



Italy's new Energy and Climate Plan: facts, figures and recommendations for transport

Summary

The updated NECP reveals insufficient emissions reductions, inefficient energy choices, a green investment gap, and flawed governance.

Despite the claim that underachievement is due to the unrealistic targets of the old Plan, Italy is the master of its misfortunes. One reason for these insufficiencies is that **Italy is proceeding blindfolded without a long-term vision for decarbonisation**. The absence of a national climate neutrality target and a national climate law might explain the scarce sense of direction, coherence, and consistency across the NECP.

The lack of an overall strategy is perfectly reflected in the country's difficulty in properly planning the use of energy resources and vectors in the various components of the transport sector.

The main symptom of Italy's backwardness can be seen in the situation of road transport.

Despite Italy's highest motorization rate in Europe (666 vehicles per 1,000 inhabitants) and a highly polluting fleet (25% of vehicles are still below EURO 3), the much-needed fleet's renewal in favour of electric vehicles struggles to pick up pace. Italy closed 2022 with an EVs' market share of less than 4%, and down 27% from the previous year. Around 200,000 electric cars circulate in Italy today.

Italy stands alone among the main European automotive markets.

For a comparison, Germany has spent almost as much as Italy on purchase incentives, but, thanks to its very different incentives schemes, has achieved almost six times Italy's EVs' market share. This enabled Germany - as well as other Member States - to substantiate its will to invest and benefit from e-mobility and to attract private investments in EV's supply chain and production-line.

Italy, on the other hand, with its negative numbers and incoherent policies is not only lagging behind but also sending **worrying signals to the private sector on its intention to embrace e-mobility**.

There are a few good elements in the Plan. But Italy is betting on the wrong horses for its future energy mix, especially in transport.

In transport, fossil fuel consumption and the total energy consumption would decrease respectively by 23% (or 8.6 Mtoe) and by 11% (or 4.24 Mtoe) in 2030 (see table 1 below), thanks to electrification and energy efficiency (e.g. modal shift to rail).

Transport's RES objective is set at 30.7% of final consumption, exceeding the 29% goal of the Renewable Energy Directive. However, a too high RES target in transport is not a cure, on the contrary it could raise demand for unsustainable bioenergy sources which endanger food security and natural carbon sinks.



Transport's renewable energy mix is stuffed with bioenergy.

If the country keeps over relying on biomethane and biofuels, while wasting the limited quantities of e-fuels for road transport, it will lose the efficiency gains of higher electrification and weaken the competitiveness of the national car industry. Hence, the technological neutral approach adopted diverts scarce resources to inefficient solutions, slowing the transition down.

The country has everything to get ahead in the energy transition, it just needs to make the right choices. To start with, **it is paramount to allocate the right energy vector to the right transport sector**, favouring the uptake of most efficient technologies to reduce sectoral emissions, as also pointed out by the STEMI report¹.

Italy also needs to adopt a coherent governance system for implementation and monitoring of the Plan as at the moment it is not equipped with the right tools to navigate through the green transition.

Policies and measures in the NECP are not systematically and transparently presented; their impact is not always assessed. The Plan's draft contains very few additional measures - some of those reported, where planned even prior to the 2019 NECP. It is thus positive that the government recognised that 'more extreme measures' must be taken, especially in road transport and building sectors, and committed to a new stakeholders consultation to identify them.

But it is necessary that this time the consultation is meaningful and timely. The consultation process on the draft wasn't participatory and transparent: information wasn't disclosed to all relevant stakeholders, the draft Plan was not shared through official channels and the public consultation process was flawed by a short deadline and incomplete information.

The good news is that Italy is still on time to take a U-turn.

¹STEMI MIMS (2022) [Decarbonizzare i trasporti](#).

Key recommendations



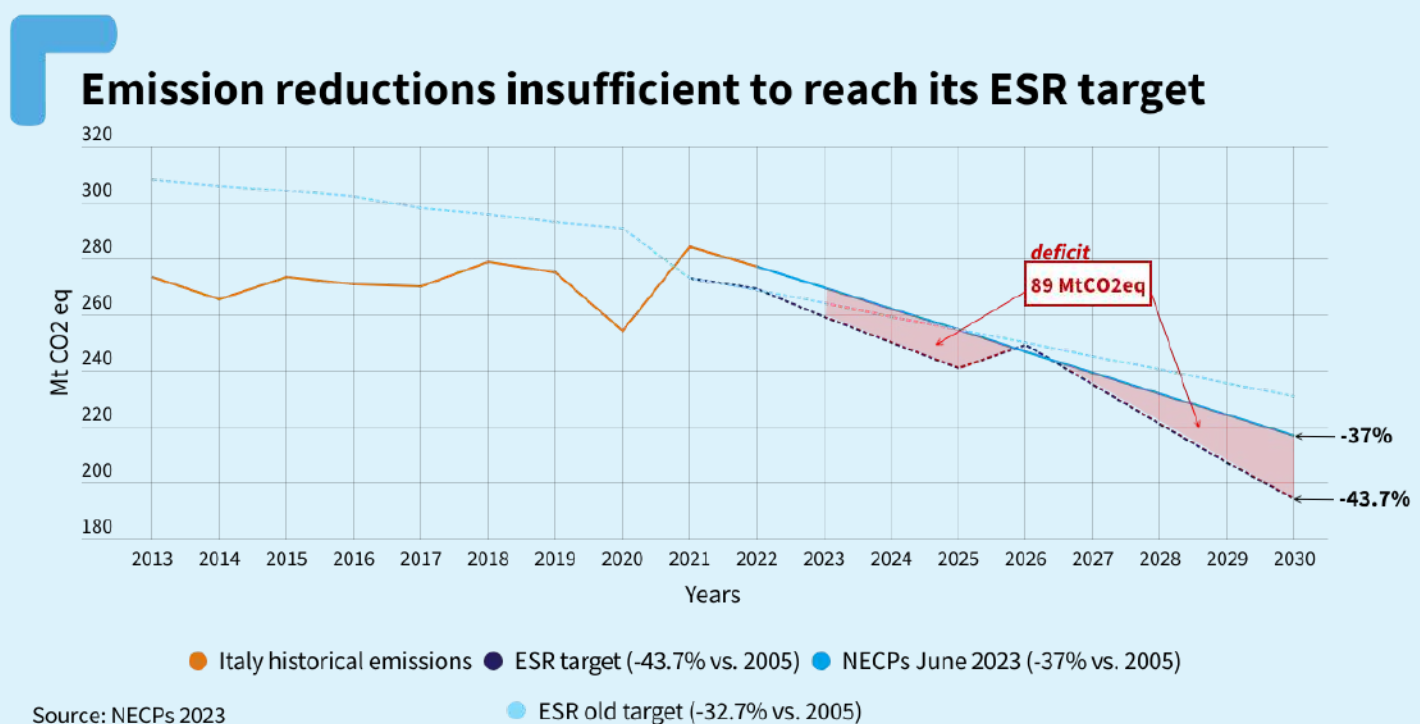
- Improve the coherence and consistency of the policies and measures in the NECP;
- Adopt sectoral decarbonisation strategies, including for the automotive industry, shipping, and aviation;
- Decrease reliance on bioenergy to improve energy and resource efficiency;
- Adopt additional measures to electrify road transport: reforms of EVs purchase schemes and of the car taxation, social leasing, electrification of companies' car fleets by 2030, strengthening of the charging infrastructure, and crediting mechanism for renewable electricity;
- Avoid inefficient allocation of scarce resources, such as biofuels and e-fuels to road transport that has more efficient decarbonization options;
- Adopt green and smart taxation in support of green policies and measures;
- Adopt a detailed timeline for the phase out of €22.5 billion of Environmentally Harmful Subsidies that artificially distort market prices in favour of fossil technologies;
- Provide estimations of investments' needs, availability and sources and make the modelling underpinning the Plan known;
- Take concrete action to decrease energy and transport poverty;
- Put in place a meaningful and timely public consultation before the adoption of the final NECP;
- Adopt a systematic and coherent NECP governance framework to ensure implementation, monitoring of progress and correction of action.



