



ITALIA  
solare

IL FOTOVOLTAICO È DI TUTTI

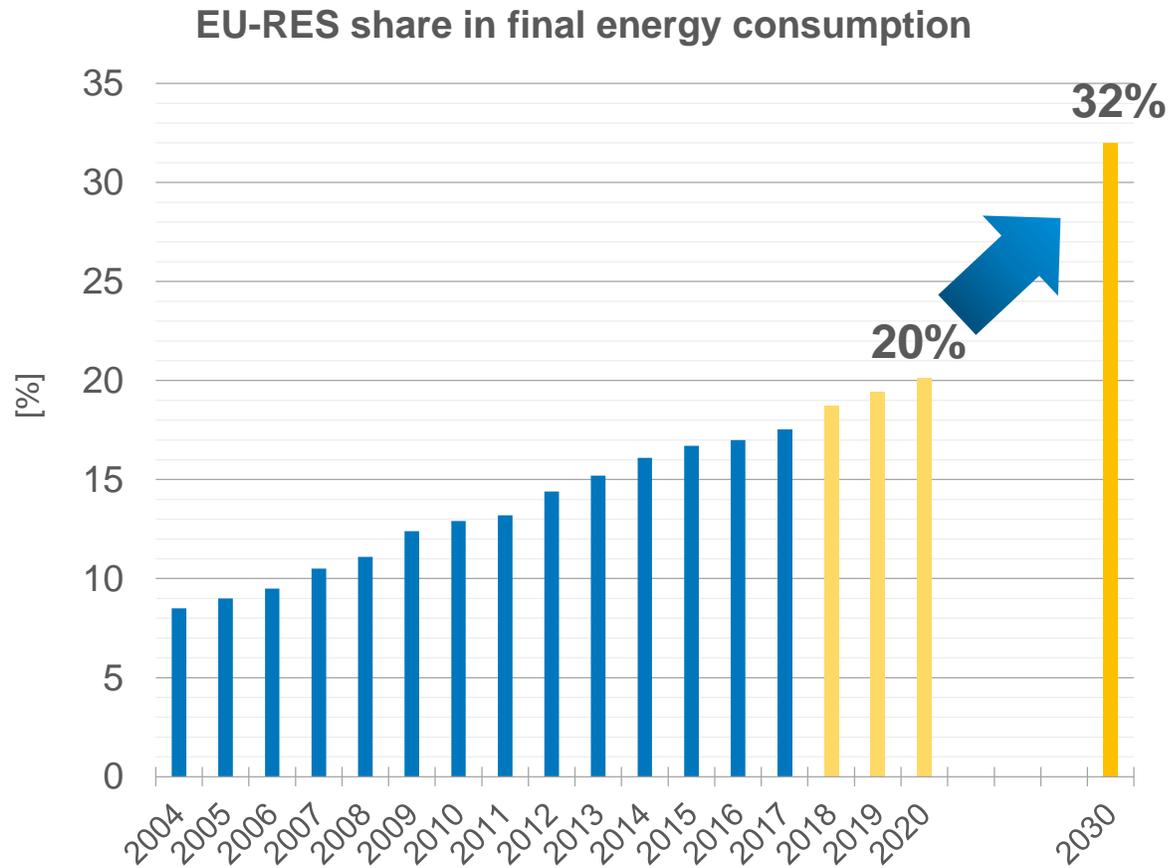
# 5.5 GW + a feed in tariff for not interconnected islands

