

Coordinated decision

by the Commission de Régulation de l'Énergie and the Autorità di Regolazione per Energia Reti e Ambiente
on the investment request for the SACOI 3 project

1. Investment request for the SACOI 3 project

In October 2024, the companies Terna S.p.A. (hereinafter: Terna) and EDF S.A., promoters of the SACOI 3 project, submitted an investment request to the National Regulatory Authorities. In their submission, the promoters requested the NRAs to decide on cross-border allocation of SACOI 3 between France and Italy, and their inclusion in each country's tariffs under Article 16 of Regulation (EU) 2022/869.

2. Project description

The aim of the project is to renew and upgrade of the existing Sardinia - Corsica - mainland Italy electricity link, which reached the end of its technical lifetime. With a total capacity of 400 MW, SACOI 3 will provide Corsica with 100 MW, available on a baseload basis. This capacity can be increased to 150 MW - when the link between Corsica and Sardinia, SARCO, is unavailable due to operational circumstances. 300 MW will be used to transport electricity between Sardinia and mainland Italy in normal conditions. SACOI 3 includes two cables and three converter stations, respectively located in mainland Italy, Sardinia and Corsica.

The projected commissioning date of SACOI 3 understood as the entry into operation of the two poles once the pre-commissioning tests have been successfully carried out, is forecasted to be in 2029.

3. Admissibility of the investment request

ARERA and CRE assessed the investment request and information related to the SACOI 3 project with regard to its admissibility, taking into account ACER recommendation 2/2023, where relevant. The following table summarises the assessment.

Project of common interest falling under one of the energy infrastructure categories listed in Article 16(1) of the TEN-E Regulation.	SACOI 3 is PCI 1.10 electricity. The condition is fulfilled.
PCI has reached sufficient maturity, and is estimated to be ready to start the construction phase within the next 36 months.	The project has reached sufficient maturity, including regarding its cost estimate taking into account the ACER recommendation 2/2023. The construction phase starts well before 36 months. The condition is fulfilled.
Consultation of the TSOs from the Member States which receive a significant net positive impact from the PCI & investment request submitted to all concerned NRAs;	No other Member States than France and Italy have a significant net positive impact from SACOI 3 project, taking into account the ACER recommendation 2/2023. EDF is the system operator in Corsica and Terna is the Italian TSO. The investment request was submitted to the French and Italian NRA. The condition is fulfilled.
The investment request is accompanied by an up-to-date project-specific cost-benefit analysis and a business plan evaluating the financial viability of the project.	The CBA and the business plan are in the investment request. ARERA and CRE deem that they are sufficiently complete. The condition is fulfilled.
The procedure shall not apply to projects of common interest which have received an exemption listed in Article 16(10) of the TEN-E Regulation.	No exemptions received. The condition is fulfilled.

4. Assessment of the estimated project costs

The investment request states that the investment costs are estimated as follows:

- 1350 million euros regarding Terna's assets, [omissis];
- [omissis] regarding EDF's assets.

ARERA and CRE assessed the cost estimates considering the specificities and the non-standard solution needed for the SACOI tri-terminal project as well as the Italian practices regarding cost estimation (Annex A.74 to the Italian grid code, as verified by ARERA decision 856/2017) including the treatment of uncertainty factors and contingencies.

Although SACOI 3 project costs significantly increased compared to 2022, nearly doubling the 2022 CAPEX estimate indicated in the draft version of the ENTSO-E TYNDP 2022 submitted to ACER, ARERA and CRE consider that SACOI 3 represents a practicable solution (in terms of costs and timely delivery, considering potential permitting difficulties for other solutions) for the needs of the island power systems, taking into account the current tight supply chain conditions, especially regarding converter stations.

Further considerations about the potential management of the sharp cost increases are presented in the section about the evaluation of the business plan.

5. Assessment of the estimated system-wide benefits

As indicated in the TYNDP 2022 (project fiche of project 299 SACOI 3), the SACOI 3 project delivers large benefit in terms:

- Increase of socio-economic welfare (B1), including due to RES integration (B1-RES);
- Reduction of CO2 emissions (B1-CO2 and B2);
- Increase of security of supply (B6).

The cumulative impact on countries other than France and Italy is broadly negligible as it is quantified by the investment request at 5 million euros per year or less (positive or negative) in each simulated scenario and time horizon.

The net present value of SACOI 3 has been assessed at Italy and France perimeters following the recommendation of the Agency for the Cooperation of Energy Regulators (ACER), assuming a 25-year lifetime and a discount rate of 4%. In terms of benefit assessment, it is based on the TYNDP simulations using the NT 2030, DE 2030 and DE 2040 scenarios.

The investment request quantifies the discounted benefits (for France and Italy) as:

- 2475 million euros for the TYNDP 2022 National Trends set of scenarios;
- 2622 million euros for the TYNDP 2022 Distributed Energy set of scenarios.

