

## Introduction

Russia's unprovoked and unjustified military aggression against Ukraine, has massively disrupted the world's energy system. It has caused hardship resulting from high energy prices and heightened energy security concerns, bringing to the fore the EU's over-dependence on gas, oil and coal imports from Russia.

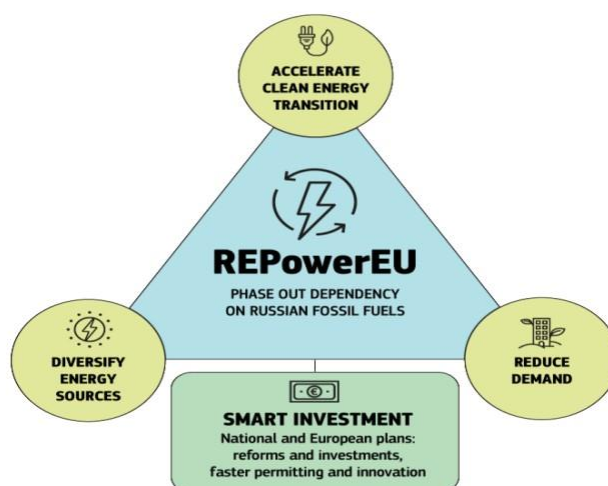
In March 2022, EU leaders agreed in the European Council<sup>1</sup> to phase out Europe's dependence on Russian energy imports as soon as possible. It invited the Commission to swiftly put forward a detailed REPowerEU plan, drawing on the Commission's Communication<sup>2</sup>. The phase out of Russian coal and oil imports is now covered by the sanctions regime. The recent gas supply interruptions to certain EU Member States (BG, PL) demonstrate the urgency to act on Russian gas imports.

**REPowerEU is about rapidly reducing our dependence on Russian fossil fuels by fast forwarding the clean transition and joining forces to achieve a more resilient power system and a true Energy Union.**

We can significantly reduce our dependency on Russian fossil fuels already this year, while ensuring that all our policies and investments are fit for the future and accelerate the energy transition. Fit for 55 Package will provide part of the answer, but Europe needs to do more.

Completing the actions on gas security of supply and storage, REPowerEU puts forward a set of actions to<sup>3</sup>:

- Save energy;
- Diversify supplies;
- Quickly substitute fossil fuels and accelerate Europe's clean energy transition;
- Smartly combine investments and reforms.



<sup>1</sup> European Council Conclusions (24 and 25 March 2022)

<sup>2</sup> Communication on REPowerEU: Joint European Action for more affordable, secure and sustainable energy, COM(2022) 108 final, (8.3.2022)

<sup>3</sup> See the complete list of actions this communication proposes in Annex 1

[Note: figure being modified in order to align the wording (save energy not reduce demand.)]

These four strands of action, in combination with the proposals under Fit For 55 package, will structurally transform Europe's energy system. They require effective coordination between European regulatory and infrastructure measures as well as national investment and reforms. They also require coordination between action on the demand side, to reduce energy consumption and transform industrial processes to replace gas, oil and coal with renewable electricity and hydrogen, with action on the supply side to create the capacity and framework to roll out and produce renewables gases

Citizens expect the EU and Member States to deliver on our commitment to reduce dependence on Russian fossil fuels. 85% believe that the EU should reduce its dependency on Russian gas and oil as soon as possible. 84% agree that the war in Ukraine makes it more urgent for EU Member States to invest in renewable energy<sup>4</sup>.

While some Member States<sup>5</sup> have already announced their intention to end fossil imports from Russia, **no Member State can tackle this challenge in isolation**. Through joint needs assessment and planning, joint purchases and enhanced coordination, we can ensure that the ambition of ending Russian fossil fuel dependency is both achievable and affordable for all Member States. Legislation that enhances renewable and energy efficiency will ensure joint delivery on ambitious targets. A truly interconnected EU energy network will ensure energy security for all.

These measures constitute our plan to repower the EU without Russian fossil fuels. As a disruption to supply of gas cannot be excluded, solidarity and preparedness remain key for the next winter. Simultaneously with REPowerEU, the Commission presents its analysis on keeping electricity prices in check during the current time of crisis and ensuring an optimal market design for an accelerated transition and an International Energy Strategy on engaging with partner countries to face the current crisis and, based on the lessons learnt, to cooperate to build more resilient, sustainable and fair energy systems.

## 1. Energy savings

A vital component of the clean energy transition, energy efficiency and savings are also the quickest and cheapest way to address the current energy crisis. Savings can already reduce household and companies high energy bills in the short term. They will help our supplies go further in the critical months ahead, while investments are being rolled out. This is why the Commission puts forward an EU Save plan, with a two-pronged approach: achieving short-term energy savings through behavioural change and accelerating and strengthening structural change with mid- to long-term energy efficiency measures.