SOLAR POWER INTERNATIONAL 2019

Gianni Chianetta

# RENEWABLES IN ITALY: A MATURE TREND

The European and Italian targets



EU Target = 32%



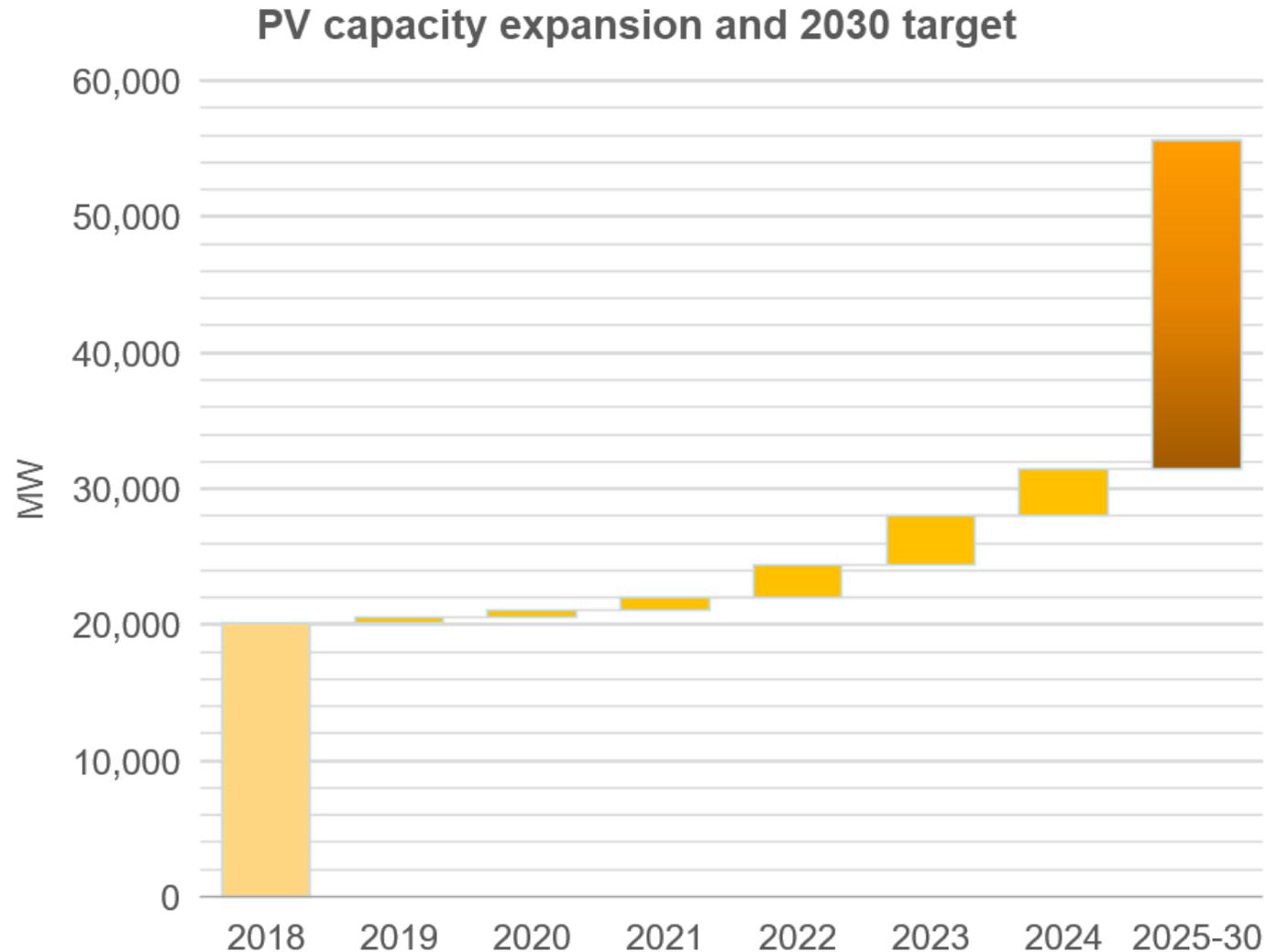
