

Italian Implementation Plan

Annual monitoring report

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Introduction

This document is the first annual monitoring report (hereafter “Report 2022”) of the Italian Implementation Plan for the requirements set in article 20 of Regulation 2019/943 (hereafter “Electricity Regulation”) of 5th June 2019 on the Internal Electricity Market (IEM).

Article 20 states that Member States with identified resource adequacy concerns detect regulatory distortions and market failures that may have caused or contributed to the adequacy concerns. It further provides that Member States with identified electricity resource adequacy concerns develop and publish an annual Implementation Plan containing “a timeline for adopting measures to eliminate any identified regulatory distortions or market failures as a part of the State aid process.”

As regards the process, Member States have to submit the plan to the Commission for review. The Commission within four months issues an opinion on whether the planned measures are sufficient to eliminate the regulatory distortions or market failures that were identified as causing or contributing to the resource adequacy concern. The opinion from the European Commission may contain an invitation to the Member States to amend their Implementation Plans. The Article also sets out that the Member State shall monitor the application of their Implementation Plans and shall publish the results of the monitoring in an annual report to be submitted to the Commission. Member State are also requested to continue to adhere to the Implementation Plan after the identified resource adequacy concern has been resolved.

Italy submitted its draft Implementation plan to the Commission on 25th June 2020 pursuant to Article 20(3) of Electricity Regulation.

On 1st July 2020, the Commission put the draft plan into consultation and after reviewing the consultation submissions the Commission adopted its opinion on 22nd October 2020.

Italy has updated the Plan to address each of the issues raised in the Commission’s opinion, providing further specifications on its position and identifying future measures to be taken for each issue raised. The Ministry of economic development (now the Ministry of environment and energy security) published the updated Plan on 4th February 2021.

The Report 2022, following the “*Guidance for Member States on annual Monitoring Reports*”, is structured as follows:

- **Part 1:** Overview of the status of planned or already adopted measures to eliminate any identified regulatory distortions or market failures identified under Article 20 of the Electricity Regulation

- **Annex:** Detailed answers to the questionnaire attached to the EC guidance document

1. Overview of the status of planned or already adopted measures

Below is the list of proposed measures and implementation timelines updated from those defined in the Italian Market Reform Plan.

	ID	Measure	Description	Market Reform Plan Implementation timeline	Report 2022 Implementation timeline
Removing price caps	1	Negative prices	Removal of price floor at 0 €/MWh in DA-ID	2021 (DA-ID)	Implemented (in accordance with ARERA Resolution 218/2021)
Shortage pricing function	2	Administrative shortage imbalance prices	Administrative mechanism to apply a price equal to VOLL to imbalances when distributed load-shedding is applied	At study	At study
Enabling self-generation	3	Promote Collective Self-consumption and Renewable Energy Communities	Definition of incentive scheme and technical rules for Collective Self-consumption, Renewable Energy Communities and Energy communities of citizens	2020	Technical rules implemented with regard to Collective Self-consumption and Renewable Energy Communities (in accordance with ARERA resolution 318/2020/R/eel. Updating in progress for the definition of specific incentive schemes, to comply with the Legislative Decree n.199 of 8 November 2021 implementing

					the Directive UE 2018/2001 on the promotion of RES. In progress the implementation of technical rules for the energy communities of citizens, in compliance with the Legislative Decree n. 210 of 8 November 2021, implementing the EU Directive n. 2019/944 on the internal market for electricity.
Enabling energy efficiency	4	Measures planned to achieve national energy efficiency targets	<p>a) White certificates, tax deductions for energy efficiency measures and recovery of the existing building stock, “<i>Conto Termico</i>”, National Fund for Energy Efficiency</p> <p>b) Urban Sustainable Mobility Plans (PUMS), Energy Redevelopment Programme of the Central Public Administration (PREPAC), National Enterprise Plan 4.0, consumer information and training programmes, energy efficiency programme for the Public Administration</p>	<p>a) Implemented</p> <p>b) In progress.</p>	<p>a) In place.</p> <p>b) In progress. To be noted that as of 2023, PUMS are mandatory for cities with more than 100 thousands inhabitants.</p>