Based on input from stakeholders it is estimated that these types of short-term measures could achieve a **5% reduction in the demand for gas and in that for oil**<sup>6</sup>. To this end, building upon its 'Playing my part' campaign<sup>7</sup> launched jointly with International Energy Agency (IEA)

<sup>4</sup> Flash Eurobarometer 506: EU's response to the war in Ukraine, 5 May 2022.

<sup>5</sup> PL, DE, LV ENER pls complete the list

<sup>6</sup> Footnote to be inserted on based on IEA estimates, and depending on the Member State and its overall transport demand.

<sup>7</sup> [Playing my part – Analysis - IEA](#)

in April 2022, the Commission will support information campaigns and other measures to foster behaviour that can contribute to reducing our energy imports from Russia as illustrated in the accompanying Staff Working Document<sup>8</sup>.

In the medium to long term, full implementation of the Fit for 55 proposals tabled last July would lower our gas consumption by 30% by 2030 with more than third of such savings coming from meeting the EU energy efficiency target put forward in the Energy Efficiency Directive recast proposal.

Given the goal of increasing the EU's energy resilience and with higher energy prices reducing the return period of energy efficiency investment, there is a need for a renewed effort to remove the liquidity and information constraints holding back such profitable investment. Modelling of the REPowerEU scenario<sup>9</sup> shows that a reduction of [13%] in energy consumption by 2030, up from 9% in the previous Energy Efficiency Directive proposal, would be cost effective and substantially contribute to achieving the REPowerEU target at Union level. **The Commission therefore invites the co-legislators to amend the 2021 recast proposal to increase the binding target in the Energy Efficiency Directive to at least 13%.**

To support higher energy efficiency investment, many additional measures could be considered at both Member States and EU level. As detailed in the accompanying Staff Working Document, such measures could focus on the energy, building and transport sectors. They could be taken on board in the proposals that are currently in the inter-institutional decision-making process (such as the EED and the EPBD recast) as well as in the preparatory work for planned initiatives..

Regions and cities should play a leading role in developing and deploying energy savings measures suited to the local context. They should launch awareness and information and support schemes, energy audits and energy management plans, pledging savings targets. The Commission will issue this fall guidance on the next National Energy and Climate Plans to monitor progress in this area.

## 2. Diversifying energy imports

The EU has been working intensively with international partners for several months to diversify supplies<sup>10</sup> and dampen the rise in energy prices.

Following the mandate by the European Council, the Commission and Member States have set up a voluntary **EU Energy Platform for the pooled purchase of gas, LNG and hydrogen**. The platform is also open to Ukraine, Moldova, Georgia and the Western Balkans. It will combine demand on a voluntary basis, optimise the use of existing and planned gas infrastructure and facilitate international outreach, notably to establish long-term partnerships

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<sup>8</sup> SWDXXX

<sup>9</sup> REPowerEU scenario SWD reference

<sup>10</sup> Reference the EU US agreement pls

with energy supplying countries. [To be beefed up with next steps/actions, including on the first steps for joint hydrogen purchasing]

On 5 May, the Commission and Bulgaria set up a first regional taskforce, as part of the EU's Energy Purchase Platform, in coordination with neighbours in the South East of Europe.

The emergency synchronisation of the electricity grids of Ukraine and Moldova with Europe's grid mid-March shows the commitment to ensure Ukraine's and Moldova's interconnection with the EU's power grid. Once the necessary technical improvements are completed, it will allow Member States in the region to purchase excess electricity from Ukraine, thus compensating for some of the reduced gas imports.

A key focus of REPowerEU is to secure adequate alternative gas supplies to cover Europe's gas demand by diversifying external supplies. Domestic natural gas production within the EU could compensate to some extent reduced imports from Russia in the short term. In the medium term gas demand is expected to decrease by more than the 30% foreseen under Fit for 55, driven by high prices, gas alternatives (bio-methane, renewable hydrogen), deployment of renewables, and structural demand measures such as energy efficiency. As described in the **International Energy Strategy**<sup>11</sup>, the EU is committed to ensuring its partners long term, robust relationships for mutual benefit. It will offer partner countries long-term energy partnerships for the development of renewable energy and hydrogen production, for domestic development and international trade.

### 3. Substituting fossil fuels and accelerating Europe's clean energy transition

Replacing the EU's reliance on Russian fossil fuels will require a **massive scale-up in renewable electricity, gases and fuels in power generation, industry, buildings and transport**. The boost for transition away from fossil fuels will, over time, lower electricity prices and reduce fossil fuel imports. In parallel, extra efforts are needed to develop, maintain and reclaim **industrial capacity, leadership and skills** in key technologies such as **solar and wind technologies, heat pumps and electrolyzers**.

