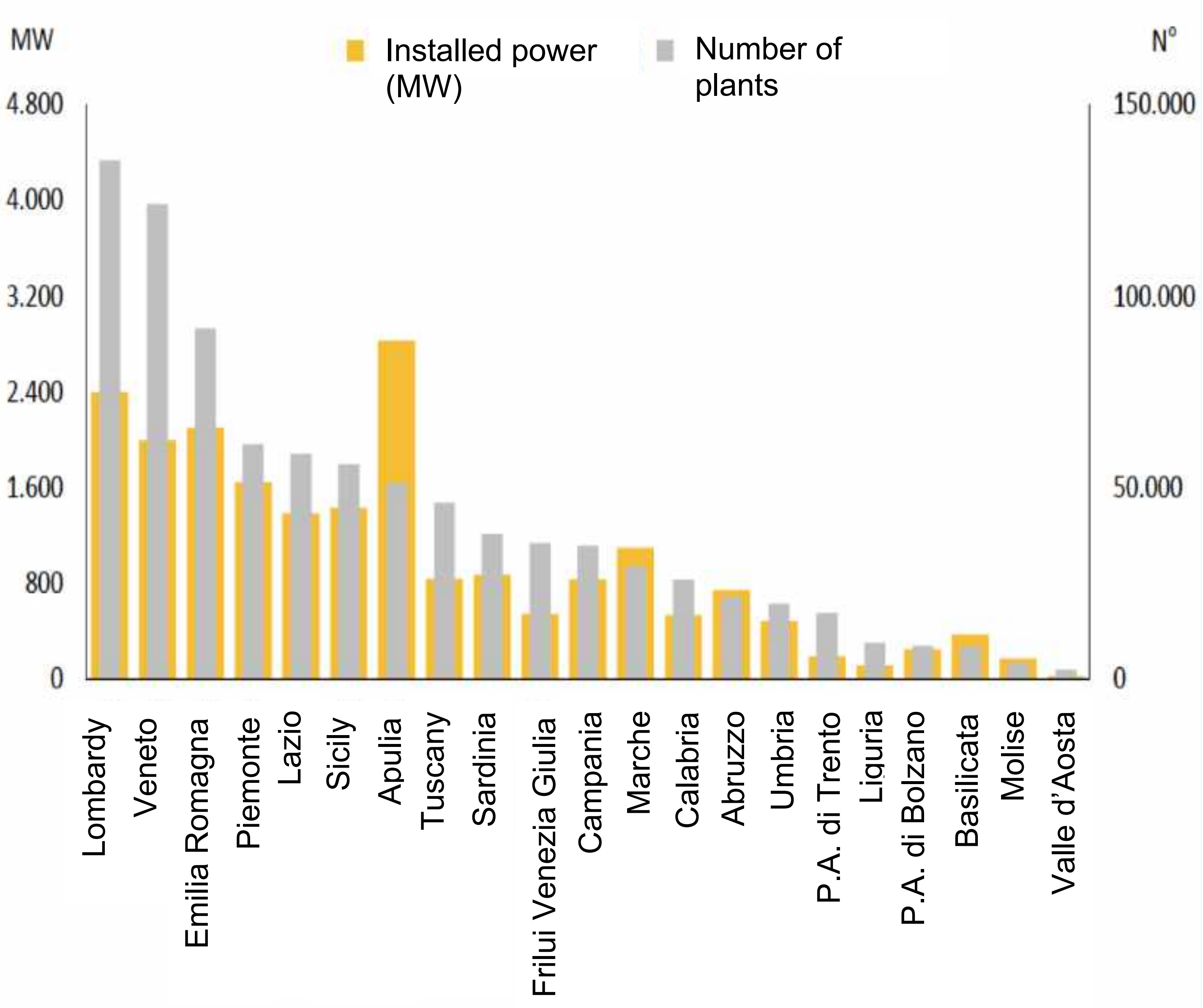
Source: International Energy Agency; Anie Rinnovabili; Terna Energia