Enabling energy storage and Demand Side Response	5	UVAM (tertiary reserve and balancing)	Enabling mixed aggregates of DSR, storage, RES and DG to participate to balancing market and tertiary reserve provision	Implemented (pilot project phase)	Implemented (pilot project phase)
	6	UVAM/storage (secondary reserve)	Enabling mixed aggregates of DSR, storage, RES and DG and/or stand-alone storage systems to participate to secondary reserve provision (aFRR)	In progress	Implemented (pilot project phase in accordance with ARERA Resolution 215/21)
	7	UPI (primary reserve storage) with storage)	Enabling FCR provision by storage units integrated with production units	Implemented (pilot project phase)	Implemented (pilot project phase)
	8	Smart meters rollout	Rollout of first (1G) and second (2G) generation of smart meters	Implemented: completed roll out for 1G; 2024 for 2G	Implemented: completed roll out for 1G; 2024 for 2G
	9	PUN mechanism revision	Removal of Single National Price (PUN) mechanism in order to expose consumers to zonal prices providing better price signals to demand	At study	In progress (Removal of Single National Price provided by art. 13 of Legislative Decree 210/2021 aimed at implementing Directive 2019/944). The Ministry has started the analysis on the impact and on a gradual implementation process.
	10	Vehicle to grid (V2G)	Promotion of the integration of electric vehicles (EVs) into the grid allowing also V2G vehicles to offer dispatching services through charging stations	In progress	Implemented (pilot project phase) – see points 5-6

Ensuring cost-efficient and market-based procurement of balancing and ancillary services	11	Opening ASM ¹ to new resources	Projects to open participation to ASM to DSR, storage, RES and DG plants. Reform of dispatching rules is ongoing (TIDE reform)	In progress (see points 5-7)	In progress (see points 5-7)
	12	RES and DG (voltage regulation)	Procurement of voltage regulation service from RES and retrofitting of older RES plants	In progress	Implemented (pilot project phase in accordance with ARERA Resolution 321/21)
European market integration	13	IGCC	European platform for imbalance netting	Implemented	Implemented
	14	SIDC	Single EU cross-zonal Intraday Market	2021	Implemented (in accordance with ARERA Resolution 218/2021)
	15	TERRE	European platform for the exchange of balancing energy from replacement reserves (RR)	Implemented	Implemented (in accordance with ARERA Resolution 344/2020)
	16	MARI	European platform for the exchange of balancing energy from frequency restoration reserves with manual activation (mFRR)	In progress	In progress (in accordance with ARERA resolution 46/2022 go-live by 24/07/2024)
	17	PICASSO	European platform for the exchange of balancing energy from frequency restoration reserves with automatic activation (aFRR)	In progress	In progress (in accordance with ARERA resolution 46/2022 go-live by 24/07/2023)
Removing regulated prices	18	Remove “Standard offer” service	Possibility to opt for reference prices based on the wholesale energy market for retail customers under “Standard Offer Service” will be removed	2021/2022	As of 2021 the service was terminated for small enterprises; As of 2023 the service will terminate for

¹ Ancillary Services Market

					micro-enterprises; As of 2024 the service will terminate for households
Interconnection	19	Interconnection projects	Please refer to paragraphs 4.3.2 and 4.3.3 of the Implementation Plan	In progress	In progress
	20	Interventions to reduce the network congestion between bidding zones	Please refer to paragraph Errore. L'origine riferimento non è stata trovata. 4 of the Implementation Plan	In progress	In progress

Annex: Answers to questions annexed to the DG Energy's Guidance for Member States on Annual Monitoring Reports

Section 1 – Policy context

1. What are the changes in the policy environment that have taken place since the implementation plan (or last Monitoring Report), e.g. recent updates/developments/

changes/highlights/ targets of the national electricity market (with reference to the final National Energy and climate plan (NECP))?