Time is short. To ensure EU wide renewable targets are accelerated in line with the REPowerEU plan and based on its modelling of impacts and feasibility<sup>12</sup>, the Commission is proposing to **increase the target set in the Renewable Energy Directive from the current 40% to 45% by 2030** and to speed up the renewable energy deployment. This would bring the total renewable energy generation capacities to 1236 GW by 2030, in comparison to 511 today and 1067 envisaged under Fit for 55 for 2030.

#### 3.1 Renewables and hydrogen

##### *Solar, heat and wind*

**Solar** photovoltaics (PV), one of the fastest technologies to deploy, could accelerate the phase out of fossil import within a few years. That is why the Commission sets the **REPowerEU target of over 300 GW of solar photovoltaic installed by 2028**, over twice today's level.

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<sup>11</sup> XXX

<sup>12</sup> Reference to the SWD - assessment needs

The **Solar Strategy**<sup>13</sup> presented together with REPowerEU sets out a series of actions to achieve the targets. In particular, the **European Solar Rooftop Initiative** promotes massive, decentralised deployment of solar energy, allowing to produce electricity using all available rooftop space on residential, public, commercial and industrial buildings. The Commission will work with industry to strengthen supply chains for solar equipment.

Member States should accelerate the integration of large-scale **heat pumps**, geothermal and solar thermal energy. Focus should be placed on developing and modernising district heating systems which can replace fossil fuels in individual heating with more cost-efficient and clean communal heating, especially in densely populated areas and cities.

To enhance the regulatory framework and ensure life-cycle sustainability, the Commission will in the first quarter of 2023 put forward ecodesign and energy labelling requirements for solar PVs, and revise existing requirements for heat pumps.

To further strengthen the EU **wind** sector's global competitiveness, and achieve the REPowerEU ambition with fast wind energy deployment, supply chains need to be strengthened and permitting needs to be drastically accelerated, as set out below in section 2.4. This will unlock the required financing, of which large proportions will be provided from private sources.

**Bioenergy** makes up 60% of the renewable energy in the EU. It is a domestically available and stable energy source, especially solid biomass for some forest-rich Member States. As long as the strengthened safeguards for its sustainable sourcing are put into place and complied with, increased bioenergy use can contribute to replacing Russian imported fossil fuels including natural gas, e.g. for heating. Current estimates showing a moderate but steady increase of biomass use until 2030.

#### *Hydrogen accelerator*

Hydrogen will play a key role to replace natural gas, coal and oil in hard-to-decarbonise applications in industry and transport. REPowerEU proposes a Hydrogen Accelerator setting a target of 10 million tonnes of domestic renewable hydrogen production and 10 million tonnes of renewable hydrogen imports by 2030. In order to achieve this goal accelerated joint efforts at EU and Member State level are proposed to finalise regulatory frameworks and hydrogen projects, boost renewable electricity roll out and electrolyser manufacturing capacities in the EU, and to facilitate transition towards hydrogen-based technologies in hard-to-abate industrial and transport sectors.

The European hydrogen industry's estimate of around 123 GW of electrolyser capacity in the EU by 2030 would suffice to meet the objective of producing 10 million tonnes of renewable hydrogen. The Commission will support the industrial scale up of renewable hydrogen production and consumption in the EU.

Regulatory frameworks are urgently needed to allow for hydrogen economy to develop in the EU. Jointly with this communication, the Commission published for public feedback **two Delegated Acts on the definition and production of renewable hydrogen**. Furthermore, the Commission calls upon the European Parliament and the Council to rapidly conclude the

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<sup>13</sup> **Solar Strategy (COM XXXX)**

revision of the Hydrogen and Gas Market package. There is also an urgent need to **accelerate the work on missing hydrogen standards**, in particular for hydrogen production, infrastructure and end-use appliances.

Existing hydrogen project pipeline must be accelerated. Integrated Projects of Common European Interest (IPCEIs) will strengthen the full hydrogen value chain — from renewable and low-carbon hydrogen production to hydrogen storage, transportation, and hydrogen use notably in industrial sectors. Member States have preselected over 400 projects for state aid under the IPCEI framework. The Commission aims to approve around a first 100 of these projects by the summer.

Accelerated efforts are also needed to deploy **hydrogen infrastructure** necessary to produce, import and transport 20 million tonnes of hydrogen by 2030. This is particularly important for cross-border infrastructure, where hydrogen projects are still in their infancy. An estimate of investment needs for key hydrogen infrastructure categories by 2030, building on the Hydrogen Backbone Initiative and Commission-internal analyses, points to [x] bn EUR for EU-internal pipelines and around [x] bn EUR for storage, leading to additional demand for CEF energy for cross-border hydrogen infrastructure for at least [x] bn EUR. To track progress in the use of renewable hydrogen in hard-to-abate appliances in industry and transport, the Commission will develop a progress report on hydrogen uptake in 2025, in close cooperation with the Member States.