Distribution of PV plants and power in Italy

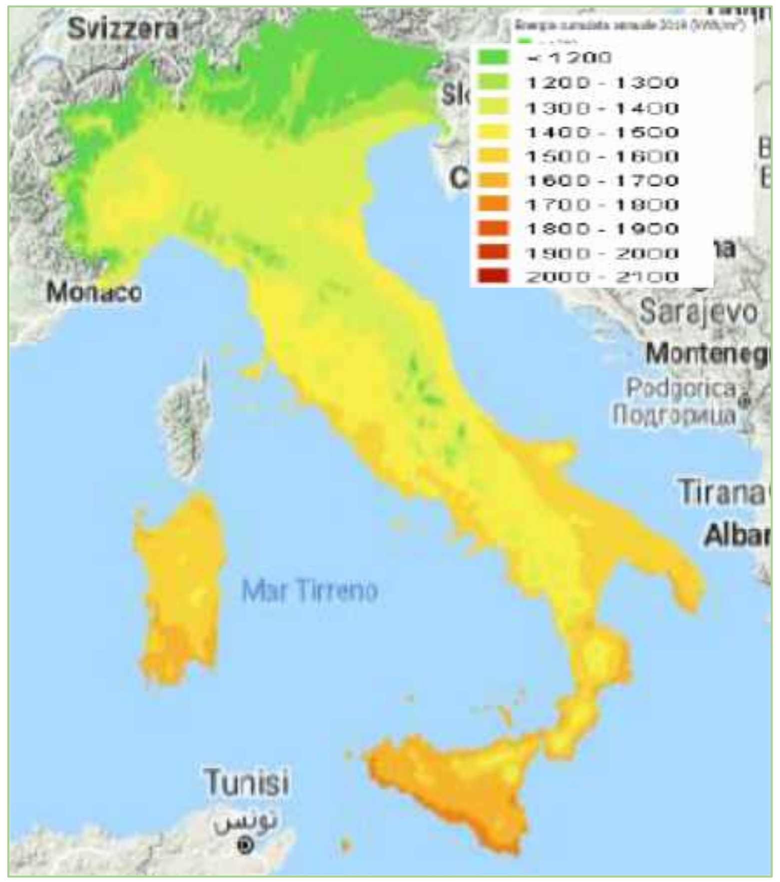
The power production in 2019 reached 23,689 GWh (+ 4.6% on 2018) while the 29.5% of the plants are installed in Lombardy and Veneto. Apulia region has the highest power generated (2,826 MW; 13.5% of the national total).

Region	2019		
	Number	Power (MW)	Gross production (GWh)
Lombardia	135.479	2.339	2.359
Veneto	124.085	1.996	1.999
Emilia Romagna	91.502	2.100	2.312
Piemonte	61.273	1.643	1.808
Lazio	58.775	1.385	1.692
Sicilia	56.193	1.433	1.827
Puglia	51.209	2.826	3.621
Toscana	46.041	838	920
Sardegna	38.014	873	993
Friuli Venezia Giulia	35.490	545	557
Campania	3.439	833	907
Marche	29.401	1.100	1.311
Calabria	25.975	536	649
Abruzzo	21.380	742	911
Umbria	19.745	488	553
Provincia Autonoma di Trento	17.268	192	187
Liguria	9.470	113	113
Provincia Autonoma di Bolzano	8.622	250	251
Basilicata	8.537	371	467
Molise	4.228	176	224
Valle D'Aosta	2.464	25	27
ITALY	**880.090**	**20.865**	**23.689**