Italian Target = 30%



Italian Target (electricity) =  
55.4%

# THE TARGET SET BY PNIEC

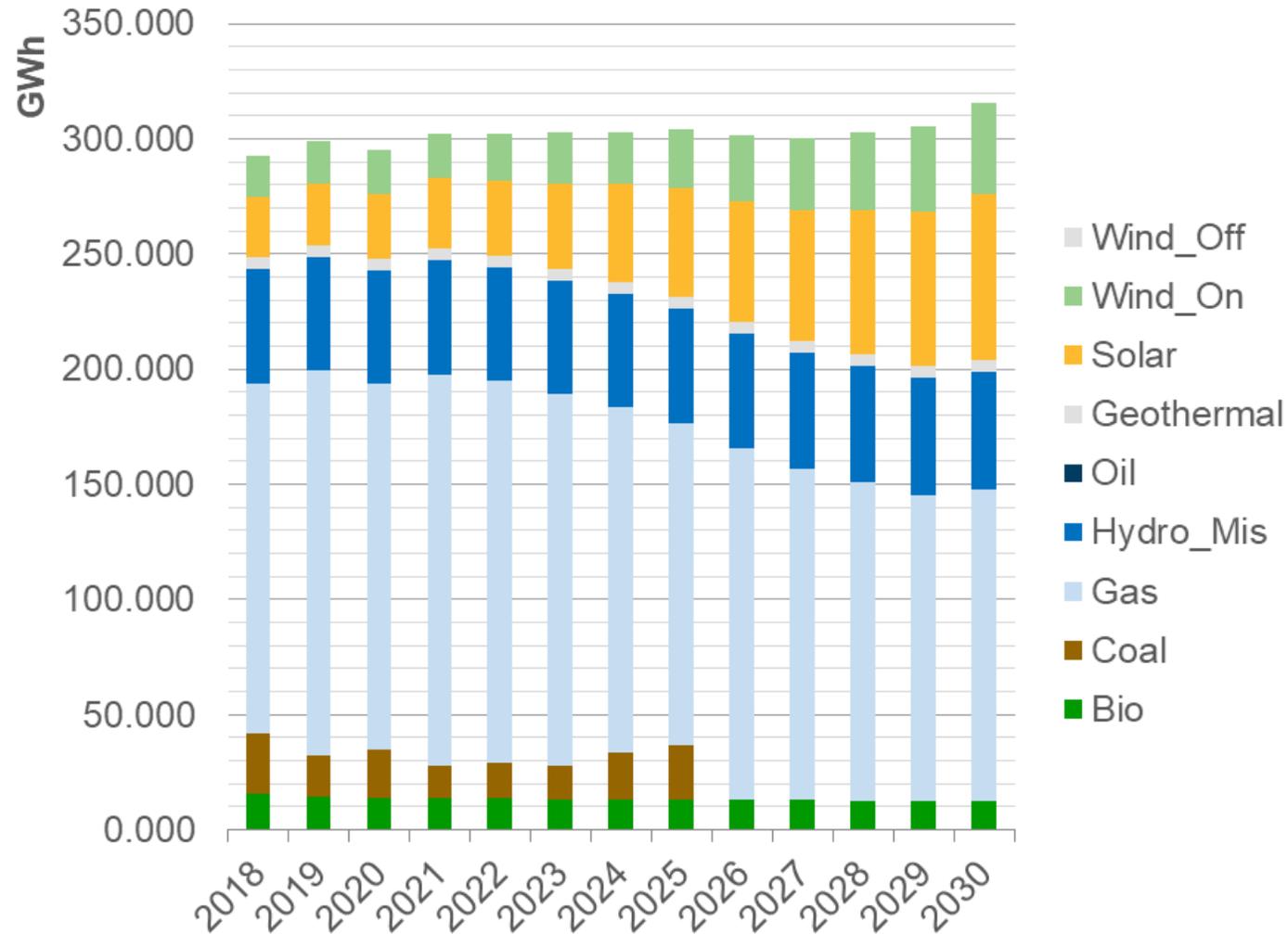
will require to more than double the capacity for solar