The updated NECP brings only little additional emissions reductions in the Effort Sharing Regulation sectors.

Italy must reduce its ESR emissions by -43.7% by 2030 (from 2005 levels), but at this pace it will miss it. A gap of 89 Mt CO₂eq must be filled with additional measures and policies or by purchasing emissions allocations from other EU countries. The latter option would cost the public budget almost €1 billion, even assuming a low price at €10 per allocation (equivalent to 1tCO₂eq).

The Emissions Trading System for road transport and buildings (starting in 2027) is an EU measure which would bring additional emissions cuts in these two sectors and thus help Italy meet its ESR target. But it is not sufficient on its own.

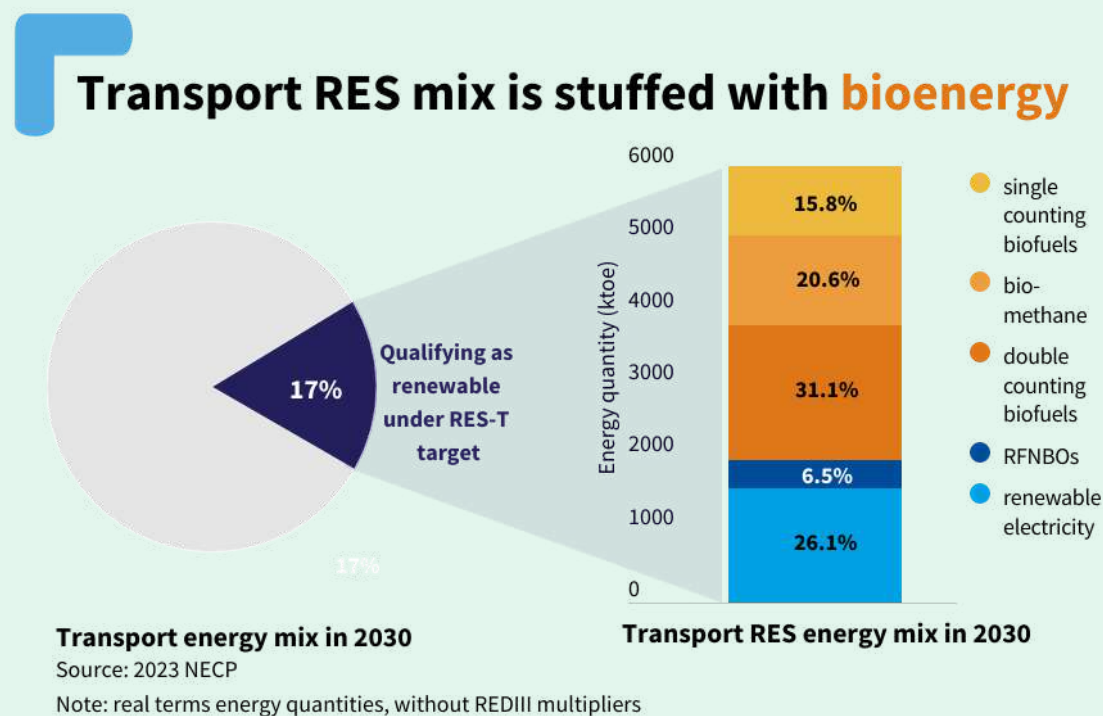


The Italian government relies too much on bioenergy to achieve its transport RES target.

In 2030 bioenergy will make 67% of total RES consumption in transport in real terms (i.e. without applying the RED’s multipliers). Even if palm oil and other high ILUC risk feedstock will be abandoned, single counting biofuels will increase by more than 3 fold in 2030. If RED III multipliers are not applied, it can be clearly seen (graph below) that they will still provide a dangerous 16% of the total renewable energy in transport in 2030, with negative impact on food security and land-use change, especially in third countries from which Italy intends to import feedstocks. For advanced biofuels, the goal is to exceed the sub-target set by the RED to bring it to 10%, but the respect of the cascading principle and the availability of sustainable feedstocks are not guaranteed.

The development of (advanced) biomethane is at the centre of Italy’s biofuels strategy (+807% by 2030 with respect to 2021). If the biomethane could be produced sustainably (the government estimates 6.5 billion m3 from anaerobic digestion), it should be used in industry where fossil gas is hard to replace, but not for road transport and rail where direct electrification is the easiest and most efficient solution.

The ceiling for biofuels from Used Cooking Oils and animal fats (in annex IX part B of the RED) set by the RED is also raised from 1.7% to 2.5% (without double counting), with possibility to lift it further to 5%. The government aims to use UCO collected in Italy, but does not provide evidence showing they will be available in sufficient quantities. From most recent data², in 2021, only 10% of UCO was sourced from national consortia, with the rest of this feedstock imported from China, which continues to have the risk of being fraudulent virgin palm oil.



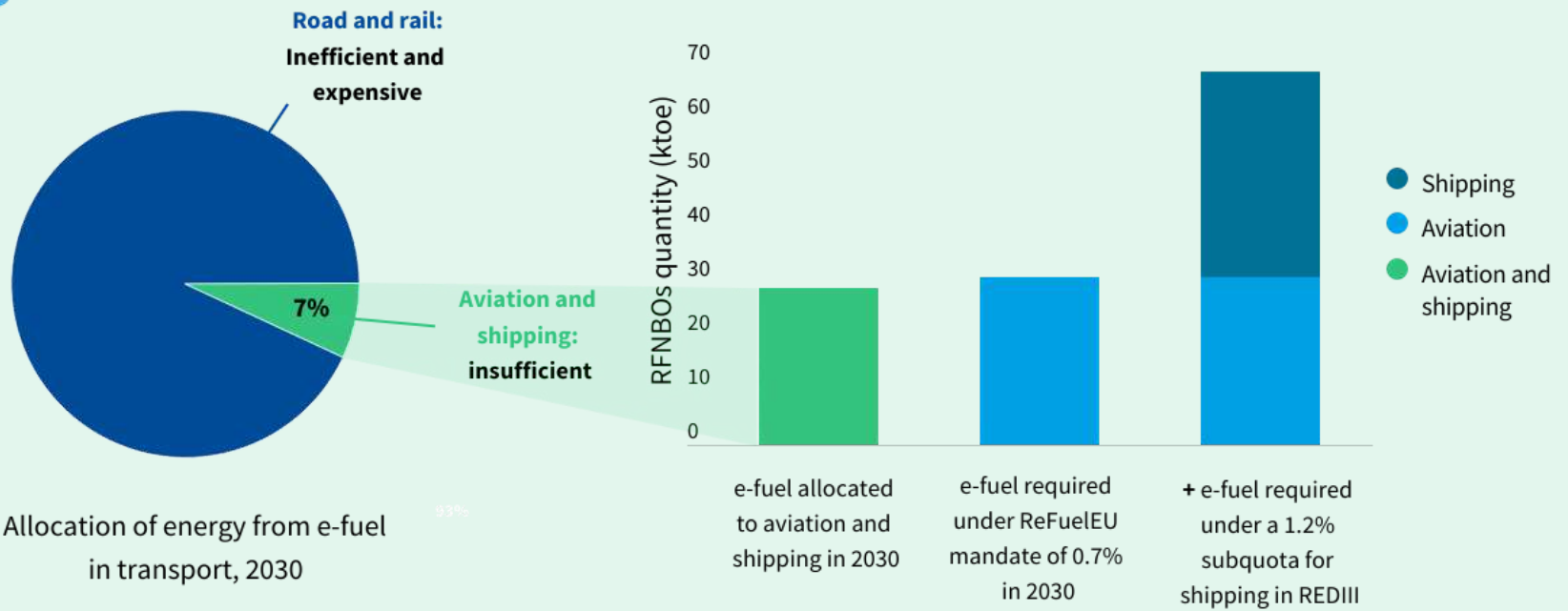
Renewable electricity in road transport will see a significant jump from 13 Mtoe in 2021 to 963 Mtoe in 2030. The target of 4.3 million Battery Electric Vehicles by 2030 (6.6 millions EVs) remains as in previous NECP.