In January 2020, the EU Commission outlined a new and more ambitious roadmap to achieve climate neutrality by 2050 (Green Deal Communication - COM[2019]640), going beyond the targets already set by the Clean Energy Package (CEP). In June 2021, by approving Regulation (EU) 2021/1119 establishing the framework for achieving climate neutrality, the European Union endorsed the new target of at least 55% reduction in EU greenhouse gas emissions by 2030 compared to 1990 levels (instead of the 40% reduction target already set in the CEP) and the binding objective of climate neutrality in the Union by 2050. In order to deliver these increased emission reductions targets, EU Commission has recently published the so-called “Fit for 55” package (first part in July 2021) that both introduce new legislative initiatives and strengthens existing legislation, including *Renewable Energy Directive* (increasing the renewables target to 40% by 2030).

Pursuant to the Russian-Ukrainian crisis, the EC also published the new 'RePower EU' package in May 2022, in which it proposes measures to achieve independence from Russian fossil fuels and accelerate the energy transition. In view of the primary role of renewables for both purposes, the further raising of the European target for gross final consumption from renewables to 45 per cent is under discussion.

This implies that the already challenging targets for the penetration of renewables in electricity consumption set out in the NECP will have to be reformulated in an even more ambitious way. The update of the NECP is ongoing.

In 2021, Italy adopted the PNRR (recovery and resilience national plan) that includes a specific section concerning acceleration in investments for the ecologic transition and, in particular, for the energy transition. The PNRR, that provides a relevant financial support framework, is accompanied by a detailed reforms planning, including ones meant to further simplify and streamline authorization procedures, in particular with regard to renewables and hydrogen plants and infrastructures. In order to facilitate the implementation of the measures of the PNRR, the Italian Ministry of ecological transition (now Ministry of environment and energy security) adopted in 2022 the plan for the ecological transition.

The Italian Ministry had estimated before the Russian-Ukrainian crisis that, in order to meet the new targets outlined in the "Fit for 55" package, the increase in installed photovoltaic (PV) and wind capacity by 2030 compared to 2020 will have to be at least +55 GW (+43 GW PV and +12 GW wind). In the NECP, the estimated increase in PV and wind power capacity in 2030 compared to 2020 was +41 GW (+ 32 GW of PV and + 9 of wind power). Repower EU new targets will lead to a further increase in PV and wind power capacity to 2030. To be in line with the new targets, the system will need an increase in renewables' capacity installed

of at least 75% compared to the PNIEC with a contribution of the renewables to the electricity generation mix of more than 65% at 2030 (55% was the target in the NECP).

In this context, it should also be noted that Italy started a deep decarbonization of the electricity system to cope with the serious risks of climate change and with the objective of the complete phase out from coal generation in 2025. Approximately 2,5 GW of 7 GW of capacity have already been decommissioned.

Finally, it must be considered that future energy scenarios will have to consider also the medium-long term impact of the Russian-Ukrainian crisis.

In 2021, Italian Government also adopted the legislative decree 210/2021, implementing the directive UE 944/2019 on the integrated electricity market.

The above legislative decree 210/21 also provided for a new mechanism to promote investments in new centralized storage capacity, namely electricity storage systems not linked to specific power plants to be made available to interested market participants willing to use it in connection to their trading on spot markets. Indeed, in order to effectively cope with high levels of renewable sources and reduce overgeneration occurrences and to be able to reach the energy transition targets, storage systems (BESS and hydroelectric pumped plants) are needed.

These storage systems will allow to store the surplus of energy produced by wind and solar power plants during favorable weather conditions, which can then be used when needed.

Italian Government has recently pre-notified the measure, as required by Legislative Decree 210/21, according to the rules on aid to infrastructures of the new CEEAG.

2. What are the key figures about the national electricity system (e.g. electricity consumption, production, crossborder trade, etc.)?

Below the latest available key figures about the national electricity system (reference year 2021).

Zone	Electricity consumption (TWh)
North Italy	173,856
Central Italy	52,335
South Italy and main Islands	74,696
Total	300,887

More details on electricity consumption are available at the following link: https://download.terna.it/terna/6%20-%20CONSUMI_8dacbcc9fc22c6c.pdf

Type of	Net electricity production (TWh)
Wind	20,7236
PV	24,6327
Hydro	46,9193
Thermoelectric plants	187,7696
Total	280,0452

More details on Net electricity production are available at the following link: https://download.terna.it/terna/5%20-%20PRODUZIONE_8da7ab6394701ad.pdf

Type of	Installed capacity (GW)
Wind	11,29
PV	22,59
Hydro	23,15
Thermoelectric plants	62,75
Total	119,78

More details on installed capacity are available at the following link: https://download.terna.it/terna/3%20-%20IMPIANTI%20DI%20GENERAZIONE_8da7ab6ef9ad0ea.pdf

Section 2 – Overview of measures provided in the final implementation plan

3. What are the measures provided in the final implementation plan, and were any changes made to those? If yes, why was that change made? Table 1 could be used as a template.