# ITALIAN ELECTRICITY MIX

More renewables and no coal from 2025

## Italian Electricity Mix - Forecast



# DM FER1

## The context: self-consumption in Italy: on site PPAs

Value of the energy self-consumed, when producer and customer are the same entity, is:

energy cost saved (about 60\_Euros/MWh) +

Dispatching cost saved (about 7.5 Euros/MWh) +

Charges and fees proportional to the consumption of energy saved (68.5 Euros/MWh for medium and low tension business clients)

Excise taxes saved (12.5 Euros/MWh)

For a total value of about

148.5 Euros per MWh

in case the investment is performed by a third party, and producer sells onsite the energy to the client:

12.5 Euros MWh of excise taxes are not saved

20/15 Euros MWh is the margin of customer

**price of on site PPA is around 115/120 Euros / MWh (148.5 - 12.5 - 20/15)**

# DM FER1

The context: market PPAs in Italy

Spot price of energy last week in Italy:

60 Euros per MWh

The producers of energy from renewable source have offers of short term PPAs

Long time PPAs are more difficult and have a significant discount on the spot price of energy

### Risks for PPA on site:

(i) bankruptcy of the client; (ii) change of the regulatory regime and of the exemptions from fees and charges; (iii) reduction of market price;

### Risks for market PPAs:

(i) short duration of market PPAs; (ii) insolvency of the trader; (iii) reduction of market price.

New Incentives under Ministerial Decree July 4, 2019 may cancel such risks, they:

(i) grant a fixed revenue equal to the awarded tariff. The balance between the tariff and the spot price of the electricity is paid by GSE S.p.A..

(ii) support the investments when are more expensive (as in case of removal of asbestos) granting extra - premiums

# DM FER1

Which PV Plants are eligible for new incentives? What energy is incentivized?

> 20 kW

- not constituting new sections (upgrades) of existing PV Plants
- having new components
- not in an agricultural urban planning area (except for greenhouses and rural buildings)
- works not yet started
- having authorization to build and the consent of the grid manager to the connection
- not benefiting from other incentives, except from super-amortization and capital grants
- Net metering is not allowed

Incentives are on the amount of energy fed into the grid

There are premiums on the self-consumed energy ( if >40%) for plants < 100 kW: 10 Euro MWh

In case of removal of asbestos the premium is: 12 Euro/MWh for all energy produced including both self-consumed and injected into the grid

# DM FER1

How much is the incentive for photovoltaic systems?

## Plants < 100 kW

105 Euro/MWh for the energy injected into the grid  $\leq 30\%$  + premium 10 Euro MWh on self-consumed energy + 12 Euro MWh for all energy produced including both self-consumed and injected into the grid in case of removal of asbestos

## Plants >100 kW < 1000 kW

90 Euro/MWh for the energy injected into the grid  $\leq 30\%$  + 12 Euro MWh for all energy produced including both self-consumed and injected into the grid in case of removal of asbestos

## Plants >1000 kW

70 Euro/MWh for the energy injected into the grid < from 2% to 70%

For tender procedures in 2021 the values shall be reduced by 5%.

# DM FER1

## How is the incentive paid?

- The tariff awarded includes both the value of the energy and the premium, which is the incentive itself.
- The producer will receive from GSE the payment of the difference between the value of the incentive and the zonal price of the energy. If the tariff is 90 and the spot price of energy in the pool (zonal price) is 50 the actual incentive paid by GSE will be 40 Euro per MWh. If the zonal price is higher than the incentive, the producer will have to return the difference to GSE.
- The producer can decide to sell the energy to traders who will pay the value to the producer. It is upon the trader the risk of being able to sell the energy at least at the hourly zonal price.

# DM FER1

How long does the incentive last? How to have access to the incentive?

The incentive lasts for 20 years from the date of entry into commercial operation, which is the date, indicated by the producer, from which the latter communicates he wishes to start the incentives.

There will be seven bidding sessions, at intervals of 4 months from each other.

The bidding session remains open for 1 month for the submission of bids and, after about three months, the ranking is published.