Regional distribution of numbers and power, 2019

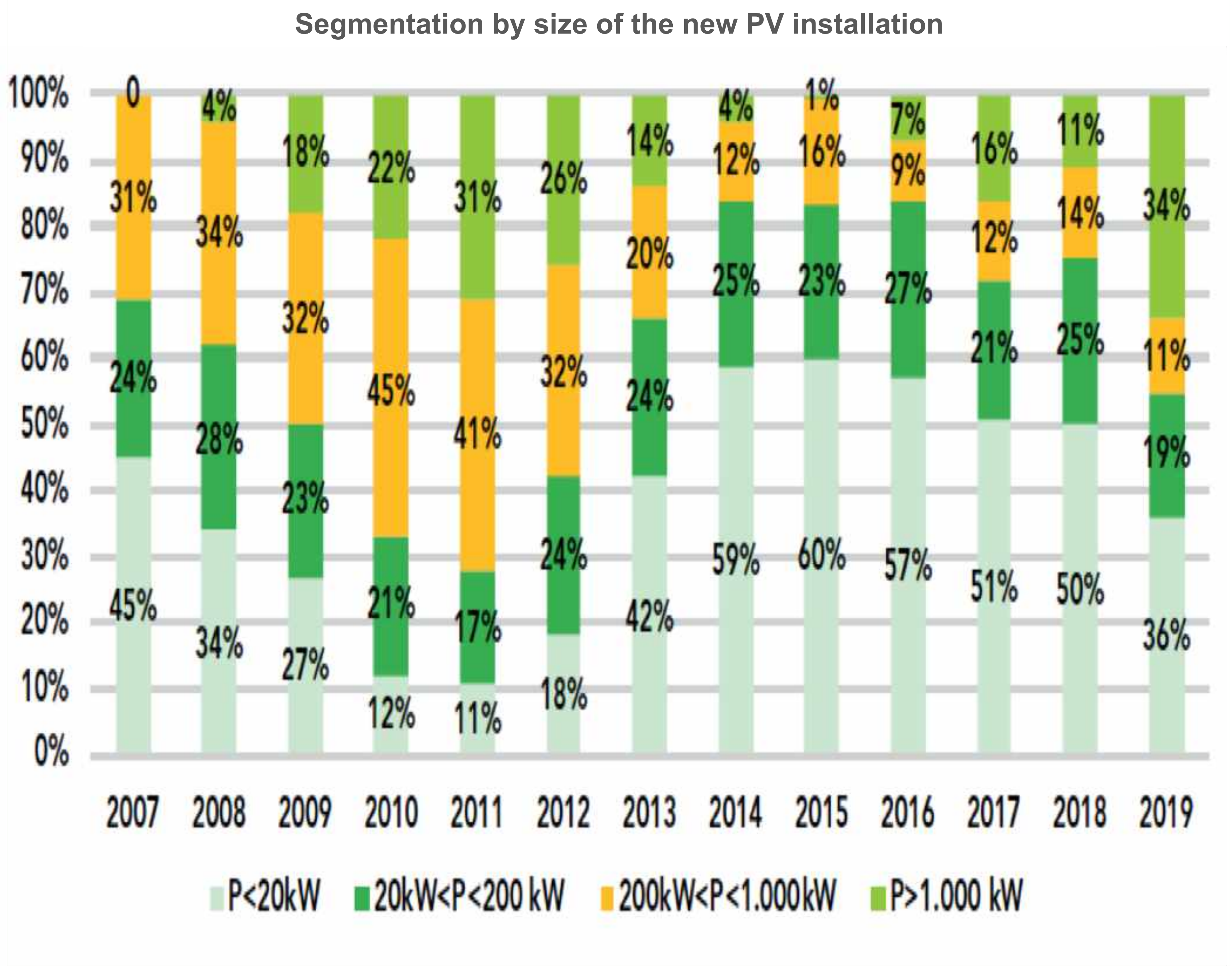


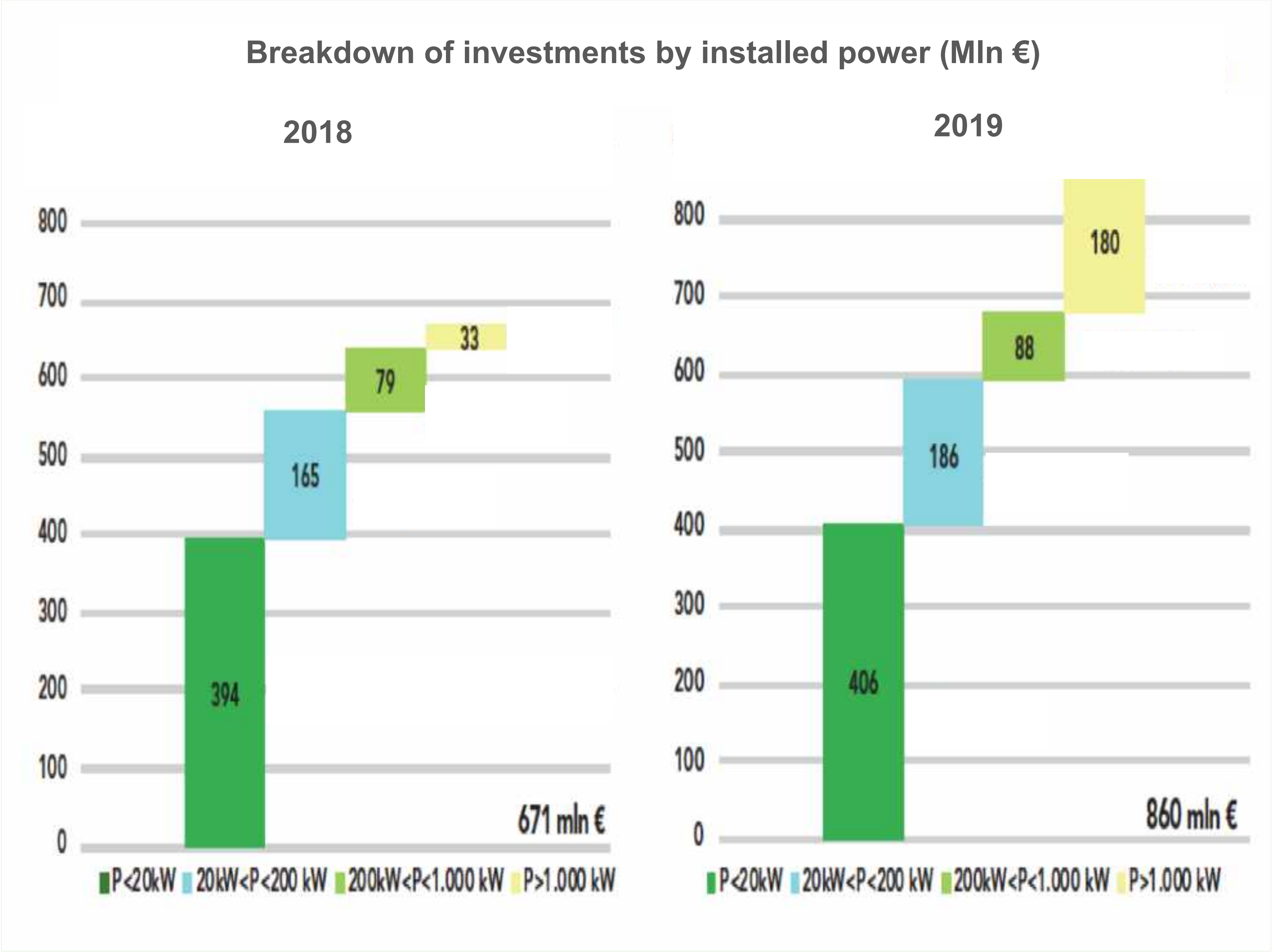
Cumulative annual solar radiation in 2019