To facilitate the **import of up to 10 million tonnes of hydrogen**, the accompanying International Energy Strategy sets out how it will facilitate three major hydrogen import corridors via the Mediterranean, the North Sea area and, as soon as conditions allow, with Ukraine. Green Hydrogen Partnerships will be set up with hydrogen producing countries to facilitate the imports of green hydrogen while supporting the decarbonisation in the partner countries. To support the creation of Hydrogen Partnerships, facilitate EU-wide coordination on international hydrogen projects and incentivise European and global renewable hydrogen production, the Global European Hydrogen Facility will be established in cooperation with the Member States. The Facility should incentivise the production of renewable hydrogen in the EU and in third countries by providing a platform to support Members States' and private sector initiatives in third countries and improving the bankability of projects.

New windows dedicated to REPowerEU objectives under the Innovation Fund will support hydrogen uptake by industry and manufacturing capacities for electrolysers, including via a new financial instrument rolling out an EU-wide scheme for carbon contracts for difference.

### *Biomethane*

Boosting **biomethane** production to 35bcm by 2030 [2028 target] is a cost-efficient path to deliver on our ambition to reduce imports of natural gas from Russia. To increase the capacity of biogas production in the EU and promote its conversion in biomethane, the estimated investment needs amount to 36 billion euro over the period, which can be co-financed by the Common Agricultural Policy provided Member States include the projects in their strategic plans, which are currently under discussion.

The Commission proposes a set of measures to support the RePowerEU ambition on biomethane, outlined in the Staff Working Document accompanying this Communication. They address the main barriers to increased biomethane production and use and facilitation of

its integration into the EU internal gas market. The Commission will establish an industrial biogas and bio-methane partnership to stimulate the renewable gases value chain and it will address infrastructure needs to better accommodate bio-methane into the gas grid.

### *3.2 Boosting demand for new sources of energy, reducing fossil consumption in hard-to-abate industrial and transport sectors*

#### *Resilient industry*

**As a key consumer of fossil fuels, European energy-intensive industry can contribute and benefit from RePowerEU efforts.** In the current context of high fossil fuel prices and the renewal of investment cycles in many industrial sectors, replacing coal, oil and gas in industrial processes will not only reduce carbon dependence, it will also strengthen industrial competitiveness by shielding industrial production from volatile fossil fuel markets and support international technology leadership.

Energy efficiency, fuel substitution, electrification, and an enhanced uptake of renewable hydrogen and biomethane by industry could save up to 35 bcm of natural gas by 2030 on top of what is foreseen under the Fit for 55 proposals. Production of non-metallic minerals, cement, glass and ceramics, production of chemicals and refineries provide the biggest opportunities for reducing fossil gas demand – almost 22 bcm.

Hydrogen plays a major role as a replacement for gas in industrial production. As a first step to rapidly reduce existing natural gas demand the Commission will support a full switch of the current hydrogen production in industrial processes from natural gas to renewables. The cost of triggering 10 million tonnes of consumption of renewable hydrogen, to replace hydrogen produced from natural gas in the EU by 2030, is estimated at close to [x] billion euros. As a second parallel track, the Commission will support new industrial sectors in switching to production technologies based on hydrogen. Based on projects under preparation by industry, the Commission expects that around 20% of EU steel production will be decarbonized on the basis of renewable hydrogen by 2030, [requiring 1.5 million tonnes of renewable hydrogen and investments of [x] bn € for hydrogen fuelled iron production and electrified production of steel from that iron. ]

The potential for electrification of industry is also significant. Current technologies already allow industrial companies to replace a significant share of their fossil-fuel, and opportunities to adopt electric technology will continue to expand as electric technologies improve.

To provide further incentives for the expansion of renewable energy and shield against price fluctuations, the Commission publishes **guidance to Member States on renewable energy and power purchase agreements**<sup>14</sup> (PPAs) to help Member States overcome key barriers for their uptake and enable access to purchase agreements to all market segments. As a first step towards a possible guarantee scheme for PPAs, the Commission in cooperation with the EIB will initiate pilot projects and develop a technical facility to support PPA-financed renewable energy projects.

To unlock investment, the Innovation Fund will provide financing for the uptake of renewable hydrogen through carbon contracts for difference and grants to support capital investments

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<sup>14</sup> Recommendation and Guidance on accelerating permitting and facilitating Power Purchase Agreements XXX

necessary for technology switch to hydrogen-based production processes and electrification of industry. The Commission will frontload the **Innovation Fund** in a 2022 Large Scale Call this autumn and double the funding available to EUR [xx] billion, financed by higher revenues from the Emissions Trading System. The Call will contain specific windows aligned with REPowerEU objectives.