It is positive that the target share for fuels (or RFNBOs) such hydrogen, e-ammonia, e-kerosene would be 2% in 2030 (above the 1% suggested by RED III) (with application of multipliers). But the planned sectoral distribution is extremely inefficient: 93% would be burnt in cars, buses, trucks and trains, while they could be better used for powering ships and planes. Only 29 ktoe of RFNBOs are allocated to aviation and shipping which, according to our calculations, are barely sufficient to reach the aviation RefueLEU RFNBO target of 0.70% in 2030.

The share of hydrogen is disproportionately high and, together with an inefficient use in road transport and train, the plan is to inject it into the methane network where it can be blended up to 2%.

² https://www.fondazionevilupposostenibile.org/wp-content/uploads/ITALIA_DEL_RICICLO_2021_web.pdf
https://www.gse.it/documenti_site/Documenti%20GSE/Rapporti%20statistici/Energia%20nel%20settore%20Trasporti%202005-2021.pdf

The sectoral allocation of RFNBOs is a waste of energy



Source: 2023 NECP. 2030 final energy for aviation and shipping from EC MIX scenario.

How to fix it

- Together with 6.6 million EVs, the Plans could provide measures for 10 000 e-buses, 100 000 trucks and 10TWh of additional electrification of rails;
- Avoid setting a RES target for transport above the RED III's requirements without a solid application of the cascading principle and an analysis of the country's availability of sustainable feedstock for biofuels production;
- Bring to zero the contribution of first generation biofuels, this would allow to set a lower RED target, as envisioned by the EU law;
- Exclude animal fat from category 3 under the RED III from the list of biofuels that can contribute to reach the RES-T targets. Keep the ceiling at 1.7% for biofuels produced from UCO and animal fats;
- Raise the RFNBOs share to 2% (with application of multipliers), but allocate them to the decarbonization of aviation and shipping, not road transport;
- Ensure RFNBOs make 1.2% (with application of multipliers) of energy for shipping as recommended by the RED III.





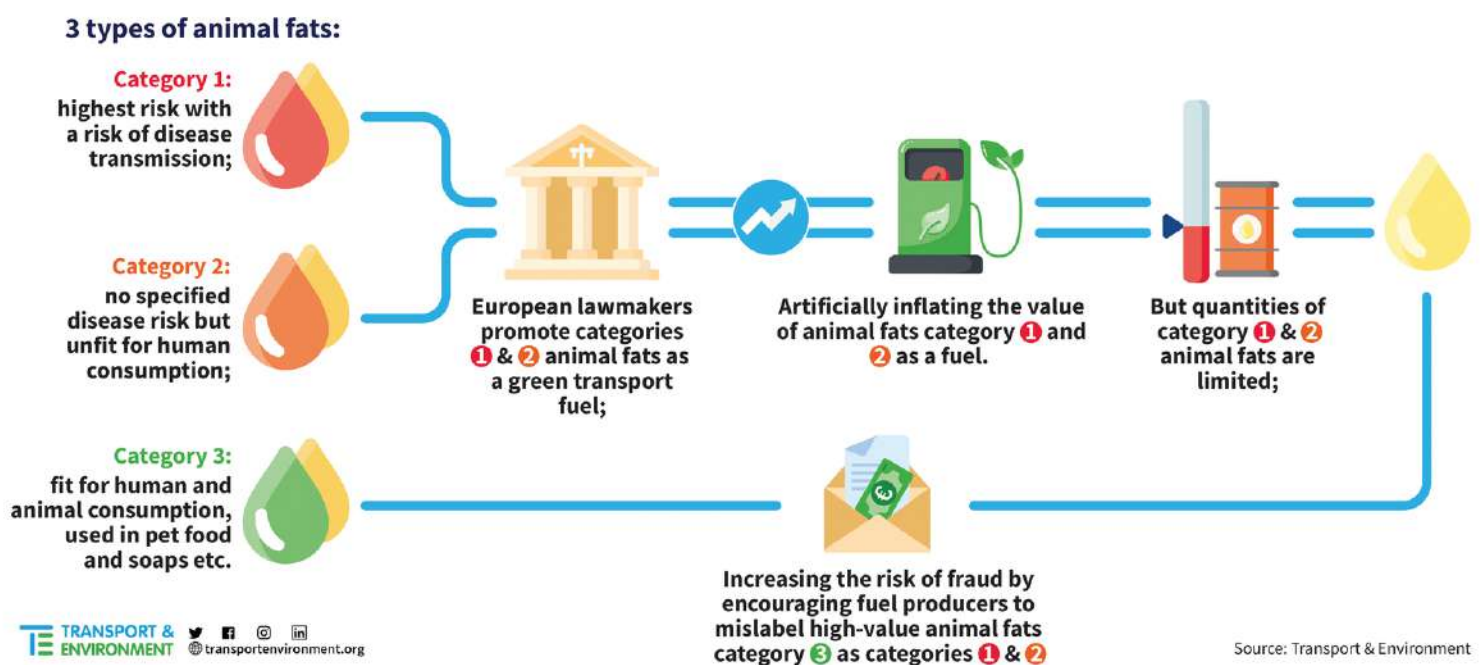
Fact #1: Biofuels are a cure worse than the disease

The majority of Used Cooking Oils (UCO) for the production of advanced biofuels are imported from extra-EU countries. There are concerns and investigations that the rewarding mechanism under RED III and the high demand for advanced biofuels in EU countries could fuel deforestation³ incentivising frauds⁴ where palm and soy oils could be used to bulk up UCO imports. The Plan asserts that all biofuels will fulfil the sustainability criteria and that domestically sourced UCO will be prioritised, but no evidence that it will be possible is provided.

Biofuels produced from animal fats are also a problem⁵. The increased demand for animal fats for transport (especially category 3) is putting pressure on supplies for other current uses (heating oils, pet food and oleochemical industries), inducing these sectors to switch to unsustainable substitutes as cheap available oils with high ILUC risk, mainly palm oil.

