REPOWERING FOR THE PEOPLE

Flagship actions the Commission's plan 'REPowerEU' should feature in the current fossil fuel and energy prices crisis

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KEY MEASURES TO WEAN OFF RUSSIAN GAS BY 2025

Russia's invasion of Ukraine exposed the fossil fuel crisis more than ever. In addition to the current level of climate emergency, we are experiencing a paradigm shift on the scale of needed energy transition. The timeframe for enhanced action came closer: immediate actions now must give fruits very quickly to stop Russian gas dependence and achieve 1.5°C-aligned 2030 climate targets.

If adequate measures to implement CAN Europe's Paris Agreement Compatible (PAC) scenario are taken without delay, the slump in fossil gas demand by 2025 will already equal the total amount of fossil gas imports from Russia to the EU[1] in the year 2021. The EU's 'REPowerEU' communication published in March indicates that full implementation of the 'Fit for 55' climate and energy legislative proposals would lower our gas consumption by 30%, by 2030.

The PAC scenario indicates that it is possible to wean off Russian gas in only four years, without additional gas imports from elsewhere with more ambitious action to curb energy demand, ramp up sustainable renewables and roll out flexibility options while still achieving a complete fossil gas phase out in 2035.

Below are **three flagship initiatives**[2] which the Commission's 'REPowerEU'[3] should feature to accelerate secure and just energy transition, to be implemented immediately through integrated funding support. They are guided by CAN Europe's PAC scenario, describing the pathway towards a 100% renewable energy system by 2040.

The flagship initiatives should kick off without delay and aim at achieving at least (annual growth in 2025):

- **5** Achieve an annual growth of at least 5 million building renovations in 2025
- **5** Achieve an annual growth of at least 5 million new solar PV rooftops in 2025
- **5** Achieve an annual growth of at least 5 million new heat pumps in 2025

Equally vital, exponential growth of wind energy, renewable hydrogen prioritised only for hard-to-abate sectors, flexibility options in the electricity market and circular economy measures will need to be rolled out in tandem as they will help to achieve energy security and resilience for the EU.[4]

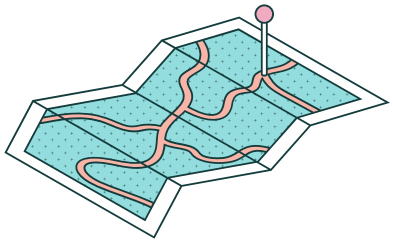
1. The PAC scenario published in 2020 is based on EU 28, including the UK.
2. The numbers are calculated for the EU27. See Annex I and II for further data and explanations.
3. The European Commission will release the 'REPowerEU' plan in May 2022.
4. See Annex I and II for more details on the measures mentioned.

THE BIG PICTURE

1.5℃

The recipe for energy security is to make the 'FitFor55' Package Fit-For-1.5°C[5], with an ambitious and accelerated rollout of energy savings and sustainable renewable energy, for a fossil-free EU by 2040, driven by bold short-term actions

A clear roadmap to implement and monitor energy savings and the Energy Efficiency First principle is key across sectors and Member States



Keeping people and biodiversity at the heart is a must for faster deployment of solar and wind energy[6], to be enabled at an unprecedented scale and with improved permitting and proper spatial planning

Proposed actions need to aim at maximising social benefits[7], based on the equity principle, and guide a fair and orderly implementation empowering people to participate in the energy transition

Households' and communities' active participation in the energy transition as prosumers[8] should be swiftly unlocked by ambitious programs (such as combining solar rooftops with heat pumps) enabling rules, and incentives shielding people from higher cost of living driven by increased energy prices

5. Targeting at least 65% of emission reductions, 45% of energy savings and 50% of renewables in 2030: https://caneurope.org/content/uploads/2020/07/Position-Paper_CAN-Europe-2030-energy-targets_final.pdf
6. According to the PAC scenario this translates to at least four times the amount of installed solar and wind energy capacities to be added every year (compared to 2020). See Annex I and II for details.
7. All actions must incorporate a labour and social justice lens, from the design stage, i.e. ensure that low and middle-income households are fully part of the shift, decent jobs are provided and negotiated with workers and trade unions based on International Labor Organisation's Just Transition Guidelines.
8. In particular through collective self-consumption and energy communities.

WHAT IS THE CONTEXT?

It is a historic moment as the humanitarian, social and climate emergencies unravel, while citizens' trust in public institutions is dwindling dangerously: time to take a bold move towards a secure, affordable, sustainable, efficient, sufficient, renewable and just energy system. The EU should immediately make concrete plans to stop fossil fueling Russia's invasion of Ukraine while being on track to deliver the Paris climate agreement, and maximising the social benefits of climate action.

The recent IPCC report is crystal clear: significant additional efforts to reduce emissions are needed in the coming years in order to keep the 1.5°C goal of the Paris Agreement in reach. Speculative technological fixes are no substitute for actual efforts to eliminate all fossil fuels.

Energy security and ambitious climate goals to limit global warming to 1.5°C can be achieved through the same path. The Paris-compatible path has the potential to maximise social benefits if the design and implementation of policies and measures are based on the equity principle with adequate ex-ante and ex-post social impact assessments.

Systemic transformations across all sectors of society, particularly the most polluting, can secure a safer, healthier and a more liveable planet. **The next few years are decisive to put European energy production and consumption on the right track, drastically cut emissions to avoid locking in false solutions that lead to economic and climate crises, fuelling inequality, conflicts and wars.**

In March 2022, the European Commission proposed the 'REPowerEU' plan outlining a series of measures to respond to rising energy prices and make Europe independent from Russian fossil fuels well before 2030 - with the intention to reduce EU demand for Russian gas by two thirds before the end of the year. Following the Commission's communication, heads of the EU Member States invited the Commission to flesh out the Plan in May to phase out the dependency on Russian fossil fuels as soon as possible.

The EU is now at a crossroads. The urge to find short term solutions may lead to false solutions that risk undermining the EU's climate objectives and lock people in unsustainable, unproven, dangerous, expensive and unreliable technologies that further exacerbate impacts of fossil fuel dependence. The current situation shows how much the European energy system is still heavily locked-in to fossil fuels, which makes it vulnerable to shocks, while the price is paid by the people - those with the lowest income suffering most.