The first session closes on the 30<sup>th</sup> of October and will be published on the 28<sup>th</sup> of February 2020. The last shall be starting on September 30, 2021 with publication of the last graduatory on January 28, 2022.

**THE TOTAL POWER INCENTIVATED IS 4.8 GW**

# DM FER1

How to obtain the award of the incentive in a tender for plants < 1 MW without removal of asbestos?

For plants < 1 MW priority criteria are in order:

- (i) plants on quarries, landfills and areas subject to clean up commitments.
- (ii) installation of chargers for electric mobility;
- (iii) bids submitted for aggregates of plants;
- (iv) higher % of reduction of the tariff.

# DM FER1

What are the advantages granted to plants with asbestos removal?

For plants with removal of asbestos  $< 1$  MW:

- (i) there is a separate classification (700MW);
- (ii) a premium of Euro 12 per MWh is guaranteed on all the energy, including self-consumed energy

The Energy value therefore will be:

for the energy injected into the grid 102 Euro/MWh ( $< 100$  kW) or 117 Euro ( $< 100$  kW) per MWh (assuming there are no discounts)

for self-consumed energy (assuming a market value of 150 Euro per MWh for self-consumed energy, 162 Euro MWh above 100 kW and 172 Euro MWh below 100 kW) counting the two premiums for asbestos and self-consumption.

# FORUM ITALIA SOLARE 10th December – Rome

Climate emergency: solar PV is part of the solution today

On 10th December in Rome, ITALIA SOLARE is organizing

## “Forum ITALIA SOLARE 2019 Climate emergency: solar PV is part of the solution today”

The event will serve to discuss the role of photovoltaics in the context of the climate emergency, new market prospects and opportunities arising from the new Decree FER 1 incentives.



# FIT FOR NOT INTERCONNECTED ISLANDS

The incentive is funded by diesel saving



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ISLANDS**

On 14 February, 2017 the Italian Ministry of Economic Development adopted a Decree providing for clean energy transition and gradual integration of renewable energy sources in not-interconnected islands (20).

To this end, the Decree establishes:

- the quantitative targets to be covered by renewable sources;
- the timeline for gradual integration of renewable sources;
- the criteria for support schemes to meet the targets to 2020



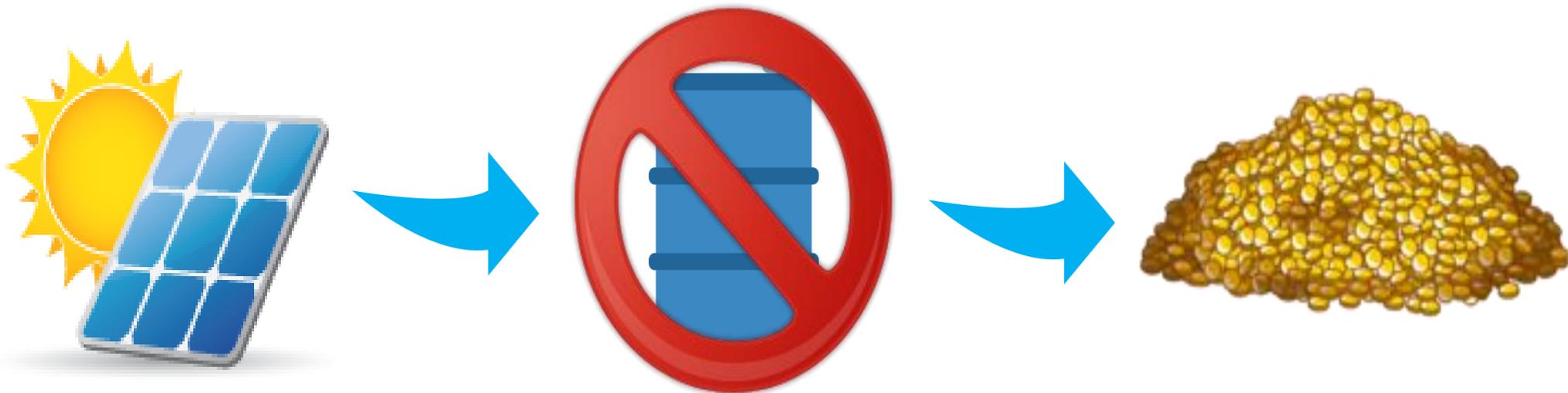
# FIT FOR NOT INTERCONNECTED ISLANDS

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**GREENING  
THE ISLANDS**

Remuneration calculated in relation to the cost of the fuel saved thanks to the lower consumption of energy