Source: Gestore Servizi Energetici, 2019

The distribution by size of the Italian solar market



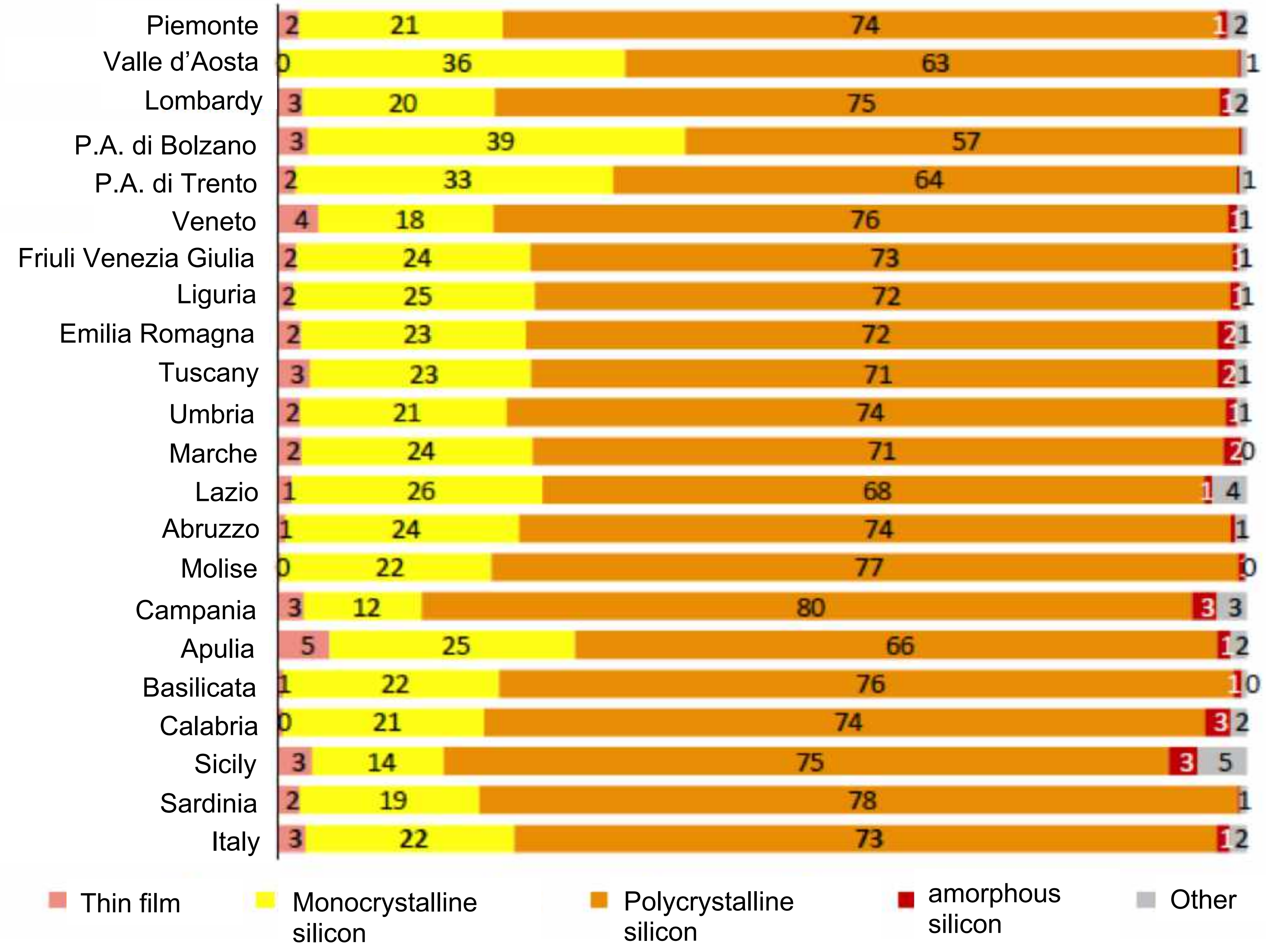