While the Commission's communication on the 'REPowerEU' mentioned reducing Russian gas substantially, the EU's announcements of new fossil gas contracts with the US[9] and other countries give confusing signals about the way forward. It is evident that concerns about next winter cannot be solved by new LNG import terminals or gas pipelines, given that such infrastructure could only come online in the medium term - and would inevitably lock the EU into more fossil fuel dependency, dragging away from the Paris commitment.

The 'REPowerEU' plan comes very timely to accelerate action in the short term and achieve energy security while fulfilling the EU's fair share to deliver the Paris objective: achieving at least 65% of emissions reductions by 2030 and climate neutrality by 2040. **Short term action should ensure immediate but long lasting effects in order to address energy security, energy justice and the climate crisis in a structural way.**

The EU and countries in Europe need to work with an unprecedented level of motivation in unity towards that goal. 'REPowerEU' has a big potential to help increase the ambition in the adoption and accelerate the implementation of climate and energy policies ('FitFor55' package and beyond) in an integrated manner laying the ground for more cohesion between and within the Member States, acknowledging existing inequalities to be addressed. **The European Commission has the responsibility to make the 'REPowerEU' into a real action plan putting people at the heart of it**, with a clear long term just energy vision that is in line with CAN Europe's PAC Scenario, and concrete short/medium term actions to prove the Union's leadership in changing the course of history.

CAN Europe published 8 recommendations for an accelerated, secure and Paris compatible energy transition in the EU in the context of the invasion of Ukraine to guide the Plan.

9. https://ec.europa.eu/commission/presscorner/detail/en/statement_22_2041

HOW CAN THE 'REPowerEU' ACTION PLAN BE A GAME CHANGER?

In a nutshell, by putting people at the centre. The Commission should guide Member States to shield household and communities (starting from the most vulnerable) from taking the brunt of increased living costs in the short run and to become resilient to potential future shocks, empowering them to be actors in the just energy transition: in charge of their energy sufficiency, energy generation and consumption.

By giving strong signals to investors and finance institutions, reiterating the commitment for an ambitious ‘Fit for 55’ package. For example, the ‘REPowerEU’ communication, published in March, encouraged the co-legislators to adopt higher or earlier energy targets for 2030. The European Commission should further support this with complementary analysis that updates key cost assumptions, including current energy prices, and shows the energy security and social benefits of higher ambition, with a holistic approach across the ‘FitFor55’ files.

No energy to be wasted

- **Propose an EU flagship initiative, without further delay, aiming at an annual growth of at least 5 million building renovations in 2025 to undergo deep renovation.** The CAN Europe PAC Scenario foresees a boost in the depth of building renovation as well as the pace: at least tripling the annual renovation rate. This should be combined with accelerating other measures on a holistic just energy transition pathway, as mentioned in this briefing and the Annex. With leaky buildings, all the precious energy sources, and funding for them, will literally fly out of the window. Households risk experiencing more and more difficulty in paying their energy bills, with the most impacted being the people with the lowest incomes and more socially vulnerable.

- The Commission should **guide Member States to put short term plans to prioritise worst-performing buildings and those occupied by low income, vulnerable and energy poor households and ensure technical assistance through advisory tools such as one-stop-shops at local level.** Available funding such as the Recovery and Resilience Fund should be fast tracked to support the implementation of such short-term plans. The earlier deep renovation programmes are scaled up, the less financial and practical bottlenecks there will be for owners and occupants of the buildings.

- **Put a framework to further incentivise energy efficiency measures, through allocating targeted funding, and assess Member States' implementation of the Energy Efficiency First principle for all investment decisions for a just and affordable energy transition away from fossil fuels.** The Commission should make the proposed energy savings plan no less than a war-time savings plan in terms of its design, implementation and monitoring with the aim for structural changes - beyond short term. The Energy Efficiency First principle must guide actions in the short, medium and long term.

- **Pave the way to scale up the ambition in the ongoing legislative processes under the 'Fit for 55' package including the Energy Efficiency Directive (EED) and the Energy Performance of Buildings Directive (EPBD) by frontloading measures that are foreseen and fully implement the current energy efficiency framework through capacity building and financial support.** This includes upscaling existing energy savings tools that are already in place such as the energy savings obligation.

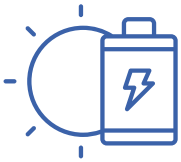
  To be able to stop Russian gas imports in 2025, on a Paris-compatible pathway, the final energy demand must decrease at an unprecedented pace which leaves no room for delayed energy savings action. This means a quick adoption of energy efficiency and buildings legislative proposals with an increased ambition is needed.

  The ambition level of EED should be increased by introducing an EU binding energy efficiency target for 2030 of at least 45% compared to the EU Reference Scenario 2007,[10] and by an increased annual energy savings rate of the energy savings obligation to at least 2% from 2024 onwards. The Commission should ensure ambitious mandatory energy performance standards for all existing buildings are implemented through the EPBD.

- **Integrate energy and resource consumption reduction targets into the ongoing industrial ecosystem transition pathway processes.** This should happen in tandem with proposed front-loading of renewables and renewable hydrogen to speed up industry's contribution to the green and digital transitions, and be complemented by clear transition plans identifying sufficiency targets.

10. Or at least 20% compared to the EU Reference Scenario 2020.

- **Encourage and scale up the implementation of local and regional heating and cooling plans, ensuring financial and advisory support to the municipalities and citizens to decarbonise their heating systems, starting in the shortest term.** A specific, rapid and time-bound process must be put in place to reassess the existing national heating and cooling assessments (from 2020), given the scale of planning needed in current circumstances, well before the revision of the national energy and climate plans (NECPs) in order to provide stronger plans in them. This should include the assessment of public participation and needs analysis. The power of existing EU funds, including the RRF, should be unleashed to support the local and regional renewable heating and cooling plans in combination with the reduction of energy demand.