# FIT FOR NOT INTERCONNECTED ISLANDS

The incentive is funded by diesel saving

- > Installation of solar thermal systems (Solar Keymark Certification) for heating water and solar cooling;
- > Installation of renewable energy systems connected to the electrical grid (storage systems are allowed).

For the new renewables power plant installed in the small islands:

- A feed in tariff is paid for the energy injected into the the grid
- A premium is paid for the energy self-consumed
- The incentive is for 20 years and is different for any

ISLAND	FER power target kW (Art. 2, subs. 1, b)	Solar panel surface target m <sup>2</sup> (Art. 2, subs. 1, a)	Annual conv. prod. MWh (Art. 5, subs. 1)
Isola	Obiettivo potenza FER kW elettrici (Art. 2, comma 1, lettera b)	Obiettivo superficie solare termico m <sup>2</sup> (Art. 2, comma 1, lettera a))	Prod. annua convenzionale MWh elettrici (Art. 5, comma 1)
Capraia	180	250	2.760
Giglio	700	780	10.300
Ponza	720	870	11.500
Ventotene	170	200	2.700
Tremiti	240	290	3.920
Favignana	900	1070	15.470
Levanzo	40	40	600
Marettimo	120	150	2.040
Pantelleria	2.720	3130	44.170
Ustica	280	370	4.870
Alicudi	20	20	400
Filicudi	80	90	1.400
Lipari	2.110	2520	34.800
Panarea	130	200	3.140
Salina	580	570	9.160
Stromboli	220	250	3.870
Vulcano	300	470	7.280
Lampedusa	2.140	2370	37.660
Linosa	170	210	2.800
Capri	4.380	4850	66.600

# FIT FOR NOT INTERCONNECTED ISLANDS

The quantification of the incentive to be paid for the electrical energy produced & injected into the grid



**Feed in tariff** for the electricity produced and injected into the grid. GSE withdraws that energy to be injected into the grid and grants to the producers an incentive in the form of a “base tariff” for all the duration of incentives (20 years)

**Feed in premium** for the electricity produced and instantly consumed on site. The tariff is calculated as the difference between the «base tariff» and the value of electricity produced and instantly consumed on site (this value is published by the 31st January of each year by ARERA)

## Producers can choose between two different options for base tariff (\*)

**Variable tariff:** linked to efficient avoided cost (tariff established on a yearly basis, for each island, according to arithmetic average of the prices for the purchase of diesel in previous year, published by MiSE), with the condition that tariff value is within a maximum and minimum value

**Fixed tariff:** established value, it changes only according to power ranges and group of islands



Support scheme for produced electricity cannot be additional to other services offered by GSE (i.e. Simplified Purchase & Resale of electricity - “Ritiro dedicato” and On the Spot Trading - “Scambio sul Posto”) and cannot be combined with other public incentives.



Producers benefitting of support schemes pay a fee to GSE to cover administrative cost, according to Annex 1 of MD 24/12/2014 (same fee of PV plants installed on the continent)

(\*) the decision on tariff option cannot be changed during the entire duration of incentives.

# FIT FOR NOT INTERCONNECTED ISLANDS

The quantification of the incentive to be paid for the electrical energy produced & injected into the grid

The producer of energy may choose for the incentive on the energy injected into the grid between:

A fixed tariff for any group of islands. In the islands with the lower tariff: 158,4 Euros per MWh per residential plants and 125,3 Euros per MWh for plants > 200 kW;

A variable tariff that is equal to a fixed amount per the average cost of diesel fuel, with a minimum and a maximum.