Source: A Energy & Strategy Group on Anie Rinnovabili data

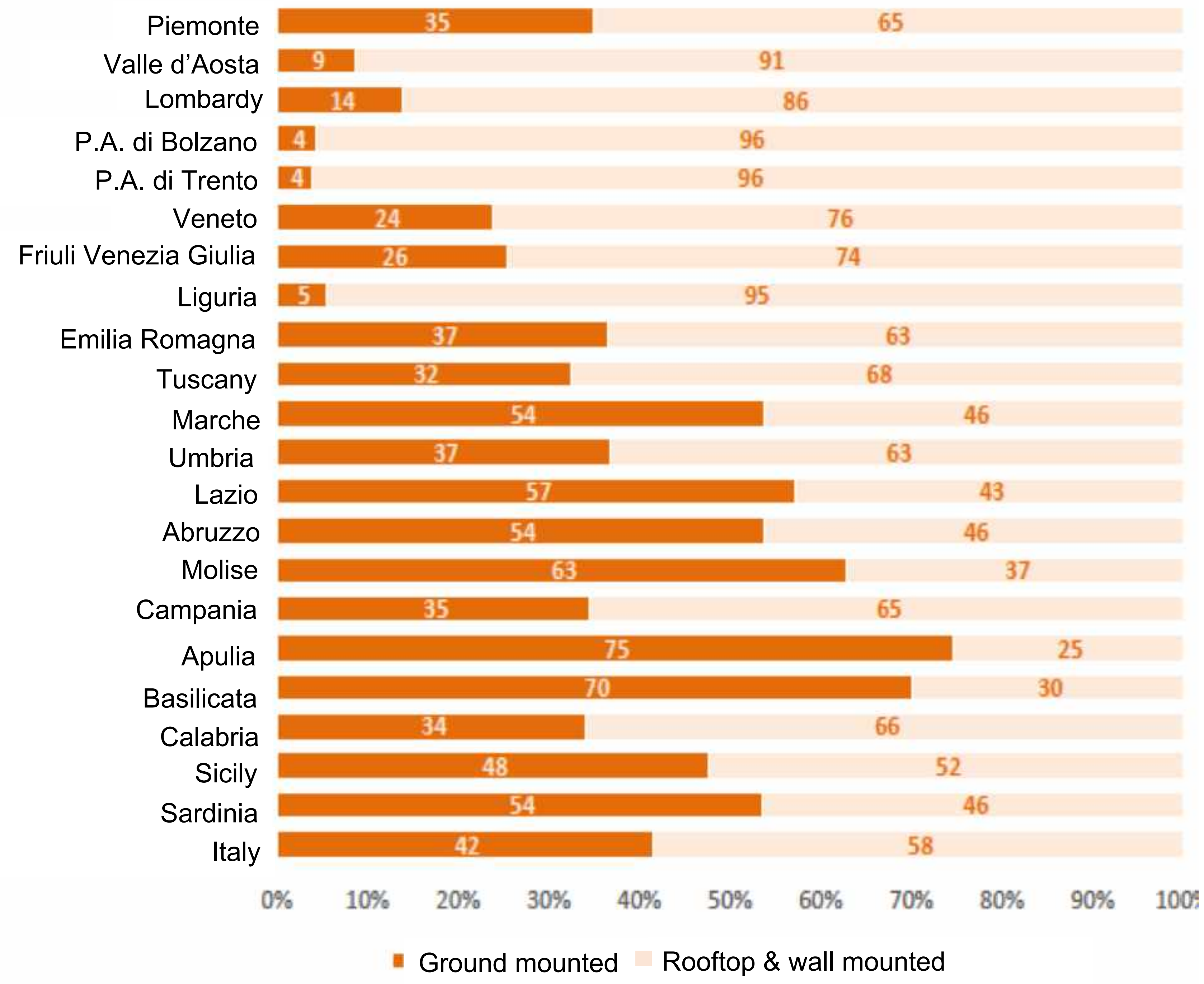
Regional distribution of PV panel by type and location