### *Resilient transport sector*

Higher consumption of hydrogen in hard-to-abate transport sectors, especially in heavy duty trucks, aviation and maritime provides another opportunity to replace Russian fossil fuels. In the REPowerEU scenario<sup>15</sup>, transport consumes almost twice the volume projected under Fit for 55 package.

### *3.3 Delivering REPowerEU – with skilled people, raw materials and a complete regulatory framework*

Achieving the RePowerEU acceleration, will require diversifying the supply of renewable energy equipment, reducing sectoral dependencies, overcoming supply chain bottlenecks and expanding **the EU’s clean energy technology manufacturing capacity**. While the EU is a global leader in electrolyser, wind and heat pump technologies, the EU solar panels and heat pumps market has seen increasing imports from Asia over the last few years.

For the solar PV sector, the solar strategy announces the launch of an **EU Solar Industry Alliance**. The Commission also commits to working with the industry to scale up electrolyser manufacturing capacities, as laid out in the **Electrolyser Declaration** jointly signed with the industry<sup>16</sup>.

The Commission proposes to intensify work on the supply of **critical raw materials** and components (such as glass fibre used in wind turbine blades and polysilicon metals used in solar PVs). Building on the Sustainable Raw Material Value Chain Partnerships with Canada and Ukraine, the Commission is working towards establishing additional raw material value chain partnerships in Africa, Latin America and with Australia. Additional support for research and innovation is needed to reduce materials consumption, enhance recyclability of renewable energy equipment and substitute critical raw materials.

Accelerated deployment of renewables will not happen without a **skilled workforce** and strong supply chains that can deliver on the increased demand for clean technology. This also offers job market opportunities and helps ensure reskilled jobs for transition sectors. Stakeholders in renewable energy production (solar, wind, geothermal, biomass, heat pumps etc.) and permitting authorities are encouraged to establish a **large-scale skills partnership** under the Pact for Skills<sup>17</sup>, an initiative of the European Skills Agenda 2020.

### *3.4 Accelerating: faster permitting and innovation*

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<sup>15</sup> See the assumptions of the scenario in the Commission Staff Working Document accompanying this communication [add a reference]

<sup>16</sup> [Electrolyser Summit Joint Declaration](#).

<sup>17</sup> The **Pact for Skills** supports large-scale skills partnerships in different industrial ecosystems, including Energy Intensive Industries, Construction and Renewable Energy. The Pact gathers and inspires commitments from individual companies, training providers and social partners to upskill or reskill people of working age, such as developing skilled professionals and the reskilling of gas boiler installers in new technologies such as heat pumps, solar panels, etc.

**Slow and complex permitting processes are a key obstacle** to unleashing the renewables revolution. Obtaining a permit can take up to 9 years for wind projects, and up to 4,5 years for ground-mounted solar projects.

Speed now matters more than ever. Member States need to exploit all possibilities for acceleration that exist within the legislative framework. Permitting times vary between Member States, which demonstrates that national rules and administrative capacities unnecessarily complicate and slow down permitting processes. The **Commission Recommendation on permitting**<sup>18</sup> provides for accelerating procedures by removing ambiguity in the application of EU legislation and setting out good practices in Member States. Participatory approaches involving Local and Regional Authorities and providing authorities with the necessary resources will facilitate the timely realisation of locally adapted investments. The Commission will kick-start implementation of the Recommendation by convening **renewable energy experts with environmental assessment experts from Member States on 13 June**. High Level Summits hosted by Member States, such as the North Sea Summit in Denmark, will enhance the case for investment in cross-border wind parks and renewable projects.

Member States should as a matter of priority implement the permitting-related **Country Specific Recommendations** in the European Semester. Equally, the full and rapid transposition by all Member States of the Renewable Energy Directive<sup>19</sup> is a matter of urgency to simplify permitting procedures.

In order to allow for the necessary significant acceleration of renewables deployment and simplify permitting procedures the Commission is **amending its proposal on the Renewable Energy Directive**<sup>20</sup>. The revised proposal operationalises the principle of **renewable energy as an overriding public interest**, introduces the designation of **‘go-to’ areas** and other ways to shorten and simplify permitting while also minimising potential risks and negative impacts on the environment. It also provides for the possibility to create **regulatory sandboxes** to foster innovation in the sector.

The Commission calls on the European Parliament and the Council to ensure the swiftest possible examination of the legislative proposal with the aim to reach agreement together with the initial proposal for amending the Renewable Energy Directive as part of the Fit for 55 package.