Animal fats use for bioenergy is also suspected of labelling frauds: in 2021 biofuels reported to be derived from RED's categories 1 & 2 by member states were twice the amount that was available according to the data reported by the animal fat industry at the EU level. This suggests that materials from animal fats category 3 are mislabelled as originating from category 1 & 2 material which are more profitable because of the double incentives granted for these "advanced" feedstocks under the RED III. This potential fraud should be particularly worrying for the Italian government, since the country is - by far - the major consumer of this feedstock, circa 400 ktoe or 50% of the EU demand.

Animal fat fraud explained



³ T&E (2021) [Europe's surging demand for used cooking oil could fuel deforestation](#)

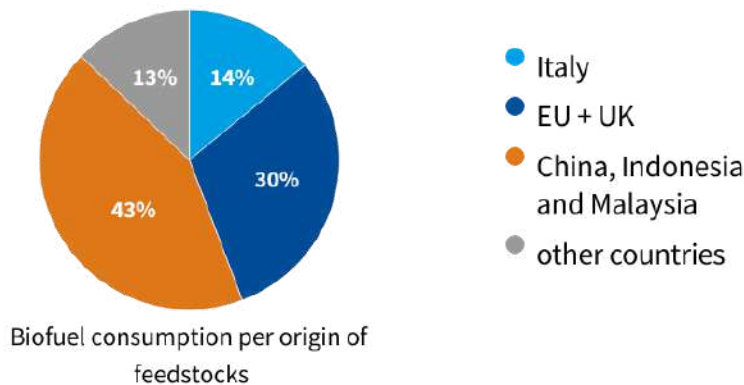
⁴ OCCRP (2023) [How Biofuels Scams Have Undermined A Flagship EU Climate Policy](#)

⁵ T&E (2023) [Pigs do fly!](#)



Using biomethane to decarbonise road transport inflates the demand for this gas and, as urban waste for its production is insufficient, induces the use of crop cultures, with a risk of indirect land use change and deforestation, for its production. In addition, burning biomethane in internal combustion vehicles is less energy efficient than direct electrification and still emits health-damaging air pollutants.

Italy is dependant on third countries for biofuel feedstocks



Note: Figures for 2021. (1) Includes Spain, the Netherlands, Bulgaria, Austria, France, Germany, Czech Republic, Denmark. Other EU countries might be included in the category 'other countries'.

Source: [Energia nel settore trasporti](#), 2021

Bioenergy doesn't solve energy dependency. Only 38% of the bioenergy comes from biofuels produced domestically and only 14% comes from feedstock originating from Italy.

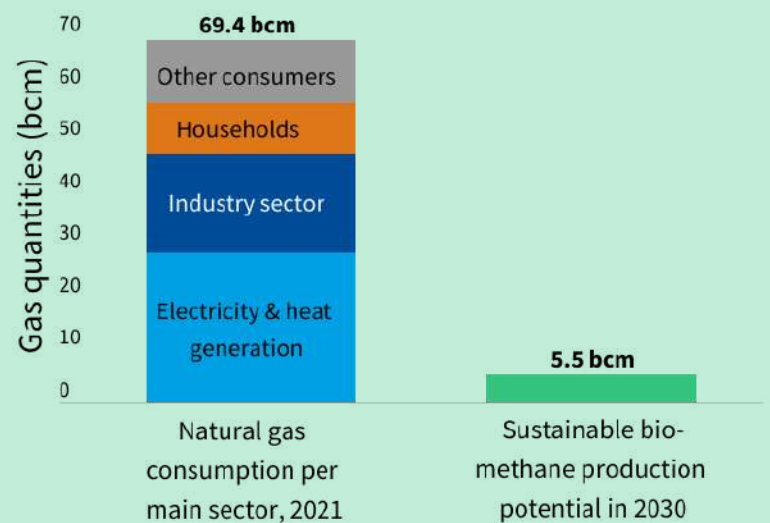
Almost 1 out of 2 litres of biodiesel burnt on Italian roads is produced from feedstocks originating from China, Indonesia and Malaysia⁶.

BOX: What about sustainable biomethane?

Guidehouse⁷ estimates that the EU27 potential for sustainable biomethane production (from anaerobic digestion) is enough to meet the REPowerEU target of 35 bcm, among which 5.5 bcm could be produced domestically in Italy. These figures are deemed inflated, since a realistic EU-wide potential for biomethane based on waste and residual materials is estimated approximately at 17 bcm⁸. Yet, 5.5 bcm is 1 bcm less than what is estimated by the government in the NECP. That amount can replace 8% of Italy's net import of natural gas (65 bcm).

Instead of burning the scarce sustainable biomethane in vehicles that can be electric, it would be more efficient to allocate it to sectors that currently burn natural gas and cannot easily replace it with electricity, for instance in industry, including for fertiliser production, electricity production and CHP where Italy burns the majority of its imported Natural Gas. Burning biomethane to produce the electricity to power a BEV, rather than burning it directly in a car, would increase the well-to-wheel efficiency from 11-22% to 22-35%.

Sustainable biomethane insufficient to replace natural gas



Source: [Biomethane country fiches: Italy, EC 2023](#)

⁶ GSE (2022) [Energia nel settore dei trasporti](#)

⁷ Guidehouse (2022) [Biomethane production potentials in the EU](#)

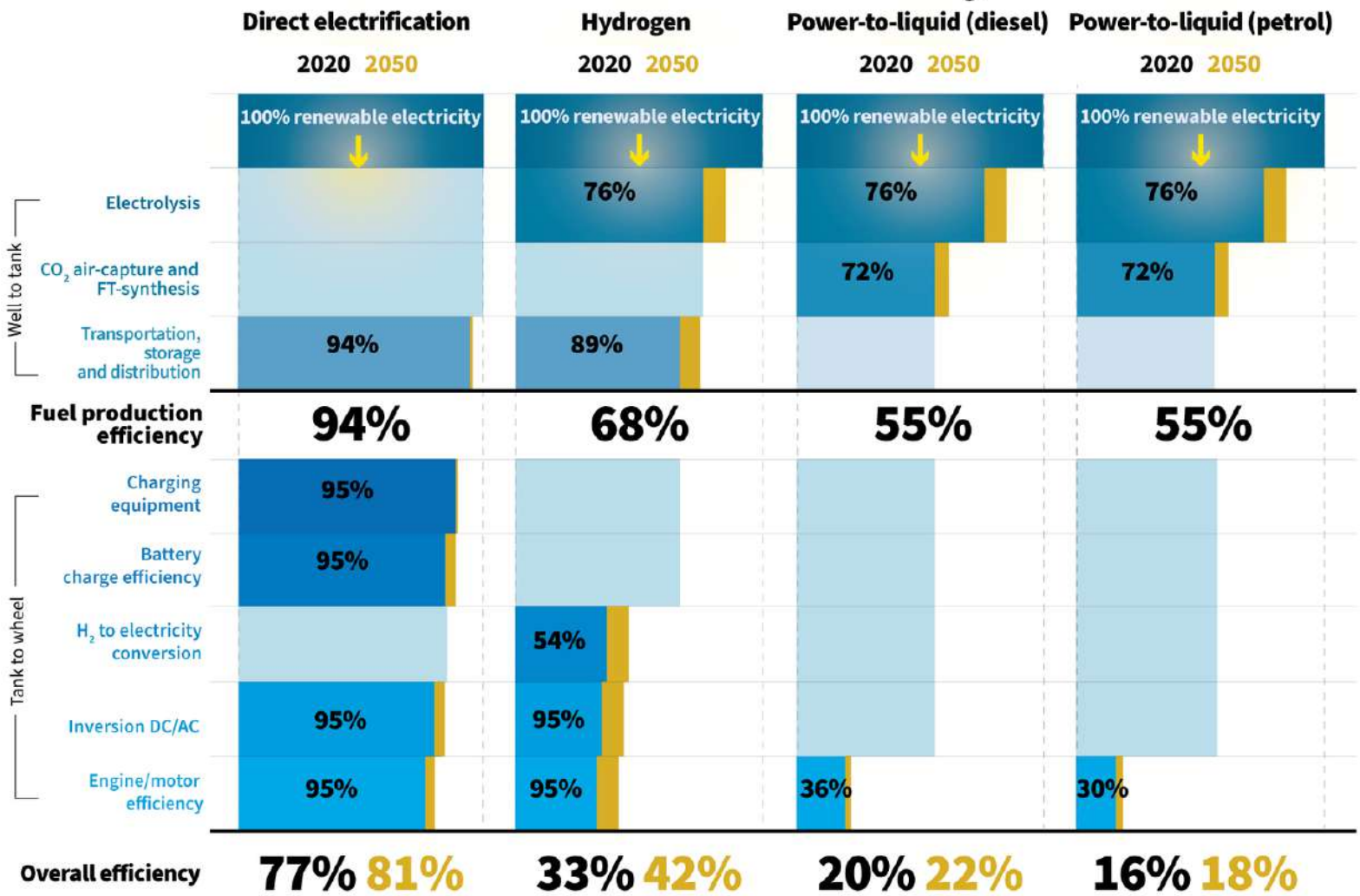
⁸ IFEU (2022) [Biomethane in Europe](#)