In Italy 72.5% of the installed photovoltaic power is made of polycrystalline silicon, 21.5% in monocrystalline silicon and 6% in thin film or in different materials. 42% of the installations in 2019 are ground mounted while the remaining 58% is distributed on non-ground surfaces.

Regional cumulative distribution of photovoltaic panels by technology, 2019



Regional cumulative distribution of photovoltaic panels by type of installation, 2019



Source: Gestore Servizi Energetici, 2019

Foreign Direct Investments in Italy

Between Jan 2003- Jan 2020 a total of 99 FDI projects were recorded for a total capital investment of $9.08 bln and a total of 4,855 new jobs. Apulia is the top destination region for number of projects while Lombardy and Sardinia have the largest project size on average in terms of investment and jobs creation, respectively.

FDI trends by region destination, 2003-2020

Destination state	N. of projects	N. of companies	Jobs Created	Capital investment ($ m)
Apulia	20	17	1,048	1,750.30
Lazio	11	11	442	1,543.90
Piemonte	10	5	510	883.00
Sicily	9	9	525	706.00
Veneto	7	7	324	668.50
Lombardy	5	5	238	860.30
Sardinia	5	5	331	344.00
Basilicata	3	2	172	214.50
Emilia-Romagna	3	3	186	214.50
Tuscany	3	3	123	144.20
Other	11	10	534	652.70
Not Specified	12	12	579	1,001.50
Total	**99**	**62**	**4,855**	**9,082.80**

Top 10 companies: number of projects

Company name	Source country	No of projects
OPDE	Spain	12
Abantia	Spain	4
EDF Energies Nouvelles (EN)	France	4
RWE Innogy Italia	Germany	4
Ecotecnia	Spain	4
EDP Renewables	Portugal	4
Ríos Renovables (Rios Renewables)	Spain	3
Schmack Biogas	Germany	3
Juwi	Germany	2
SunEdison	United States	2

Top 10 companies: jobs created and capital invested in Italy

Company Name	Jobs created	Capital investment
	Total	Total ($ mln)
OPDE	689	942.00
Abantia	248	286.00
Ecotecnia	193	370.00
EDF Energies Nouvelles (EN)	248	286.00
EDP Renewables	220	286.00
RWE Innogy Italia	248	286.00
Ríos Renovables (Rios Renewables)	76	382.50
Schmack Biogas	131	298.50
ContourGlobal	124	143.00
EDF EN Italia	110	143.00

Source: fDi Intelligence from The Financial Times Ltd

FDI in Italy – Success Story of foreign investments

Italy's largest photovoltaic plant

Company: European Energy
Country: Denmark
Energy type: Photovoltaic
Region: Apulia - Foggia
Power installed: 103MW /275.000 solar panels
Capacity: 150 GWh annually
Year: June 2020

The solar farm is based in Apulia, near Foggia. The plant of 150 ha, has a total capacity of 103 MW and will produce 150 GWh of green energy per year – enough to cover the electricity consumption of a city with 200,000 inhabitants. The collaboration of Italian subcontractors has been relevant: more than 400 people were involved in the construction and others will operate and maintain the activity during the 30-years lifecycle of the plant.