Boost renewable power and heating

- **Propose an EU flagship initiative to achieve an annual growth of at least 5 million new solar PV rooftops in 2025,** through the EU solar energy strategy. This would support Member States in the deployment of solar energy to take the necessary steps, and ensure the current policy framework is improved and the right incentives are in place for a higher uptake of rooftop solar PV.[11]

- **Propose an EU flagship initiative to achieve an annual growth of at least 5 million new heat pumps in 2025, in combination with the roll out of solar rooftop PVs.** Real world indicators on heat pumps surpassed what 'REPowerEU' communication pointed at in terms of needed scale: 2 million heat pump installations per year, as communicated by the Commission in March, was actually already achieved in 2021. The Commission should go well beyond Business-As-Usual and incentivise national renovation programmes to couple the thermal insulation of buildings with measures that enable a massive roll out of heat pumps.

- **Outline tools in the action plan to massively increase solar and wind energy deployment, starting with fully seizing the opportunities such as rooftop solar PV and better use of brownfields.** More structural reforms and actions,[12] such as spatial planning and mapping of most suitable areas, are instrumental to fully exploit the local potential of renewable energy sources, while at the same time ensuring effective engagement of citizens and local communities and guaranteeing protection of biodiversity. Dedicated efforts need to be made to reach out to low-income households and marginalised communities. In case adequately implemented, planning and mapping can contribute to more stable and predictable conditions for investments in renewable energy projects.

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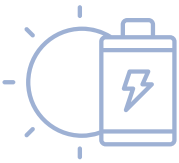
11. CAN Europe campaigns for 100% renewables with NGO members and partners: https://caneurope.org/campaigns/together-for-100-renewable-europe-by-2040/

12. See CAN Europe's response to the consultation on the EC guidance on permitting and to the consultation on the EU solar energy strategy: https://caneurope.org/submission-to-the-consultations-on-the-ec-guidance-on-permitting-and-the-eu-solar-energy-strategy/



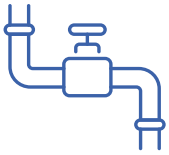
- **Support the creation of renewable energy communities.** The Commission should give clear messages about the need for Member States to support and empower energy communities as they are a vital tool in order to accelerate the energy transition in a just and inclusive way. Energy communities should be supported by outlining concrete measures, including allowing them to also use public roofs for community projects, clearly defining objectives for renewable energy communities in the national/subnational legislation coupled with clear allocation of responsibilities and governance criteria, and with an authority designed to follow up and monitor the implementation of the formulated objectives and provisions for energy communities.

- **Combine self-consumption (such as from solar PV rooftops) with plans for accelerated roll out of heat pumps.** The promotion of solar roofs and the deployment of heat pumps should be complementing parts of the same overarching strategy for energy security, affordability, sustainability and resilience. At the same time the Commission should not neglect the role of solar thermal collectors' deployment as a sustainable, cheap and available heating solution.

- **Ensure that the EU funds are not used to subsidise new fossil fuel boilers and encourage Member States to adjust RRPs accordingly.** This measure would help disincentivise any installation of fossil fuel boilers in new and renovated buildings after 2025. This will not only be the right direction for energy security and climate neutrality, but will also help protect people against exposure to expensive and volatile fossil fuel prices. Germany, Denmark, Austria, among other Member States, already announced fossil fuel heating restrictions. The Commission must build on these examples and encourage all Member States to come up with similar plans, through adjusting the relevant national and local legislation, and adequate funding streams. Low-income, vulnerable and energy poor households should be prioritised and receive adequate public support for fossil-free heating solutions, shielding them from rising fossil fuel prices.

- **Develop an EU Geothermal strategy within the next year to help identify barriers, and benefits from its potential and suitability.** So far, geothermal energy has been largely neglected, while it can play an important role in the decarbonisation of both individual and collective heating systems including district heat networks.

- **Propose sectoral and national assessment of short and medium term needs to roll out various flexibility options, and suggest priority use of certain funding streams such as the Innovation Fund to support them.** In order to rely on the variable renewable energy sources solar PV and wind, flexibility options must interact smoothly, ensuring a stable grid and security of supply. Existing flexibility options must be explored in the short term and the Commission should encourage their activation. The energy markets must facilitate the use of all flexibility options such as thermal and electricity storage, demand side response, renewable gap fillers as well as the optimised operation and extension of grids to decrease exposure to dangerous and volatile fossil fuels. This broad range of solutions complements the seasonal and daily output variability of solar PV and wind. All public and private finance instruments must be mobilised to accelerate the roll-out of these solutions.

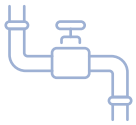


End fossil fuel era

- **Ensure that the measures proposed pave the way for a quick and just phase out of all fossil fuels**. They are dangerous, expensive, unreliable, and they cost people's lives by feeding conflicts, wars, the climate crisis and pollution. Paris compatible fossil fuel phase out means 2030 for coal, 2035 for fossil gas, 2040 for oil for the EU**.** It is more crucial than ever to take these dates strictly as the latest, and lay the ground to fill the energy import gap by implementing bold measures to significantly reduce the energy demand first, and by rolling out sustainable renewable energy solutions.

  The mistake of considering fossil fuels as "transition fuels", should not be repeated by providing the ground for a coal come-back and reliance on LNG and pipe imports from the US, MENA and other regions. The action plan should make the decreasing role of fossil gas and coal explicit, and propose to adapt relevant legislation (i.e. the gas package) accordingly through revised EU gas consumption taking into account that Russian gas imports will not be needed anymore by 2025.

  Recently suggested plans for new pipes and LNG infrastructure amount to €24bn. 'REPowerEU' should avoid signalling EU funding allocation for these fossil fuel projects, or else it would be a disaster further exacerbating fossil fuel lock-in with potential more severe impacts for low-income households.



- **Encourage and incentivise Member States in going forward with ambitious just transition plans, within a Paris-compatible timeline for coal, and reflect those in their revised National Energy and Climate Plans.** Reactivating or extending the lifetimes of coal plants without any deadline would hinder the planned just transition at the local level. This could mean community access to the Just Transition Fund and other pillars of the Just Transition Mechanism is delayed and/or potentially implemented in a less targeted manner without clarity on the way forward. There is no time and space for legitimising coal-come-back, and confusing communities in coal regions and investors who are getting ready for a just transition away from coal instead.