Measure	Changes (No change/Updated/New measure)
	Changes that were made to the measures in comparison to the final implementation plan

Table 1

Removing price caps	
1 - Negative prices	No change. Implemented in accordance with ARERA resolution 218/2021

Shortage pricing function	
2 - Administrative shortage imbalance prices	No change.

Enabling self-generation	
3 - Promote Collective Self-consumption and Renewable Energy Communities	Updated. Italy transposed in the national law the European Directives n. 2019/944 on the internal market for electricity (Legislative Decree n. 210 of 8 November 2021) and n. 2018/2001 on the promotion of RES (Legislative Decree n.199 of 8 November 2021), completing regulatory frameworks on energy communities and mandated the NRA to define detailed regulation.

Enabling energy efficiency	
4 - Measures planned to achieve national energy efficiency targets	To be noted that the PNRR adopted by Italy in 2021 defined a financial framework entailing an important support for acceleration of efficiency improvement investments, between 2021 and 2026. The PNRR is also financing training and information programmes and investments by public administrations on building efficiency and public lighting

Enabling energy storage and Demand Side Response	
5 - UVAM (tertiary reserve)	<p>Updated. Currently, in Italy the UVAMs can provide (through Pilot Project) ancillary services such as congestion resolution, balancing service, replacement reserve, and has begun an experimentation also for aFRR regulation (see next measure).</p> <p>Enabled resources can participate to the project by submitting offers on the ancillary services market and, if selected, they are remunerated pay as bid in €/MWh in relation to the services actually provided. Or they can participate in market procedures to be contracted on a term basis (annual or monthly auctions for three types of products). In this case, they obtain remuneration in €/MW for the contractual period for availability against the obligation to submit offers on the ancillary services market at predefined times (two intervals of availability are defined, from 15:00 to 17:59 and from 18:00 to 21:59) with a strike price. If selected, they are also remunerated pay as bid in €/MWh in relation to the services actually provided.</p> <p>In addition to the tests performed during the prequalification phase, the Regulation has been updated to foresee also reliability tests, with a maximum number of 4 per UVAM per year. In the event of failure of 3 tests in one year, even if not consecutive, the UVAM is disabled by the ancillary services market and the contract is terminated.</p> <p>Pilot project is ongoing, whereas (at the moment) market procedures to be contracted on a term basis are defined only up to the end of 2022, but they will probably be extended.</p>
6 - secondary reserve through UVAM/storage	No change. The pilot project has been started pursuant to ARERA resolution 215/2021
7 - UPI (primary reserve with storage)	No change
8 - Smart meters rollout	Following the approval of the 2G smart metering roll out plan for e-distribuzione (the main distributor in Italy), the National Regulatory Authority ARERA approved further 2G smart metering roll out plans related to other distributors, such as Edyna (Resolution n. 259/2020), Unareti (Resolution 278/2020), areti (Resolution 293/2020), Irete (Resolution 201/2021).
9 - PUN mechanism revision	No change. The removal of Single National Price has been restated in art. 13 of Legislative Decree 210/2021 aimed at implementing Directive 2019/944 into national legislation
10 -Vehicle to grid (V2G)	No change. Implemented in accordance with UVAM pilot project and secondary reserve through UVAM/storage pilot project

Ensuring cost-efficient and market-based procurement of balancing and ancillary services	
11 - Opening ASM to new resources	See answers 5 and 6.
12 – Voltage regulation through plants connected to the HV grid	No change. The pilot project has been started pursuant to ARERA resolution 321/2021

European market integration	
13 – IGCC	No change. Implemented in accordance with ACER Decision 13/2020
14 – SIDC	No change. Implemented in accordance with ARERA resolution 218/2021
15 – TERRE	No change. Implemented in accordance with ARERA resolution 344/2020
16 – MARI	Updated. Go-live no later than 24/07/2024 in accordance with ARERA resolution 46/2022
17 - PICASSO	Updated. Go-live no later than 24/07/2023 in accordance with ARERA resolution 46/2022.