Fact #2: Road transport electrification is more efficient by far (1/2)

E-fuel’s low efficiency in ICEs means that if half of the cars were to run on e-diesel, and half on e-petrol, they would consume 4 times as much renewable resources in 2050 as directly electrified vehicles. Aviation, shipping, and industry could make a more efficient use of hydrogen, e-petrol, e-diesel and other synthetic fuels.

Cars: direct electrification most efficient by far



Notes: To be understood as approximate mean values taking into account different production methods. Hydrogen includes onboard fuel compression. Excluding mechanical losses.



Fact #2: Road transport electrification is more efficient by far (2/2)

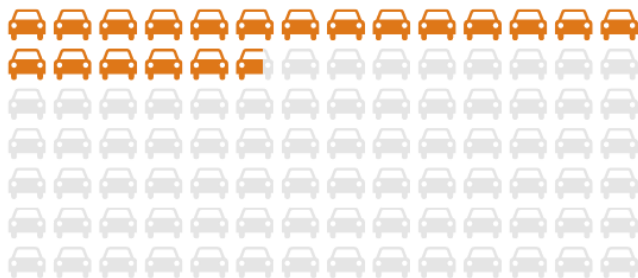
Similarly, the use of non-blended advanced biofuels or biofuels from waste and residues would power today just 5% of the Italian car fleet (1.9 million cars). In 2030 the maximum potential would be 20% of the car fleet (6.9 million) if Italy manages to reach an annual biorefining capacity of 5 million tonnes of HVO (Hydrotreated Vegetable Oil) by the end of decade as ENI estimates. With the same amount of energy and the same mileage, 6.9 million electric cars could already be powered today, and reach 24 million (or 70% of the circulating fleet) in 2030. As electrification is 3.5 times more efficient, even if mobility needs don't change, far less energy is able to fuel road transport.



Direct electrification is 3.5 times more efficient than burning fuel

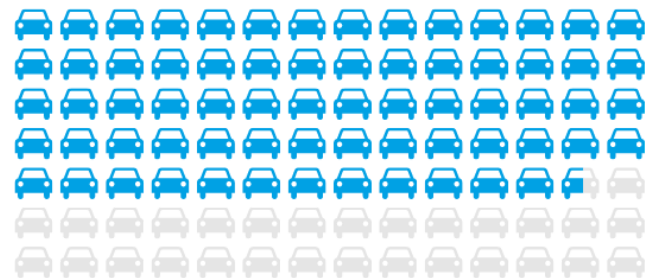
The energy content of **5 million tonnes of biodiesel*** can fuel

6.9 million combustion cars.



That is the **same energy that renewable could give** to power

24 million battery electric cars.



* 2030 hydrotreated vegetal oil biorefining capacity estimated by ENI

Source: [Carburanti biologici e sintetici: tutto ciò che bisogna sapere](#), T&E 2023

Note: We use the average European yearly mileage of 15,000 km/year. Whereas the average Italian mileage is around 10,700 km/year, diesel car drive typically more than petrol cars. While we might be underestimating the numbers of cars, the 3.5 ratio remains the same regardless of the mileage.

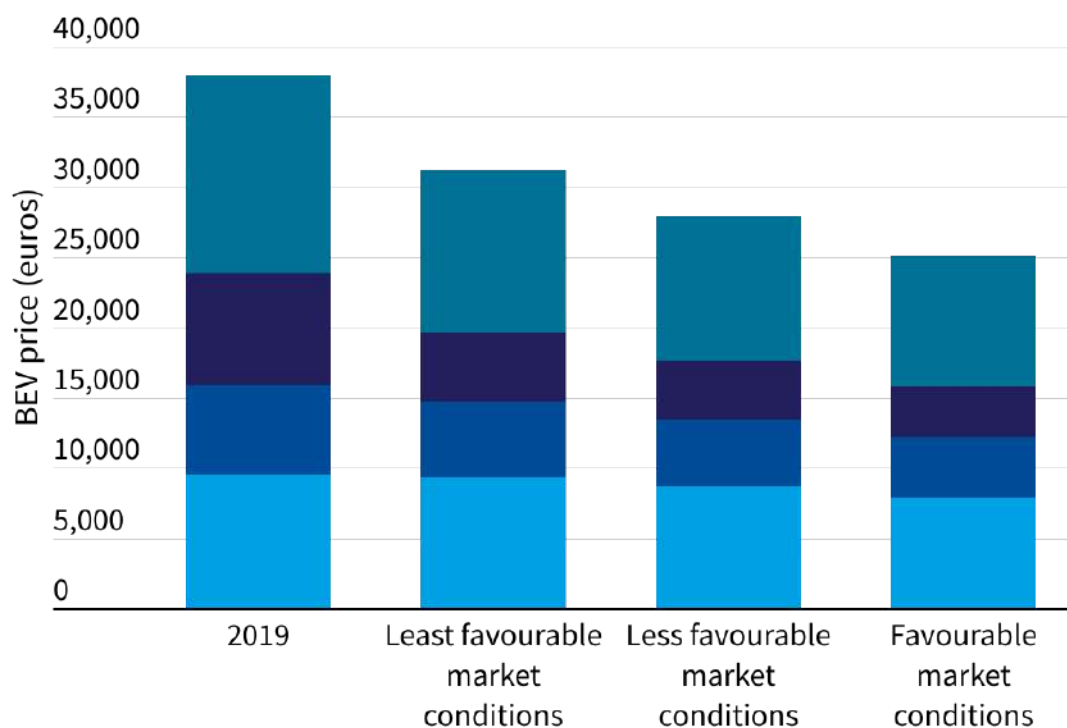


Fact #3: Fuelling vehicles with e-fuels is expensive

Based on current petrol prices in Italy, filling up with e-petrol will be 44% more expensive than normal petrol⁹. In fact, e-fuels are expensive to make because of the complexity and energy intensity of the production process.