#### **4. Smart investment**

Commission analysis indicates that REPowerEU would entail additional investment of 195 billion euro between now and 2027, on top of what is needed to realise the objectives of the Fit for 55 proposals. The modelling looks at all fossil fuel imports from Russia, with natural gas being the most difficult to phase-out.. With the Fit for 55 regulatory framework and the REPowerEU plans, **the EU can save EUR 80 billion on gas import expenditures, EUR 12**

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<sup>18</sup> xxx  
<sup>19</sup> xxx  
<sup>20</sup> xxx

**bn on oil import expenditures and EUR 1.7 bn on coal import expenditures per year by [xxx insert year].**

The geopolitical developments that require a fast decoupling from Russian energy imports could lead to a period of higher and more volatile energy prices, due to the rising cost of fossil fuels. Minimizing such volatility, keeping prices in check and protecting the most vulnerable requires targeted measures, such as those presented in the accompanying Commission communication on tackling high energy prices as well as full use of all available tools to ensure a fair transition. To this end, the Commission also calls upon the European Parliament and the Council to conclude on its proposal for a Social Climate Fund to support vulnerable households and small business in the transition.

#### *4.1 European interconnection and infrastructure needs*

The measures proposed for ending our energy imports from Russia constitute a **significant change to the energy system in terms of quantities and directions of energy flows.**

The **Trans-European energy networks (TEN-E)** framework has already helped to establish a more resilient European gas infrastructure based on more diversified supplies. Once the ongoing Projects of common interest (PCIs) are implemented, all Member States will have access to at least three gas sources or the global liquefied natural gas (LNG) market. In 2022 alone, gas PCIs with a total additional gas transmission capacity of 20 bcm/year have been or will be commissioned<sup>21</sup>. Very recently, a number of key projects co-financed by the EU were completed or launched, such as the Gas Interconnector Poland-Lithuania (GIPL)<sup>22</sup> of key importance to the Baltic region and a new liquefied natural gas terminal in Northern Greece that will help Europe and the Balkans become less reliant on Russian supplies<sup>23</sup>.

The regional assessment of additional gas infrastructure needs for REPowerEU shows that it will be possible to fully compensate the end to Russian gas imports by a combination of demand reductions, a ramp up of domestic production of biogas and hydrogen in particular, and limited additions of gas infrastructure beyond the existing gas PCIs. The most important needs are linked to meet demand in Central and Eastern Europe, and in the northern part of Germany<sup>24</sup>. This limited additional infrastructure should solve the needs for the forthcoming decade, without leading to a lock-in of fossil fuels that inhibit the long-term transition to a climate-neutral economy.

To import sufficient LNG and pipeline gas from other suppliers, investments estimated at **[EUR xx] bn** will be required for a sufficient level of gas infrastructure, including LNG import

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<sup>21</sup> In 2022 alone, PCIs with a total additional gas transmission capacity of 20 bcm/year have been or will be commissioned, e.g. the gas interconnector between Poland and Lithuania (the GIPL pipeline), the Poland-Slovakia interconnector, the Baltic Pipe between Poland and Denmark, the Greece-Bulgaria pipeline (IGB). LNG terminals in Cyprus (2 bcm/year) and Alexandroupolis Greece (5 bcm/year) are due to be operational in 2023. Moreover, several gas PCIs are expected to be completed in the coming years which include several storage projects in South Eastern Europe (Greece, Romania, Bulgaria) as well the LNG Gdansk in Poland (at least 6 bcm/year).

<sup>22</sup> Opened on 5 May, GIPL is a major EU project developed under the Baltic Energy Market Interconnection Plan (BEMIP). The 508-km-long pipeline connected Estonia, Finland, Latvia, and Lithuania to the gas market of the EU. Of some EUR 500 million spent on the project, the EU contributed ca. EUR 300 million.

<sup>23</sup> The LNG facility in Alexandroupolis (a floating storage and regasification unit) is set to be completed in the end of 2023 and will have a capacity of 153,500 cubic metres, with a yearly potential throughput of 5.5 billion; the budget is ca EUR 364 mn with EUR 167 mn from the 2014-2020 Partnership Agreement.

<sup>24</sup> See indicative projects in Annex 2.

terminals, pipelines, and reverse flow possibilities. Ensuring that new gas infrastructure is hydrogen-ready prevents stranded assets and promotes the green energy transition. A very limited investment will be needed in oil infrastructure to ensure security of supply in Member States almost fully dependant on pipeline oil from Russia.