- **Avoid displacing Russian fossil fuel imports with imports from developing countries, in order to support global decarbonisation efforts and progress on mitigation, with eyes on COP27.** Increasing fossil fuel imports from developing countries, which in most cases are not well-resourced and equipped to step up a significant or reliable supply, will have significant risks including increased fossil fuel investment/crowding out investment in renewables, lock-in to future stranded fossil assets, and extractivist economic models, weakening governance and democracy. The EU has committed to discourage all further investments into fossil fuel based energy infrastructure projects in third countries. Breaking free from fossil fuel imports from Russia must not jeopardise this commitment.

- **Underpin the principle of additionality and introduce a clear prioritisation of hydrogen (100% renewable hydrogen only) for hard to decarbonise sectors only.** This should be enabled by the elimination of fossil hydrogen and hydrogen blending, including under the EU's gas package that is being revised, when this results in hydrogen being delivered to buildings and low-grade heat industrial processes. Additionality needs to be translated through an increased renewables target including a subtarget for renewables based hydrogen to be used in priority sectors only, i.e. steel, chemicals, and fertilisers industry and certain segments of transport (most notably shipping and aviation).

- **Suggest to EU Member States a coordinated withdrawal from the Energy Charter Treaty and provide guidelines for the revision of existing bilateral investment agreements,** so that they no longer pose an obstacle to breaking free from fossil fuel dependence. Energy Charter Treaty and hundreds of bilateral investment agreements allow fossil fuel investors to sue states in Investor-State Dispute Settlement (ISDS) for phase-out plans or other legitimate energy policies and to demand compensation for lost future profits. The recent IPCC report warns that ISDS risks are watering down or delaying urgent climate action.

Align public and private funding with current needs

The set of recommendations outlined below are part of a dedicated CAN Europe briefing on the funding and financial dimensions of the 'REPowerEU' agenda.

- **Facilitate the acceleration of Recovery and Resilience Fund disbursement for the energy transition that are already included in RRPs to be frontloaded this year, while encouraging the replacement of fossil gas investments with investments in renewables, electrification, flexibility options, energy savings, energy efficiency and the decarbonisation of the transport sector.** The Commission should also guide Member States to ensure that the maximum possible proportion of the almost €400 billion available from all the Cohesion Policy funds in 2021-2025 EU budget are instrumentalized to significantly reduce exposure to fossil fuels and the Operational Plans, currently negotiated, are better aligned to achieve the Paris-aligned measures which will stop Russian gas imports by 2025.

- **Ensure Temporary Crisis State aid framework and relaxation of other State aid rules help support the reduction of exposure to fossil fuels, and are in line with the objectives of the Climate, Energy and Environmental Aid Guidelines (CEEAG) to avoid the lock-in effect.** The Commission should assess aid eligibility for energy-intensive sectors through the 2030 climate targets lens. In its 'REPowerEU' action plan, the European Commission should adjust the temporary crisis framework to require that support to, and bailouts of, carbon intensive industries are conditional on emission reduction commitments for the companies receiving aid, as well as a requirement to demonstrate that such aid will not cause a lock-in to fossil fuels. This would ensure that the short-term relief provided to companies that are adversely impacted by the crisis equally contributes to their necessary restructuring for reducing fossil fuel dependence, in line with 2030 climate objectives.

- **Guide better targeted measures to shield people from high energy prices, with a clear long-term vision.** In contradiction with the strategy of the 'REPowerEU' to reduce our reliance on fossil fuels, Member States have been increasing direct and indirect fossil fuel subsidies to address the energy crisis. Whilst shielding vulnerable households from the impacts of the crisis is evidently necessary, there is ample evidence that indiscriminate measures such as horizontal fuel tax cuts are deepening the reliance on fossil fuels by subsidising their consumption, and benefiting disproportionately wealthier social groups while failing to provide the right incentives for reducing the demand of non-vulnerable households. The 'REPowerEU' action plan should provide guidance for the better targeting of support measures towards vulnerable households, acknowledging prevailing inequalities within and between Member States. Beyond support on the demand side, this guidance should also entail options for reducing energy prices on the supply side, including temporary and targeted measures such as price and profit caps on energy companies benefiting windfall profits, taxes on windfall profits or similar measures.

- **Permanently exclude fossil gas from all EU funding instruments.** The majority of EU funds still allow the financing of fossil gas related investments in Member States. In order to repower the EU for the people with the objective of a rapid phase out of fossil fuel reliance, the 'REpowerEU' action plan should include a timeline for permanent exclusion of all possibilities to finance fossil gas related projects in various instruments.[13] The Bulgarian government recently announced that no fossil gas projects will be funded by the Recovery and Resilience Fund and Connecting Europe Facility. This approach should be supported by the Commission to propose similar measures in other Member States.

- **Include a timeline for a swift revision of climate mainstreaming methodologies to maximise the positive impacts of the EU budget and its individual funds on the energy transition**, and to deliver an accelerated phase out of the EU's dependence on fossil fuels. Despite some improvements compared to the previous MFF, the latter remain extremely loose and have been criticised by a recent European Parliament's Budget Committee report. To accelerate the energy transition, investments tagged as contributing to the 30% overall spending target for the green transition need to have a demonstrable impact on the reduction of fossil fuels use, carbon emissions, and adaptation to climate change.

13. Including the pillars of the Just Transition Mechanism (JTM), Cohesion Funds (CF), Connecting Europe Facility (CEF), European Regional Development Fund (ERDF), Modernisation Fund (MF), Invest EU and the Global Europe Instrument.

- **Accelerate the phase out of fossil fuel subsidies.** Fossil fuel subsidies constitute a major obstacle for delivering a fast energy transition as the consumption of fossil fuels is incentivised to the detriment of renewable energy sources, perpetuating the EU economies' dependence on imported fossil gas, oil and coal. Although the EU and Member States have committed to phase out fossil fuel subsidies by 2025 at the latest, there is no concerted effort to stop fossil fuel subsidies. 'REPowerEU' action plan should provide guidance (for Member States) to stop funding fossil fuels and use the additional fiscal space created through the phase out of fossil fuel subsidies for financing measures to protect low-income households, through targeted financial schemes to accelerate the installation of sustainable heating and cooling systems, home insulations, and access to cheap decarbonised transport options, including public transport.