While burning e-fuels in ICEs will be expensive, the total cost of ownership and the cost of production of electric cars and vans will make BEVs more affordable for the mass market. As shown below, a small BEV can be priced at 25k in 2025¹⁰ with favourable market conditions. Electric cars and vans will be cheaper to make¹¹ than ICE vehicles in every light vehicle segment across Europe from 2027 at the latest.

A small BEV can be priced at 25k€ in 2025



- Traditional vehicle components ● EV components and electronics (excl. battery)
- Battery ● Mark up (profits, production, R&D, sales/marketing and others)

Source: T&E modelling based on analysis and assumptions from Syndex.
Note: The vehicle is a segment-B, entry-level BEV. The battery is 40 kWh allowing for a range of 250-300 km. The following assumptions differ in the 3 scenarios and are based on Syndex's modelling: production productivity gains, battery prices, euro-dollar exchange rate, and raw material and semiconductor prices.

¹² In-house calculation, following the methodology used in T&E (2023) [Sholz is fuelled with illusions](#)

¹⁰ T&E (2023) [Small and profitable: Why affordable electric cars in 2025 are feasible](#)

¹¹ T&E (2021) [EVs will be cheaper than petrol cars in all segments by 2027](#)

T&E's proposals to clean transport's energy

Italy is already lagging behind its NECP objective of having 6.6 million EVs on the streets in 2030 because insufficient policies to support EVs uptake. Only 4% of cars sold in the first half of 2023 were BEVs, way below the European average of 13%. In comparison, countries that set a phase-out date for the ICEs sales in 2030, namely Norway, Denmark, the Netherlands, Sweden, and Ireland, are frontrunners. To reach the CO2 standards, companies will sell BEVs in countries where the national regulations facilitate the market expansion. As a result, Italy will see BEVs making only 48%¹² of sales in 2030 with a negative impact on the national automotive industry.

To fill the gap between the planned 4.3 million BEVs sold by 2030 and the 2.4 million achievable with existing measures, T&E recommends¹³ the following:

- Introduce a **binding zero-emission target for all new corporate cars by 2030** and a 50% target in 2027. The measure would bring additional 1.7 million BEVs on the street¹⁴ and enlarge the used e-cars market, making them accessible for less affluent households. This provision could be reinforced with a tax reform (see the box below for more information). It would also reduce emissions more effectively due to the higher mileage usually driven by corporate cars
- Introduce **social leasing**, following France's example¹⁵, to make EVs leasing affordable for car-dependent low-income households at €100 per month and increase the number of e-cars on the roads;
- When implementing the **crediting mechanisms of the RED III**¹⁶:
 - + For public recharging, credits should be given also for rolling out (fast-recharging) capacity;
 - + Extend the mechanism also to **private charging** (as done in Germany and Austria), facilitating charging at home or at work (75% of charging happens at home¹⁷). This would also strengthen the support for private charging foreseen in the Plan (90 million for business and freelancers);
 - + Reward the higher energy efficiency from charging EVs with renewable electricity by means of the energy-based multiplier of 4 or the higher fossil fuel comparator;
- Swiftly **implement AFIR** and the objectives of the national Recovery and Resilience Plan which foresees 7,500 ultra **fast charging stations** on non urban roads and at least 13,755 fast charging in urban areas. These plans should also set a specific target to supply electric charging in sparsely populated areas in order to enable EV uptake. Despite pre-existing supporting measures (D.Lgs. n.257/2016), Italy is still lagging behind on electric charging stations (41,000 against 183,467 BEVs in March 2023), thus the provision of funds only until 2025 is concerning;

¹² T&E's in-house analysis, based on the CO2 standards

¹³ T&E (2022) [From boom to brake: is the e-mobility transition stalling?](#)

¹⁴ T&E in-house calculations, based on the EUTRM and dataforce corporate fleet data

¹⁵ T&E (2023) [Un leasing social avec des voitures 100% électriques, fabriquées en France et en Europe, c'est possible !](#)

¹⁶ T&E (2023) [RED III and renewable electricity](#)

¹⁷ ChargeUp Europe (2022) [EUROPEAN PERFORMANCE OF BUILDINGS DIRECTIVE \(EPBD\) AND EMOBILITY](#)



- The incentives for the purchase of a new vehicle (**Ecobonus**) **should be given exclusively to zero emission vehicles** with the aim to reduce the price gap with other more polluting powertrains. In addition, Italy should:
 - + Adopt subsidies criteria which account for the recipients' income to avoid benefitting more affluent groups who can already afford the upfront investment;
 - + Give continuity and certainty to the measure at least until 2030 (the 'Ecobonus' is financed only until 2024);
 - + Gradually introduce further criteria for modulating incentives to reward the most efficient and sustainable zero-emission vehicles, without reducing the final cost differential with ICE vehicles so as to neutralise the incentive effect.
- Low emission ICEs (including biomethane, hydrogen and methane) should be excluded from the obligation for public administrations to buy non-polluting vehicles.

To support the uptake of electric trucks and avoid inefficient allocation of biofuels and e-fuels to trucks, the following measures are recommended:

- Introduce a target share of the fleet for electric trucks to give a clear signal to industry, similarly to what has been done for BEVs ;
- Provide aid for the deployment of public charging points for electric trucks in urban nodes and along major highways;
- The existing aid for the renewal of HDV fleets of logistic companies, should not incentivise CNG, LNG and methane-fuelled vehicles. Purchase incentives could be higher (potentially covering 80% of the price gap with ICE alternatives) if Italy reallocates to that purpose the resources currently spent on Environmentally Harmful Subsidies. The compensation for the excise duty on diesel consumed in road haulage and other passenger transport (EN.SI.19¹⁸) amounted to €1,361 million in 2021.
- Trucks tolls should be reduced between 50% and 75% for electric trucks as required by EU legislation when tolling is applied. Germany, Austria, and Czechia already provide toll discounts to ZE trucks, others will do so soon. Italy needs to keep pace with the trucking transition.

The most effective measure would be the adoption of a coherent and resource-efficient industrial **strategy for the automotive sector**, especially in consideration of the relevance of this industry for the national economy. As part of this strategy, Italy should adopt **a roadmap for the development of the battery value chain**, including recycling of critical raw materials which can be reused domestically.

¹⁸ MASE (2022) [CATALOGO DEI SUSSIDI AMBIENTALMENTE DANNOSI E DEI SUSSIDI AMBIENTALMENTE FAVOREVOLI](#)

Given the challenge to decarbonise aviation and shipping, and the relevance for the Peninsula, it is surprising that Italy has not adopted national strategies for these two sectors. In their absence, the Plan only contains sparse measures to decrease the energy consumption and climate impact of shipping and aviation.

The Plan aims to **electrify ports** (e.g. around 700 million investments for cold ironing are provided by a national fund - 'Fondo supplementare' - which integrates the national Recovery and Resilience Plan) and to supply clean fuels to shipping. To support this effort, the government could consider to:

- Adopt a strategy for the decarbonisation of the sector, with zero emissions date for all shipping routes and phase-out dates for ports' emissions; all ships at berth or manoeuvring in Italian Ports must be zero emissions by 2035;
- Stop supporting LNG and biogas and biomethane for ships and uniform the excise duty to fuel's energy content; Set a target to supply electricity to all types of ships at berth and in all ports by 2030 (not just passenger and container ships as in AFIR).