**[Placeholder paragraph on needs for oil security of supply, investment need EUR XX bn**

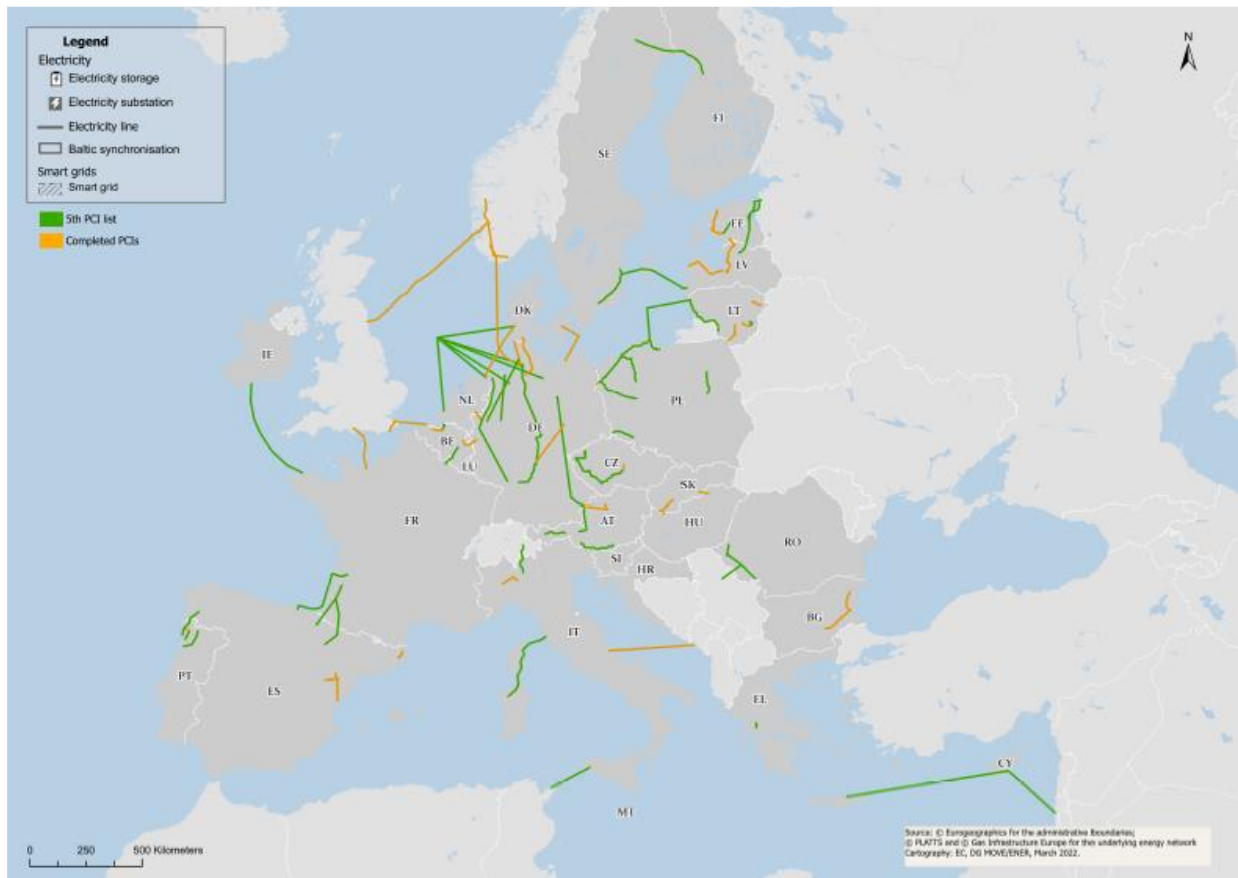
An additional EUR 29 billion of investments are needed in the power grid, to make it fit for increased use and production of electricity. The accelerated implementation of electricity PCIs will be crucial for a better interconnected system that will enable to increase the share of renewable energy sources.

*[Note: could we include maps of optimum areas for renewables, hydrogen infrastructure...?]*

**European map of infrastructure for gas – PCIs and additional projects identified through REPowerEU**



European infrastructure map for electricity [still to be improved]



#### *4.2 Reforms and investments*

The Commission proposes to translate all the measures set out above into smart and fast REPowerEU plans across Europe. Member States and the Commission need to work hand-in-hand to build the REPowerEU plans to ensure optimum integration of the national, cross-border and industrial angles within a resilient and efficient EU energy system. While most of the targets and objectives are European and require a strong coordination, implementation of many of the measures will remain with Member States and require **targeted reforms and investments**.

Recovery and Resilience Plans (RRPs) are the best framework to implement these new priorities. The Commission's proposal invites Member States to add to their RRP chapters that include new reforms and investments in order to deliver on the REPowerEU objectives, and ensure synergies and complementarity between measures funded under the RRF and actions supported via other national or EU funds. The chapters should take into account the new situation in terms of energy security, price, supply chain and inflation.

The 2022 **country-specific recommendations** will guide the revision of RRP. The Commission will issue individual recommendations for all Member States on energy policy in line with the REPowerEU objectives.

The Commission calls on Member States to accelerate and scale-up their energy investments and reforms, and to propose new measures currently not envisaged in the plans. These reforms and investments should aim at maximising short-term benefits from diversifying energy supply and reducing dependence on fossil fuels. This entails improving energy infrastructure, boosting energy efficiency gains in buildings and industry, increasing production of biomethane and hydrogen and increasing the share of renewable energy, addressing internal and cross-border energy transmission bottlenecks, and supporting the rapid requalification of the workforce

towards green skills and a support of the value chains in key materials linked to the green transition.