While, for easier presentation, all these benefits are formally attributed to France and Italy in the investment request, it has to be underlined that the CO₂-related externalities are not only for the hosting countries, but are rather a benefit for the entire EU, as this benefit has a global impact, as also acknowledged in the ACER Recommendation 2/2023.

In a nutshell, the overall benefits of the SACOI 3 project at system level significantly outweigh the project costs.

6. Evaluation of the identified impact on each of the concerned Member States: SACOI 3 benefits for France and Italy (Article 16(6)(a))

- Benefits for France

The current SACOI link contributes an average of 12% of Corsica's electricity supply. The doubling of this capacity as a result of the SACOI 3 project should increase this share to more than 20% from the time of its industrial commissioning, scheduled for 2029. This project is therefore essential for Corsica's security of supply, at a time when the forecasts suggest a significant increase in consumption by 2038. In terms of benefit calculation, SACOI 3 is evaluated as an alternative to the conversion of thermal production means from fuel oil to bio-liquid. The multi-annual energy planification (Programmation Pluriannuelle de l'Énergie)

requests Corsica to decarbonise its electricity mix. The French contribution to the costs of SACOI 3 has been determined from this perspective to remain below the cost of bio-liquid generation in the long-term energy scenarios for Corsica. However, this decarbonisation represents a very significant additional cost compared with maintaining production from fossil fuels, which is not taken into account in the net present value of the project from the French point of view.

Benefits evaluation for Corsica required to use “offline” simulations with assumptions consistent with scenarios NT 2030 and NT 2040 but better reflecting energy planning in Corsica compared to a too simplified modelling in the TYNDP 2022 datasets.

These simulations particularly highlight the need for grid stability based on thermal controllable power generation. Those simulations show that SACOI 3 would work at full capacity whatever the power generation mix in Corsica. In the absence of a local competitive market in Corsica, the SEW cannot be directly derived from price differences but evaluated as the difference in terms of generation costs, acknowledging that final tariffs are regulated and the negative gaps between tariffs and supply costs are covered by the French state budget. The NPV estimation for Corsica under those assumptions is 504 million euros. However, compared to a situation where Corsican thermal power stations would run with fuel oil, SACOI 3 leads to an additional estimated discounted cost of 254 million euros.

- Benefits for Italy

For Italy, the description of the system in TYNDP datasets is more detailed. It was therefore possible to directly use the TYNDP 2022 simulation results.

Depending on the scenario and time horizon (NT 2030, DE 2030 and DE 2040) the socio-economic welfare benefit B1, which is the most significant benefit, amounts to 40 – 75 million Euro per year. As the B1 indicator encompasses CO2 and RES integration effects, this is a clear signal of the importance of SACOI 3 projects to pursue the EU decarbonisation targets.

- Summary of benefits and costs

NT scenario	Unit	Italy	France	Other
A : PV CAPEX (based on the proposal for CBCA)	M€	685	972	0
B : PV OPEX (based on TSO agreements)	M€	68	102	0
C : PV total benefits	M€	897	1578	<0
D : NPV net benefits (C – A - B)	M€	144	504	<0

DE scenario	Unit	Italy	France	Other
A : PV CAPEX (based on the proposal for CBCA)	M€	685	972	0
B : PV OPEX (based on TSO agreements)	M€	68	102	0
C : PV total benefits	M€	1045	1578	>0
D : NPV net benefits (C – A - B)	M€	292	504	>0

7. Regional or Union-wide positive externalities which the SACOI 3 project would generate (Article 16(6)(c))

CRE and ARERA consider the SACOI 3 project to be of high importance for the security of electricity supply and the energy transition in Corsica and Sardinia.

The SACOI3 project is an essential infrastructure for Corsica's security of supply and for Sardinia's power supply and grid stability as well as in terms of flexibility needed to integrate an increasing share of renewables in the two islands. It is a necessary element in the decarbonisation of the electricity mix of the two island

regions, as it will make it possible to reduce the thermal production of electricity from fossil fuels. This project has significant positive externalities, which are assessed in the CBA.

As far as Corsica is concerned, SACOI 3 has been evaluated as an alternative to producing from bio-liquid, which will reduce the financial burden on the French government. However, this decarbonisation represents a very significant additional cost compared with maintaining production from fossil fuels, which is not taken into account in the net present value calculation of the project from the French point of view, and therefore indicates a major financial effort to achieve the carbon neutrality objectives. Finally, SACOI 3's original technical structure - a two-pole power line with an intermediate DC extraction point - has features that require special efforts and development and gives the project a high value in terms of innovation.

8. Evaluation of the business plan and of the chosen financing solution (Article 16(6)(b))

The "financing strategy" section of the investment request submitted by the project promoters provides a business plan and the chosen financing solution for SACOI 3: it explains the main elements of the tariff regime applicable to SACOI 3 project in France and in Italy.