Italy should **start making the development and deployment of clean fuels and infrastructures for aviation and shipping a priority**. To that end it should:

- Adopt an industrial roadmap for the development of SAF and other zero emissions technologies;
- Promote and facilitate private investments for the development of clean fuels for aviation and shipping, including via Direct Air Capture, zero emission technologies, port and airport infrastructure;
- To use the revenues from carbon markets to finance public funding for green hydrogen and e-fuels production. T&E recommends earmarking 25% of the revenues generated from the ETS in aviation and shipping;
- Adopt measures to bridge the costs between synthetic fuels and traditional fuels such as Carbon Contract for Difference schemes, financed via revenues raised from the application of the polluter-pays principle;

Finally, **in the aviation sector**, the government could consider:

- Requiring that private jets landing and taking off from the country should be zero emissions by 2030;
- End the tax exemption of the sector (see the box below for more information).



T&E's recommendations for transport efficiency

Emissions from transport will decrease by 26% in 2030 thanks to electrification according to the NECP, but demand for transport will still increase. The government rightly recognises that additional measures to reduce the demand for transport or change mobility habits are needed. Accordingly, the Plan identifies the change of behaviours and lifestyles as a priority to achieve via i) soft measures as information and awareness raising ii) hard measures such as (dis)incentives.

However, the Plan doesn't contain policies and measures consistent with the stated objective, e.g. hard measures targeting polluting habits and technologies via disincentives are absent. Where incentives are provided (e.g. for public transport), these are weak and discontinuous. Italy should **commit to give continuity and certainty to its programmes** in order to realise its objective to decrease private car ownership (the highest in the EU with 666 vehicles per 1,000 inhabitants) and use in the long term.

The NECP contains measures to support the modal shift of passenger to rails and public transport (e.g. Strategic National Plans for Sustainable Mobility; Fund for Sustainable Mobility; funds for the promotion of mass rapid transport). While the government action in this sense is positive and must be praised, it is not clear from the Plan whether the resources are sufficient to meet the investment needs of the sector.

BOX: the case of the public transport pass¹⁹
An example of weak planning is the bonus for the purchase of a public transport pass which can be claimed by vulnerable groups with an income up to €20,000. The programme suffers from insufficient and discontinuous availability of resources which result in excluding eligible recipients and deprives the measure of a long-term horizon, therefore proving incapable of changing mobility habits.

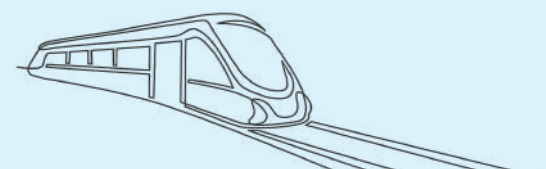
Legambiente²⁰ estimates that in 2023 the funds for urban and regional rail service and local public transport was still 17.8% lower than in 2009 and insufficient to guarantee appropriate supply.

Italy is planning to invest a big part of its funds of the Recovery and Resilience Facility in its rail network. But this spending prioritises high-speed trains, whereby 6 million commuters use urban or regional trains everyday against 170,000 travelling on high-speed trains²¹. It should instead prioritise the regional and urban rail infrastructures that would help replace car use.

¹⁹ Altroconsumo (2023) [Bonus trasporti, anche a ottobre fondi esauriti](#)

²⁰ Legambiente (2023) [Pendolaria](#)

²¹ Legambiente (2021) [Pendolaria](#)





We recommend some improvements to the **urban mobility measures** in the plan:

- The ‘plan on work-home travels’ should provide rules making the adoption of teleworking by public and private companies mandatory;
- The Urban Plans on Sustainable Mobility should contain minimum standards such as: adaptation of urban infrastructures to facilitate walking and cycling, shared mobility, public transport and multi-modality instead of private car use; increase of parking fees, city road pricing and/or congestion zones;
- Enforcing speed limits, particularly on highways, has been shown to reduce CO2 emissions;
- Measures could be adopted to provide free access to the local public transport (or shared mobility services) in urban areas where the scrapping of an old car is not followed by the purchase of another vehicle. Virtuous examples in Italy exist such as the scrappage scheme implemented in Genova²².

The financial support for the **modal shift of good transportation from road to rail** (Ferrobonus) and road to sea (Marebonus) is a positive measure. In order to give signals to the logistic sector and ensure long-term changes, the government should ensure sufficient budget, continuity and certainty to the measure, which at the moment is guaranteed only until 2026. In support of this measure, Italy could:

- Ensure equal access to track to all train, including new entrants and foreign trains;
- Increase competition in the rail freight market;
- Invest in innovative technology to move containers from trucks to train quicker and easier.

In the **shipping sector**, in addition to electrification (see above) and financing improvements to the energy efficiency of ports’ infrastructure and buildings, Italy could consider requiring operational energy efficiency measures in shipping, such as reduction of ships speed and propulsion support systems using wind energy.

To **reduce the climate impact of aviation**, Italy could adopt additional action such as:

- Green taxation measures as they are an effective tool in moderating aviation demand. See box below;
- Prohibition of domestic passenger flights on routes where there is an existing, direct rail alternative with daily frequencies of less than four hours' duration, while ensuring that the rail service is adequate;
- Requirement for companies to take responsibility for their climate impact of their travel policy: companies with most frequent flights should adopt a target for reducing emissions from their flights by 50% by 2030 (from 2019 levels).

²² <https://www.amt.genova.it/amt/tariffe/abbonamento-gratuito-per-rottamazione/>

Investments and green taxation in transport

The Plan contains information on the past public green expenditure and a preliminary estimation of the investment gap for the transition of the energy system until 2030. As in the case of the 2019 NEPCs, the Plan doesn't specify how the estimates were made, posing transparency and reliability problems (see also the finding of the European Court of Auditors²³ on the point). It is unknown how investments were planned for the period 2023-2030, how funding meet the sectoral needs and what the estimated contribution of the private sector is.

Adopting green taxation would help the government raise additional revenues while backing the green policies and measures of the Plan. For instance:

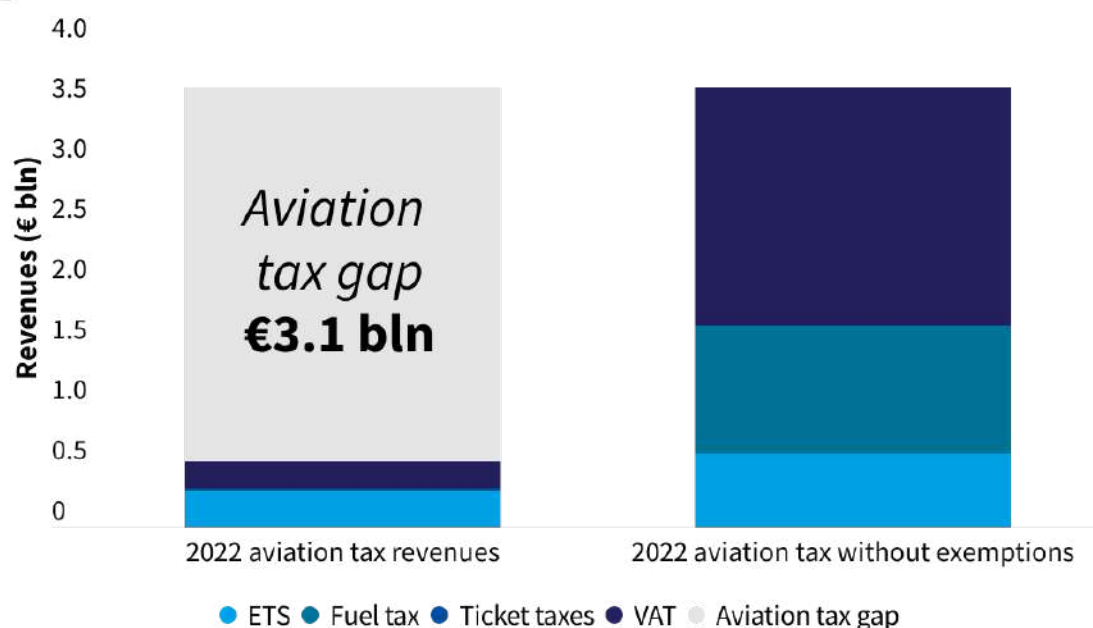
- Adopt a smart taxation on vehicles. This entails making it more costly to purchase, own and drive GHG-emitting cars. Purchase, registration and ownership taxes in Italy must be adjusted accordingly in order to benefit those who are choosing BEV;
- Adopt ticket taxes to compensate for aviation's taxation exemption. In 2022 Italy lost €3.10 billion because of the exemption.