The first market parity solar plant in Italy

Companies: Canadian solar, Manni energy
Countries: Canada & Italy
Energy type: Photovoltaic
Region: Sicily
Power installed: 18 MW
Capacity: 34 GWh annually
Year: 2019

The portfolio of five solar PV plants in Sicily was jointly developed by Canadian Solar and Manni Energy. These solar plants are expected to produce approximately 34 GWh of clean energy per annum, equivalent to providing approximately 12,000 Italian households with clean solar energy. The energy produced has been sold to TrailStone Renewables GmbH through a recently signed 10-year PPA. This is one of the longest PPAs for subsidy-free solar portfolio in Italy to date.

Incentives in the renewable energy sector in Italy

Italian incentive for renewable power generation is characterized by a multiplicity of mechanisms that have followed one another over the years with a logic of progressive market orientation and reduction of the incentive level.

Summary scheme of incentive mechanisms and electricity withdrawal services

Incentive Mechanisme	Access Period	Incentive period	Sources / Technology	Plant power	Incentive type	Incentive enhancement	Type of energy	Enhancement of energy input
D.M. 4/7/2019	From 2019	20-30 yrs	PV, wind, hydroelectric, gas purification	<=250kW	FIT	constant rate	Fed into the grid	Included in the tariff
				>250 kW	SFIP	tariff obtained by difference with the price of energy	Fed into the grid	Market
D.M. 14/2/2017 «isole minori»	From 2018	20 yrs	Renewable sources available locally	>=0,5kW	FIT+PA	constant rate or indexed at efficient avoided cost	Produced	Included in the tariff
D.M. 23/6/2016 FER- E	2016-2017	15-30 yrs	FER-E no PV and solar CSP	<=500kW	FIT	constant rate	Fed into the grid	Included in the tariff
				>500kW	SFIP	tariff obtained by difference with the price of energy	Fed into the grid	Market
D.M. 6/7/2012 FER- E	2013-2016	15-30 yrs	FER-E no PV	<=1MW	FIT	constant rate	Fed into the grid	Included in the tariff
				>1MW	SFIP	tariff obtained by difference with the price of energy	Fed into the grid	Market
V Conto energia	2012-2013	20 yrs	PV	<=1MW	FIT+PA	constant rate	Produced	Included in the tariff
				>1MW	SFIP+PA	tariff obtained by difference with the price of energy	Produced	Market
Conto energia solare termodinamico	2008-2016	25 yrs	Solar CSV	any	FIP	constant rate	Produced	Market or RID or SSP
Tariffa Onnicomprensiva	2008-2012	15 yrs	FER-E no PV	<=1MW	FIT	constant rate	Fed into the grid	Included in the tariff
I-IV Conto Energia FV	2006-2012	20 yrs	PV	any	FIP	constant rate	Produced	Market or RID or SSP
Certificati verdi/Tariffa incentivante ex CV	2002-2012	8-15 yrs	FER-E	any	Green certiicate/SFIP	Indexed to energy price/tariff obtained by difference with the price of energy	Produced	Market or RID or SSP
CIP 6/92	1992-2001	8-15 yrs	FER- E & comparable	any	FIT	tariff partially indexed to the price of fuels	Fed into the grid	Included in the tariff

Source: GSE

In 2019, the Italian government signed a decree that grants new incentives to renewable energy sources ("**FER1 Decree**"). The energies benefiting from the scheme include onshore wind, solar, hydroelectric and sewage gases with a nominal capacity that excess 20 kWp. The incentive will be available until the end of 2021 and will provide new incentives of about €1 billion per year.

Eligible Projects

Technology

1. Wind (onshore only);
2. PV Solar;
3. Hydro (running water and reservoir/basin);
4. Sewage treatment plant gas.

Permits
All plants applying for the incentives should already have the building and operating permit and the acceptance of the grid connection solution (preventivo di connessione – STMG).