Removing regulated prices	
18 - Remove “Standard offer” service	Updated. According to Decree Law no. 162/2019 (so called “Milleproroghe”), converted into Law no. 8/2020, Standard offer service is no longer available as of 1 st January 2021 for small enterprises. According to Law no. 233 of 29 th December 2021, Standard offer service will not be available as 1 st January 2023 for microenterprises and as 1 st January 2024 for households.

Interconnection	
19 - Interconnection projects	Updated. Last July, Terna presented its new 2021 Development Plan for the national electricity transmission grid.
20 - Interventions to reduce the network congestion between bidding zones	Updated. In addition to the list of projects reported in the implementation plan, in 2020, Terna has launched a project to improve the system's performance with a 'capital light' intervention plan based on a mix of technologies and methodologies capable of maximizing production from renewable sources and assuring the security of supply. This project made possible to increase the transport capacity of existing grid assets on the sections from Calabria to Sicily and from the southern areas of the country to the northern ones as of 1 January 2021.

4. What is the status of the measures listed in the final implementation plan? Which actions were taken? Please refer to relevant national regulations, legislation or other documentation describing the concrete measures taken so far. Table 2 can be used as a template.

See previous answers.

5. Have there been any updates regarding the resource adequacy level in your country? If yes, how did the measures impact the adequacy concern? Which reforms, in particular, contributed to alleviate those adequacy concerns? Table 2 can be used as a template.

The measures implemented among those indicated in the Implementation Plan and the capacity contracted in the 2022, 2023 and 2024 auctions of the Capacity Market will contribute to the adequacy of the Italian electricity system in the coming years.

In the coming months, it will be then necessary to monitor the progress of the permitting process for part of the new capacity procured in the CM auctions and the work progress up to the entry into operation of the plants.

Removing price limits (price caps and floors or bidding restrictions) is fundamental to allow the market to provide price signals necessary for generation investments. However, whilst allowing the formation of negative clearing prices has positive effects in terms of better signals for the flexibility of the electricity system, it could also impact on the volatility of prices and then increase the market risks for investors.

Opening the ASM to new resources (such as non-programmable renewable sources, distributed energy resources and demand side response and storage systems, including electric car batteries) also through aggregators allowed more resources to be available to manage the system.

Grid development enabled an increase in the volume of energy trade at more competitive prices by increasing competition in energy markets and at the same time ensuring security of supply through additional capacity. The reduction of network congestion, between and within the bidding zones, also thanks to the implementation of new technologies (such as Dynamic Thermal Rating – DTR) improved the use of generation resources in order to better cover needs and to increase the use of more competitive and efficient production plants, with positive impacts on competition. In addition, these solutions reduced the level of CO₂ emissions by minimizing the curtailment of RES production.

6. Which actions are planned when looking forward, as from the last report? We recommend covering the topics of the Market Reform Plan, including the same sections i) general wholesale market conditions, ii) balancing markets and ancillary services, iii) demand side response, iv) retail markets: regulated prices, v) interconnections and internal grid capacity, etc. Please use the same chronology as used in the Market Reform Plan. Table 2 can be used as a template.

See previous answers.

Topic/Measure	Changes	Status ²	Action taken	Impact on adequacy concern	2020	2021
Introduction of a shortage price function	NO	On time	-	None/mld/large	Online publications of...	

Table 2

7. Are any delays expected in implementing the measures? What are the reasons for the delay, and which measures will be taken to address this?

See previous answers.

² **On-time:** the measure is (or is being) implemented according to the initial timeline;

In advance: the measure has been implemented already (or is being implemented) ahead of the timeline foreseen in the Market Reform Plan;

Weak delay: the measure is being implemented but it is lagging behind the timeline;

Strong delay: the measure should have been implemented already but no action has been taken yet;

Not applicable (n/a): for measures of which the implementation is planned to start in the future and no action has been taken so far.