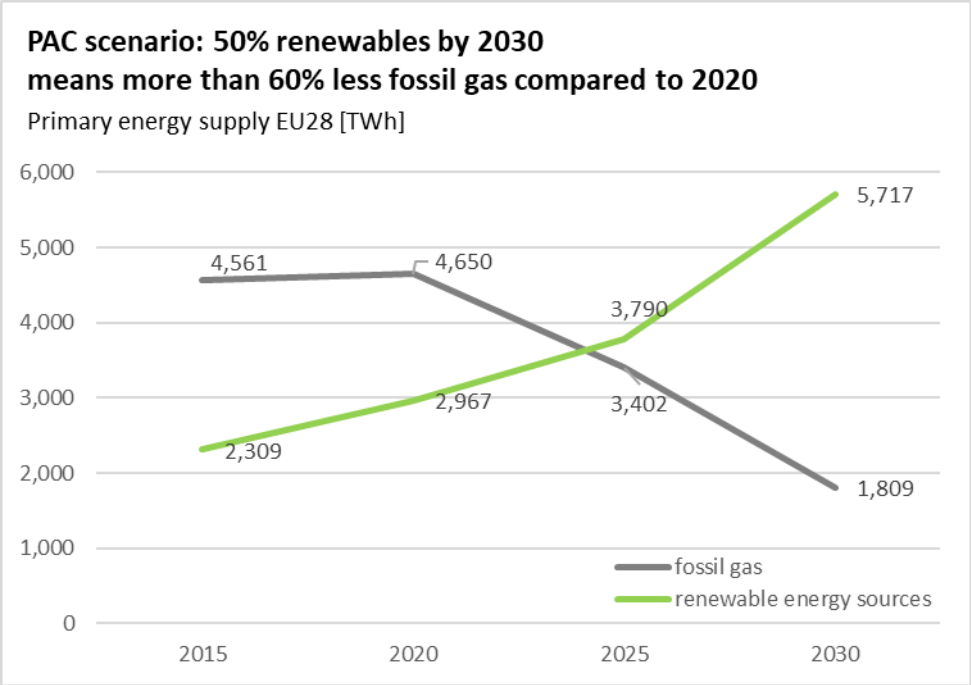
- **Withdraw the EU Taxonomy Complementary Delegated Act which gives a "green label" to fossil gas and nuclear investments.** In this critical junction, the EU's sustainable finance strategy, of which the EU taxonomy is a cornerstone, cannot afford greenwashing and private investment incentives for fossil fuels given the imperative to stop the EU's energy dependence on imported fossil fuels in general, and fossil gas in particular.

- **Mobilise additional resources.** In the medium-term, the creation of a new energy security and climate transition fund, modelled on the Recovery and Resilience Facility, could be examined to support Member States with limited fiscal space to deliver a faster phase out of fossil fuels in a socially just manner. This new instrument cannot be adopted without a deep reform of the EU fiscal framework that incentivises more national level investments in the green and just transition. The Commission should also suggest to accelerate the creation of a Social Climate Fund (SCF) to operate as early as possible. A SCF would support Member States to cushion the impact of the rising energy prices for the low-income and vulnerable households through both temporary compensation and the provision dedicated investment support to increase buildings' energy efficiency, and shift heating and cooling towards sustainable renewable energy sources and heat pumps and the use of low-emission transport modes.

Repowering for the People: Annex I

The PAC scenario shows the pathway for a swift fossil gas phase-out

The Paris Agreement Compatible (PAC) scenario substantiates CAN Europe's policy asks for a 50% renewable energy share in gross final energy consumption and a 45% energy efficiency target (in comparison to the PRIMES 2007 reference) for the year 2030 to reach 65% greenhouse gas emission reductions. Following this pathway would lead to a significant reduction of fossil gas consumption in the EU. The PAC scenario achieves a 100% renewable energy system in 2040.



Ambitious measures needed to curb demand and ramp up renewables.

The PAC scenario foresees fossil gas demand to drop to 1,583 TWh by 2030.[14] This reduction however is only possible under the conditions that:

- In the industry sector, energy savings potentials are mobilised (circular economy approach, efficiency gains), in parallel with renewable hydrogen,
- In the buildings sector, the deep renovation wave starts while its heat supply switches to electric heat pumps and renewable heat via district heat networks,
- In the electricity sector, the renewable electricity generation in particular from solar PV and wind is multiplied and flexibility options (demand side response, storage technologies, optimised operation and extension of grids) are rolled out.

14. For the EU and UK as the PAC scenario was launched in 2020 for EU28.

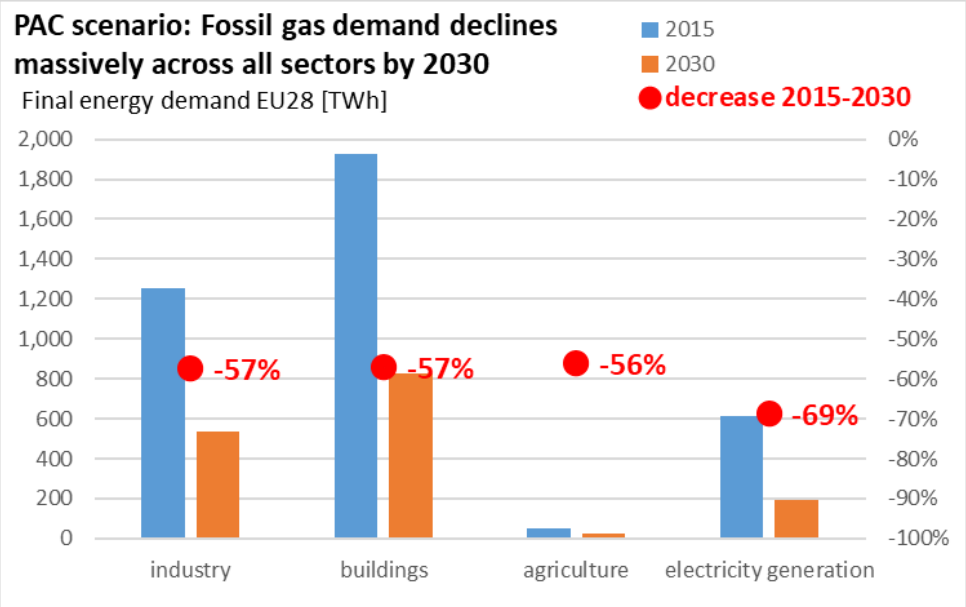
Out of the total sum of renewable hydrogen and hydrogen-based fuels supplied in 2030 (566 TWh), an important share is used in the steel and chemicals industries (198 TWh) to substitute fossil gas (and other fossil fuels) on this pathway towards 50% renewables in 2030 and 100% renewables in 2040.