Without it, in 2025 Italy would see revenues for €4.63 billion which could be reinvested in the decarbonisation of the sector. T&E estimates²⁴ the following ticket taxes would help fill the tax gap in Italy:

- Domestic ticket tax: €20
- Intra-EU flights: €46
- Extra-EU flights: €254

Notice that the adoption of national ticket taxes would not be necessary if ETS extension and application of tax on kerosene and VAT for all departing flights were agreed within the revision of existing legislation at EU level.

Italy could fill its aviation tax gap with ticket taxes



Source: The aviation tax gap, T&E 2023

²³ European Court of Auditors (2023) [EU climate and energy targets](#)

²⁴ T&E (2023) [Aviation Tax Gap](#)



- Introduce a new registration tax on cars linked to both the price of the car and CO2 emissions;
- Introduce fiscal mechanisms to support EVs uptake in companies' car fleets: link CO2 emissions to company car taxation (VAT deduction, Benefit-in kind taxation and depreciation of company vehicles) to ensure fiscal differentiation between internal combustion engines, plug-in hybrids and Battery Electric Vehicles. Even if the 2020 budget law mentioned by the NECP did raise Benefit in-kind taxation on most polluting cars, it did not introduce a tax differential between PHEVs and BEVs; this measure should be improved accordingly;
- Set a lower VAT on green mobility practices (including cycling and scooters);
- Change the fiscal rules to make the provision of electricity in ports economically sustainable;
- Adapt the taxation on gas to its energy content;

Box: Italy's subsidy for gas

Italy is subsidising gas used in transport with a lower tax rate which is close to zero at 0.00331€/m³. In terms of energy content, this equates to a taxation of 0.09€/GJ, far below the European minimum which is set at 2.6€/GJ. Compared to the equivalent taxation per unit of energy currently applied in Italy to petrol (21.2€/GJ) and diesel (17.5€/GJ), natural gas in transport is taxed 235 and 195 times lower, respectively, in terms of energy content

Italy has partially put in place a governance for the **elimination of fossil fuel subsidies** (e.g. a catalogue of the subsidies and an inter ministerial committee). In 2022, five fossil fuel subsidies were repealed (saving €105.9 million). In 2021, the Environmentally harmful subsidies identified by the government amounted to €22.5 billion, of which €14.5 billion fossil fuel subsidies²⁵. In comparison, the NECP identifies as a priority to reform only 18 energy subsidies with a negative environmental impact, worth €1.5 billion in 2021, without even providing a detailed timeline or course of action.

Italy could do more by adopting a broader fiscal reform to redirect taxation on most polluting and resource intensive activities and raise revenues to finance the green transition. For instance, Italy could phase-out the compensations for higher excise duty on diesel consumed in road haulage and other passenger transport, which amounted to €1,361 million in 2021, end the different treatment between petrol and diesel (amounting to €3,377 million in 2021), and reform the Benefit in Kind taxation system, phasing-out fiscal benefits for polluting vehicles (1,231 million in 2021)²⁶.

^{25, 26} Mase (2023) [Catalogo sussidi ambientalmente dannosi](https://www.legambiente.it/wp-content/uploads/2022/11/Stop-sussidi-ambientalmente-dannosi-2022.pdf). Notice that the government's estimation might be conservative, as Legambiente instead finds that in 2021 Italy spent in total €41.5 billion, including the financial support to compensate for the effects of the energy crisis. See: <https://www.legambiente.it/wp-content/uploads/2022/11/Stop-sussidi-ambientalmente-dannosi-2022.pdf>

Energy poverty, transport poverty and Social Climate Plan

The Plan contains some measures to alleviate energy poverty, but still insufficient despite the phenomenon having worsened in recent years

There is no indication of whether and how a measure such as the ‘Superbonus’ (the incentive for the energy retrofiting of buildings) mentioned in the Plan in relation to energy poverty, has contributed to decrease the phenomenon (e.g. people in energy poverty aren't usually homeowners that can afford the upfront investment).

Italy is still at an inception stage in tackling the issues of energy and transport poverty. It just recently established a national body (Osservatorio Nazionale sulla poverta’ energetica) to elaborate indicators, targets to eliminate the phenomenon, coordinate and identify actions. Insufficient attention is given to transport and mobility poverty. Italy needs to focus on this phenomenon as it becomes more relevant in the framework of the green transition and of the adoption of the Social Climate Plans (SCP, due in June 2025). Finally, Italy should start planning for the development of the SCP (which should be consistent with the NECP) and foresee a governance structure for the process.



The consultation of civil society

The public consultation process on the draft NECP was flawed²⁷ and didn’t ensure the meaningful participation of civil society

The Plan was elaborated in consultation with other Ministries, but it is unknown what stakeholders were heard and how their input was taken into account in the Plan. The government didn’t establish official channels for sharing relevant information, including the draft of the Plan, ahead of its submission to the EU. A questionnaire was opened for input from an insufficient amount of time (3 weeks) and without the provision of a platform where all actors’ contributions could be published.

The government recognises that consultation of other Ministries, regional administrations and stakeholders will be needed before the final version of the Plans is submitted in June 2024. However, rules governing the public participation process are still missing, thus there is no guarantee that the flaws of the consultation process identified above will be tackled.



²⁷ WWF, CAN (2023) [Public participation in National Energy and Climate Plans](#)



Governance framework

A coherent and systematic NECP governance framework is still missing

A coherent and systematic NECP governance is still missing. A technical committee (Osservatorio PNIEC) will be created to oversee the Plan's implementation, but there is no legal framework for the implementation, monitoring, assessment and review of the Plan. The impact and effects of the measures and policies are hidden in the Plan. Without this information it is not possible to evaluate progress and identify corrective solutions in case of insufficient progress.

The creation of working groups ('tavoli tematici') is positive, but it is unclear how they fit into the NECP governance. The GSE (Gestore Servizi Elettrici) has not established yet a platform to monitor the emissions and energy development induced by the NECP (the decree was adopted already in 2021). The good: the government intends to create a monitoring system for the energy performance and renewable energy deployment in the transport sector, to provide support to the Ministries and develop strategies and actions to meet the national objectives.

Further information:

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