Specific requirements for PV plants
PV plants will only have access to the incentives provided if they are:
• newly built PV plants;
• using newly manufactured components only;
• not installed on agricultural land.

Incentive scheme

Source	Type	Power (kW)	Plant avg lifecicle (yrs)	Overall Feed-in – tariff (euro/MWh)
PV Solar*		20<P≤100	20	105
		100<P≤1000	20	90
		P>1000	20	70
Wind**	Onshore	1<P≤100	20	150
		100<P≤1000	20	90
		P>1000	20	70
Hydro	Flowing water	1<P≤400	20	155
		400<P≤1000	25	110
		P>1000	30	80
	Basin water	1<P≤1000	25	90
		P>1000	30	80
Sewage treatment plant gas		1<P≤100	20	110
		100<P≤1000	20	100
		100<P≤1000	20	80

*PV plants replacing asbentos covering or rooftops are entitled to an increase of €12/MWh
**In case the wind plants qualified with the registers mechanism and using regenerted components the incentive is reduced by10%

Access to incentives

The decree incentives can be accessed by the following mechanisms based on public procedures:

- **Register Entry** (Plant Power: 20kW <P< 1MW)

- **Auctions** (Plant Power: P> 1MW)

There will be **seven rounds** on the following dates:

1) 30 September 2019 (completed)
2) 31 January 2020 (completed)
3) 31 May 2020 (completed)
4) **30 September 2020**
5) **31 January 2021**
6) **31 May 2021**
7) **30 September 2021**

In awarding incentives, the FER1 Decree gives priority to:

- **Removal of asbestos & eternit** from buildings and rural buildings;
- Plants built in **sites of national interest**;
- Plants built on **closed landfills**;
- Photovoltaic systems in **schools, hospitals, public buildings**;
- Installations connected in "parallel" with the electricity grid and with **charging stations** for electric cars;
- Hydroelectric plants that respect the construction characteristics of the Ministerial Decree of 23 June 2016.

Source: Gestore Servizi Energetici

Superbonus 110% for renovations

The relaunch decree introduces a 110% superbonus for energy redevelopment works. The green interventions financed with the superbonus must guarantee the improvement of at least two energy classes. The decree rule provides for the deduction of 110% of the expenses incurred between **1 July 2020 and 31 December 2021** for specific interventions aimed at increasing the energy efficiency of buildings (ecobonus) and for related interventions relating to the installation of photovoltaic systems and columns for charging electric vehicles.

Benefit granted

110% invoice discount

Admitted works

- Installation of heat pumps or photovoltaic panels to produce hot water
- Condominium works for energy efficiency
- Total insulation measures to reduce gas and electricity costs by 50%/60%
- Replacement of windows including window frames
- Facade renovation with thermal coat
- Installation of condensing boilers
- Safety of buildings with higher sismic risk

Italian incentives for industrial investors

Italian incentives impact on **4 strategic areas for a company**.

Main goals are:

- **Supporting the financial effort** of the investors, by grants, loans or a combination of grants and loans
- **Assisting the hiring plans** of the investiors with a generous system of bonuses for the employers to be hired
- Providing **tax credit for R&D activities** or for the **acquisition** of **equipments and machineries** (Special Economic Zone)
- **Supporting the training of the workers** by joining the programmes of the European Structural Funds, managed at regional level.

Our Services

SERVICES

Location scouting & site visit	Search and selection of location opportunities, site visits and support during the evaluation process
Authorizations	Management of all relevant permits that may involve local authorities
Permits for foreign investors	Assistance with the accomplishment of procedures for obtaining permits (art.27 T.U. Immigrazione)
Human resources	Relations with recruitment agencies and local placement agencies
Liaison Office	Cooperation network with local authorities aiming at red tape cutting and policy advocacy in favor of foreign investors
Advisory and financial scouting	Support for the selection of and application for available financial tools and incentives
Foreign investors scouting (JV/partnership)	Companies search (aimed at the creation of a joint venture or partnership, or merger & acquisition)
Data research	Assistance with data research and analyses with access to public database
Definition of your energy portfolio in Italy	Assistance for the creation of a tailor-made portfolio of renewables and energy efficiency opportunites
Update on national energy tenders	Constant update and information on on-going tenders in the renewable sector

OUR NETWORK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