Final energy demand in industry, EU28 [TWh] [15]	2015	2020*	2025	2030	2015 - 2025	2015 - 2030
fossil gas	1,077	916	674	462	-402	-614
fossil gas as non-energy feedstock	175	140	105	70	-70	-105
renewable energy sources (excl. renewable electricity)	330	358	414	477	84	146
renewable electricity	268	422	695	1,107	427	839
renewable hydrogen and synthetic methane	0	27	80	198	80	198

*modelled, no complete real world data for industry's energy demand in 2020 available yet

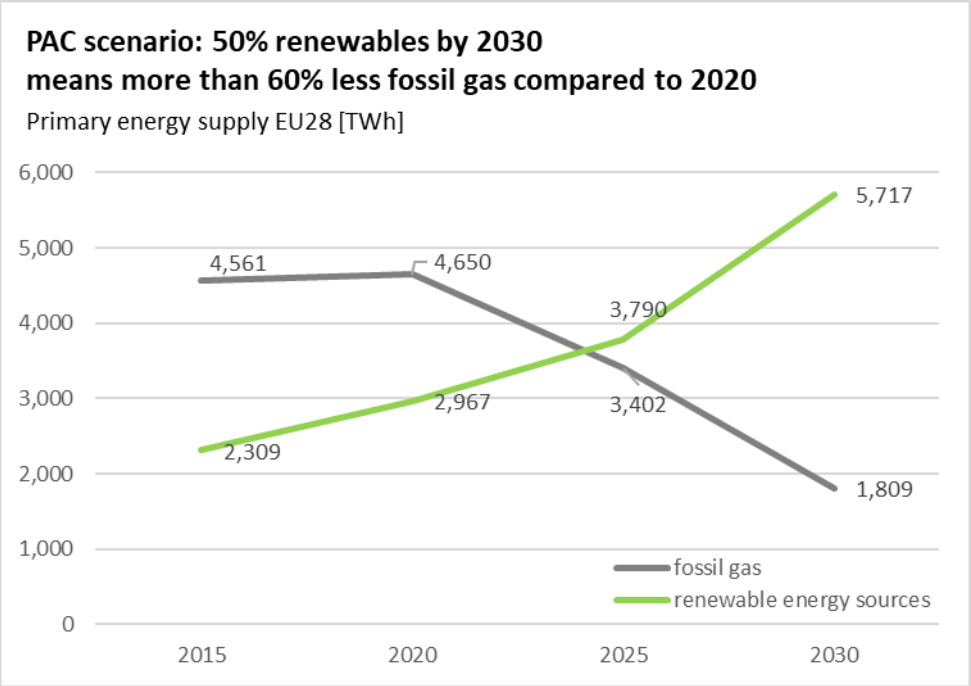
Renewable hydrogen needs to grow quickly to replace not only fossil gas

The bigger share of renewable hydrogen and hydrogen-based fuels in 2030 is directed to the transport sector (367 TWh), not to substitute fossil gas but in order to decarbonise aviation and shipping. Given the pace of fossil gas phase-out in industry and decarbonisation in aviation, the renewable hydrogen demand in the PAC scenario clearly exceeds the European Commission's Hydrogen Strategy target of 333 TWh of renewable hydrogen (10 million tons) production by 2030.



15. CAN Europe/EEB: Building a Paris Agreement Compatible (PAC) energy scenario, June 2020.

The decrease of fossil gas demand applies to all consumption sectors and is particularly strong in electricity generation. Compared to the actual consumption level of fossil gas in the EU28 in 2020,[16] the primary energy supply of fossil gas in the PAC scenario decreases by 61% until the end of the decade in 2030. In parallel, the renewable energy supply grows strongly to cover more than 50% of the EU28 gross final energy consumption.



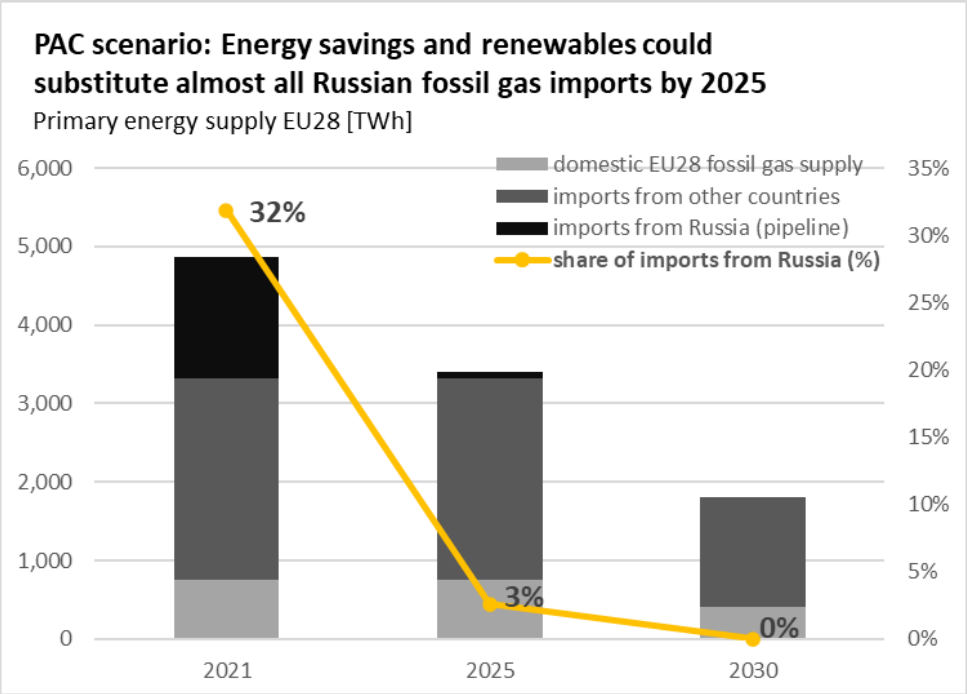
On the mid-term, cuts in fossil gas demand can make total Russian imports superfluous

In the light of potential disruptions of fossil gas supply from Russia to the EU, different measures are being discussed. Think tanks such as Bruegel as well as the draft European Commission's Communication on Joint European Action for more affordable, secure and sustainable energy present the diversification of fossil gas imports as a key instrument. The IEA and Aurora Research discuss, amongst other measures, lifetime extensions for nuclear power plants and/or increasing fossil gas extraction.