Minimum values are in the island with the lower tariff: Euros 150,8 for residential plants and Euros 119,3 for plants > 200 kW;

The above tariffs include the value of the energy.

# FIT FOR NOT INTERCONNECTED ISLANDS

The quantification of the incentive to be paid for the electrical energy produced & injected into the grid



## One single payment (within 6 months from the application date)

### Heat pumps – production of sanitary hot water

The incentive is equal to 50% of the purchase cost, as defined and verified by GSE, by applying same rules of MD 16/2/2016:

- For a maximum amount of 500 euro, for heat pumps with capacity lower than 150 liters;
- For a maximum amount of 850 euro, for heat pumps with capacity greater than 150 liters.

### Solar thermal collectors

The incentive is equal to the minimum value between the tariff of Table 4 of Resolution 558/2018/R/EFR and 65% of the purchase cost, as defined and verified by GSE, by applying same rules of MD 16/2/2016.



Producers benefitting of support schemes pay a fee to GSE to cover administrative cost, calculated as 1% of overall incentives (maximum fee value = 150 euro for each installation)

# FIT FOR NOT INTERCONNECTED ISLANDS

Capital grants for Innovative Integrated Projects



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The Decree foresees:

- capital grants covering expenses related to components and measures necessary for implementation of storage, electric transportation technologies, integration of hydroelectric systems up to 60% of the eligible expenditure, within the limit of 10 million euro;
- possibility to combine such capital grants with funding programs at local, regional and European level, on condition that the total amount of them do not exceed the 80% of the eligible expenditure.

# FIT FOR NOT INTERCONNECTED ISLANDS

Measures to modernize the electrical grid



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By 31 December 2017, the grid operator of every island considered by the Decree have submitted to the Italian Ministry of Economic Development, the Italian Authority for Electricity Gas and Water, the Regions and the Municipalities involved in the clean energy transition, a technical and economic program providing:

- specification of the modernization measures of the local electrical grid necessary to sustain an amount of power three times greater than that considered in the Decree, also through integration of storage systems;
- plans to become eligible for funding programs at regional, national and European level.

# FIT FOR NOT INTERCONNECTED ISLANDS

Innovative Integrated Projects in the islands



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The grid operators are encouraged to develop, even in partnership with other public and private subjects, innovative integrated projects allowing to reduce, by 31 December 2020, the electricity production from traditional sources:

- by 50% in case of islands with an electricity production up to 3000 MWh;
- by 40% in case of islands with an electricity production greater than 3000 MWh, up to 4000 MWh;
- by 30% in case of islands with an electricity production greater than 4000 MWh, up to 5000 MWh;
- by 20% in case of islands with an electricity production greater than 5000 MWh.

# FIT FOR NOT INTERCONNECTED ISLANDS

Actions for Innovative Integrated Projects



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The Italian Ministry of Economic Development is expected to define the minimum requirements of the innovative integrated projects, the support measures, the implementation modalities based, among others, on the following parameters:

- percentage of reduction of the annual electricity production from traditional sources, also in consideration of the costs of the project;
- innovativeness and smartness of the project, also by means of storage, electric transportation technologies, integration
- hydroelectric systems;
- state of progress of the project;
- replicability of the project.



# FIT FOR NOT INTERCONNECTED ISLANDS

6° Greening the Islands International Conference

**GREENING  
THE ISLANDS**

**15<sup>th</sup> October 2019 | Palermo**

**4<sup>th</sup> national conference  
6<sup>th</sup> international conference**

**MAKING THE CIRCULAR ECONOMY AND  
SUSTAINABLE TOURISM A REALITY ON ISLANDS:  
BUSINESS MODELS AND FINANCING OPPORTUNITIES**

in association with  **ISLANDS  
COMMISSION**



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IL FOTOVOLTAICO È DI TUTTI

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