As regarding the financing of the Italian part of the project, the investment request mentions that a rather limited part of the costs on the Italian side (about 10% of the total SACOI 3 costs) may be covered by national Italian funding in the frame of the Recovery and Resiliency Fund - RePowerEU chapter, upon conditionality regarding the completion dates for some activities. Such a contribution would mitigate part of the raising costs of the SACOI 3 project and would facilitate project implementation, by reducing financing complexities.

The significant benefits and the non-monetised positive externalities that the project brings to the European Union as well as the extensive contribution of the SACOI 3 project to the objectives of the European Union energy infrastructure policy would justify further substantial EU funding from the Connecting Europe Facility (CEF). This funding would also help mitigate the burden and the risks borne by Italian and French consumers, in particular in terms of cost increases in a context of tight supply market. It would reduce the financing complexities which are already partly addressed by the French payment in 2025.

9. Joint coordinated decision on the allocation of efficiently incurred investment costs to be borne by each system operator for the SACOI 3 project

Article 16(5) of the TEN-E Regulation requires that "*The allocation of costs across borders shall take into account, the economic, social and environmental costs and benefits of the projects in the Member States concerned*". Section 3.8 of the ACER recommendation states that "*Therefore, unless NRAs agree otherwise, the Agency recommends that (...) compensations (beyond a reference per-country allocation of costs) are provided upon specific conditions set out in the same recommendation*". SACOI is a somehow special project as Terna owns some assets in French territory, so the traditional approach based on a reference cost to each country would hardly be applicable. Pursuant to the TEN-E Regulation and in line with the ACER recommendation on CBCA, the NRAs decided to go beyond the ACER concept of minimum-compensations and agreed to evaluate SACOI cost allocation based on country-by-country benefits, especially in France and in Italy.

After analysing the content of the investment request and assessing the expected benefits of the SACOI 3 project for France and Italy, the NRAs agreed on sharing the SACOI 3 investment costs. CRE and ARERA agree that investment cost of the part of the works operated by Terna will be partly covered by EDF as part of the electricity supply of Corsica. In view of the high cost of the project and its importance for the security of supply of Corsica, CRE and ARERA agree on a cost allocation which differs from the proportion of the capacities exploitable by the operators.

EDF covers the full costs of the assets strictly dedicated to the supply of Corsica.

For Terna's assets, CRE and ARERA decided to share the capital expenditures incurred by Terna as follows: 45,5% for EDF (France) and 54,5% for Terna (Italy).

The essential elements of the draft decision were consulted with the project promoters during a meeting in online format on 15 October 2024. No comments were made.

10. Schedule of payments for the implementation of the cost allocation

The French contribution to the costs incurred by Terna will take the form of two lump-sum payments and an annual rent. A first lump-sum payment [omissis] from EDF to Terna will be issued during construction, to

reduce the financing costs of Terna, in 2025, as soon as all the administrative authorisations required in France and Italy for the construction of the project have been obtained and cleared of all appeals and claims. In addition, EDF's contribution will take the form of an adjustment lump-sum payment (positive or negative) following the commissioning and of an annual rent [omissis] as from the date of commissioning. The fee will be indexed to inflation for the following 30 years, it will be recalculated every year according to the Italian consumer price index calculated using the harmonised European method (HICP).

At SACOI 3 commissioning, the difference (if positive) between the EDF share of legitimate recorded Terna's capital expenditures and the actual value of EDF past and committed payments to Terna in terms of CAPEX compensation will be offset within the second lump sum payment by EDF within the year following commissioning. Any surplus EDF payments, i.e. if the above difference is negative, will be deducted from the amounts owed by EDF to Terna via the reduction of the CAPEX fee.

CRE and ARERA agree that any funds directly awarded and provided by European institutions in relation to the Terna's part of the SACOI 3 project will be shared between EDF and Terna in proportion to their contribution to the CAPEX of the works covered by the grant, by deducting them - together with their saved financing costs - from legitimate recorded Terna's capital expenditures. The present clause does not apply to funds awarded and provided by national institutions.

11. Inclusion of SACOI 3 investment costs in tariffs

The costs incurred by SACOI 3 and the assets operated by EDF are regulated, the regulatory treatment of the Lucciana station and the contribution to Terna's CAPEX has been determined in the CRE deliberation 2023-363 of 21 December 2023.

The investment costs to be borne by Terna for SACOI 3 are included in the tariffs as defined in ARERA's decision approving the present coordinated decision.

The elements of this decision do not overrule any previous agreement between CRE and ARERA.

As regards inclusion of project costs in national tariffs and all aspects which were not specified above, the decisions, opinions or positions which were adopted by ARERA and by CRE regarding the SACOI 3 project or specific features of national regulatory frameworks, as applicable to the SACOI 3 project, remain applicable.