The findings of the PAC scenario however show that a strong reduction of fossil gas demand anyway is indispensable for the EU to live up to its Paris Agreement commitments. Provided that the PAC scenario pathway is implemented, the slump in fossil gas demand by 2025 is huge. It already equals roughly the total amount of fossil gas imports from Russia to the EU28 in the year 2021.[17]

16. Eurostat: Energy Balance Sheets EU27, January 2022; UK Department for Business, Energy & Industrial Strategy: Energy Trends, February 2022.
17. McWilliams, B., Sgaravatti, G., Tagliapietra, S. and G. Zachmann: CAN Europe survive painlessly without Russian gas? Bruegel Blog, 27 January 2022.

On a mid-term perspective, the EU could in theory make all Russian fossil gas imports superfluous within four years, provided the ambitious measures to curb demand and ramp up renewables (see key elements on page 1) are kick-started immediately and provided the imports from other countries as well as domestic extraction of fossil gas within the EU28 remain stable until 2025.



The challenge of assuring the EU's security of gas supply on short-term obviously is different and should not be confounded with the generic assessment of mid-term potentials from the PAC scenario. It does not reflect country-specific demands and potential infrastructure limitations. (The PAC scenario modelling during the second phase of the PAC project in 2022/2023 will potentially analyse the energy infrastructure potentials and needs more in detail.) Several reports highlight the huge macro-economic benefits of such a swift fossil gas phase-out.

Repowering for the People: Annex II

Why the European Commission's 'REPowerEU' plan is not ambitious enough

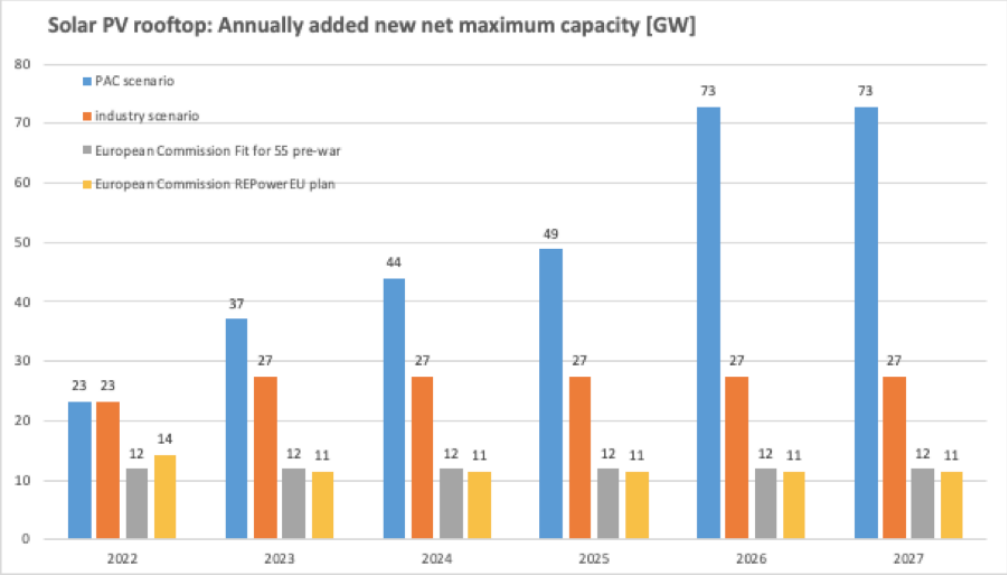
Explanatory notes on **three flagship actions** suggested by CAN Europe:

• Achieve an annual growth of at least 5 million building renovations in 2025

Under the renovation wave the European Commission foresees that a doubling of the current renovation rate to ca 2% will lead to a renovation of ca. 35 million building units by 2030. The PAC scenario assumes an annual renovation rate of 3% of which 70% are deep renovations. This data has been used to derive the number of building units per year, which is estimated to around 4.6 million for deep renovations. The estimated reduction of fossil gas demand from this deep renovation wave is derived from the reduction of final energy demand (space heating and hot water) in the residential and tertiary sector in the PAC scenario. Information on the number of buildings used for historic data stems from the EU Buildings Stock Observatory (2016/2017).[18]

• Achieve an annual growth of at least 5 million new solar PV rooftops in 2025

We take over most recent market forecasts by SolarPower Europe (March 2022)[19], however assuming that the 2021 market share of rooftop installations in the EU27 will be sustained at a level of ca. 60% of installed capacities added annually. When estimating the annually added new net capacity, we assume that an average rooftop installation has an installed capacity of 10 kWp.

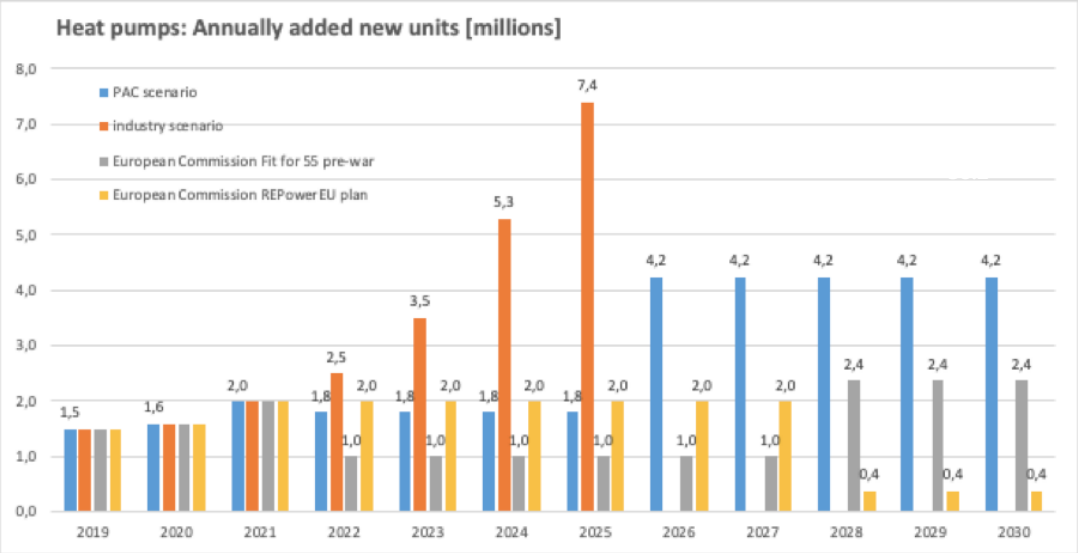


18. European Commission: Building Stock Observatory; https://data.europa.eu/data/datasets/building-stock-observatory
19. SolarPower Europe: Solar-Powering EU energy independence, March 2022; https://www.solarpowereurope.org/advocacy/position-papers/solar-powering-eu-energy-independence

Our comparison of the PAC scenario assumptions with the most up to date industry scenario[20] and the European Commission's scenarios from the pre-war Fit for 55[21] setting as well as from the most recent 'REPowerEU' plan[22] show that the Commission's plans are clearly lagging behind the required and feasible level of ambition.

• Achieve an annual growth of at least 5 million new heat pumps in 2025

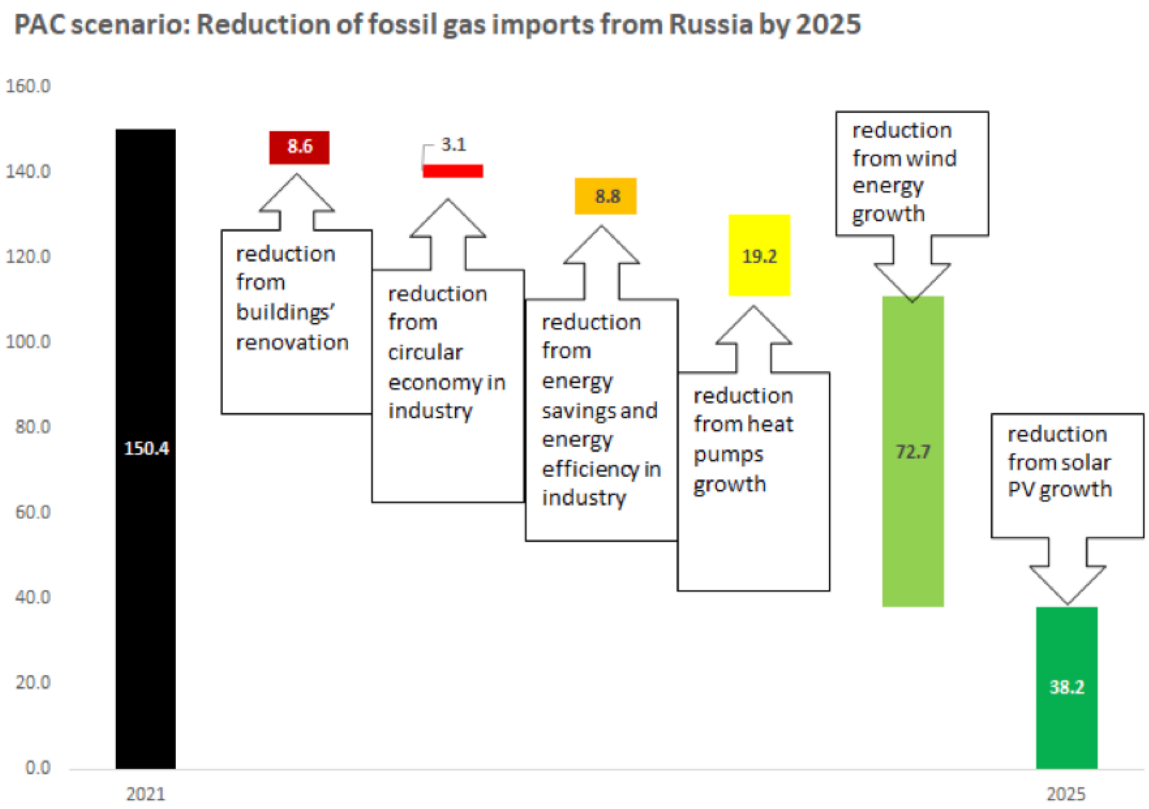
We take over most recent market forecasts by the European Heat Pump Association (EHPA) and an assessment of the heat pump growth potential by Bellona, E3G, Ember and RAP (March 2022), amounting to a cumulated addition of ca. 20 million new heat pumps in the EU27 by 2025, equaling an average annual growth of ca. 5 million new heat pumps.



Our comparison of the PAC scenario assumptions with the most up to date industry scenario[23] and the European Commission's scenarios shows that a much faster and stronger roll-out of heat pumps is feasible. The annual addition of 2 million heat pumps suggested by the European Commission would not represent an acceleration but just freeze the current market growth.

The following infographic summarises in a simplified way the gas reduction potential of the three flagship actions and other measures that would allow people to benefit from the 'REPowerEU' plan.

20. SolarPower Europe: Solar-Powering EU energy independence, March 2022; https://www.solarpowereurope.org/advocacy/position-papers/solar-powering-eu-energy-independence
21. European Commission: Stepping up Europe's climate ambition, Impact Assessment 2030 Climate Target Plan, SWD(2020)176, September 2020; https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020SC0176
22. European Commission: REPowerEU. Joint European Action for more affordable, secure and sustainable energy, COM(2022)108/3, March 2022 (including 5.6 Mt of renewable hydrogen from solar and wind 2030 = ca. 80 to 120 GW of solar and wind: European Commission: Hydrogen strategy, COM(2020)301, July 2020).
23. Bellona Europa/E3G/Ember/RAP: EU can stop Russian gas imports by 2025, March 2022; https://ember-climate.org/insights/research/eu-can-stop-russian-gas-imports-by-2025/



The factors for gas reduction of different technologies are estimations based on the PAC scenario or taken over from a recent assessment by Bellona Europa.[24]

24. Bellona Europa: Using REPowerEU at its full potential: the role of hydrogen and direct electrification in displacing fossil gas demand, March 2022; https://bellona.org/news/fossil-fuels/gas/2022-03-using-repowereu-at-its-full-potential-the-role-of-hydrogen-and-direct-electrification-in-displacing-fossil-gas-demand