The Commission proposes allocating additional funding from the auctioning of Emissions Trading System ('ETS') certificates for the **financing of new REPowerEU measures**. Member States should also benefit from a higher flexibility to transfer resources allocated to them both under the Common Provisions Regulation ((EU) 2021/1060) and the Regulation on CAP strategic plans ((EU) 2021/2115).

Synergies between cohesion policy, Common Agriculture Policy (CAP) and the REPowerEU RRP chapters are a must. RRP chapters provide for a very fast way of implementing and allow frontloading investments with a special focus to the REPowerEU needs. Following exchanges with the Commission, Member States will be able to adjust plans to ensure that cohesion policy funding enables further support.

**Cohesion policy** funds amounting to **XX** % of the national envelope could be transferred to the RRF to accelerate REPowerEU reforms and investments. The Commission will use one of the next calls of the Interregional Innovation Investments, with a total volume of up to EUR 570 million, to finance projects under the energy partnerships. The Commission will treat requests to adapt programmes in function of new needs linked with REPowerEU as a priority. To ensure swift disbursement, the Commission will adopt by the end of 2022 a delegated act to speed up the design and reimbursements of energy efficiency projects and renewables projects through standard reimbursement schemes in cohesion policy. To shorten administrative procedures, Member States should make regional energy agencies the single entry point for energy projects.

The same holds for the **Common Agricultural Policy (CAP)** support to investments in energy efficiency, renewables, and bio-economy. The draft national strategic plans currently under discussion include investments worth around 3.4 billion EUR which support specifically renewable energy. Transferring up to **xx**% of the allocations into the REPowerEU plans can substantially accelerate and upscale energy related projects in an integrated plan combining investment with reforms.

The **Connecting Europe Facility –Energy (CEF-E)** will support those projects of common interest (PCIs) not implemented by the market or not implemented otherwise within the timeframe needed to deliver on the REPowerEU objectives. The Commission therefore **launches a new CEF Energy call for proposals for Projects of Common Interest (PCIs)** with a total estimated budget of EUR **[tbc]** million. Successful projects will be selected in the second half of 2022 to support the most urgent infrastructure projects needed for realising the REPowerEU priorities. In early 2023, the Commission will launch another CEF Energy call for proposals for PCIs for projects to apply that may not be ready for this year's call.

Member States can consider **tax measures to support REPowerEU objectives** by incentivising energy savings. Common types of tax incentives include corporate income tax incentives (e.g., tax deductions or credits for on-site use of renewable energy/energy savings), personal income tax incentives (e.g., on an investment in a renewable energy system) or property tax incentives (utilised when renewable energy systems are implemented to improve a property).

Moreover, there is scope with the Commission's pending proposal for a revision of the **Energy Tax Directive (ETD)**, which includes a new structure of tax rates based on the energy content and environmental performance of fuels and electricity, and which removes some of the current exemptions and reductions. It could be adjusted to align energy taxation in the EU with the REPowerEU objectives to: (a) Incentivise energy savings, (b) Accelerate hydrogen uptake, and (c) Enhancing EU uptake of biomethane.

Solid and up to date **National Energy and Climate Plans (NECPs)** are key in delivering the clean energy transition objectives, including those of REpowerEU. They have a crucial role in enhancing investor confidence and investment predictability. Member States should actively step up implementation of their NECPs and accelerate ambitious energy efficiency measures, renewable energy deployment and enhanced energy security. Under the Governance Regulation, Member States have to submit their draft updated NECPs by June 2023 and final updated plans by June 2024. The Commission will intensify the dialogue with Member States on the preparation of these updates of the NECPs and intends to publish guidance for this later this year and monitor progress on REPowerEU, among others, by the State of the Energy Union and Climate Action reports.

With its goal to support EUR 1 trillion in green investments by 2030 globally, the **European Investment Bank (EIB)** can make a crucial contribution to REPowerEU. The European Commission will work closely with the EIB Group and EU Member States to accelerate lending, blending and advisory products for renewables, energy efficiency and electricity networks. One-stop shop solutions that could combine different sources of EU and Member States' finance (including loans and grants) will be explored between the Commission, the EIB Group and EU Member States. The Commission and the European Investment Bank will provide by the end of 2022 a model Energy Efficiency Financial Instrument, which allows to combine loans and grants in a single financial instrument operation.

To enable the **Innovation Fund** to cover 100% of the relevant costs in the case of competitive bidding, the European Parliament and the Council should swiftly examine the proposed amendment to the ETS Directive for the Innovation Fund, after which the Commission will swiftly adopt the necessary amendment to the Delegated Act establishing the Innovation Fund.

#### **4. Reinforcing preparedness**

While the above mentioned measures should be planned for and implemented as quickly as possible, we also need to have contingency measures, in case of a sudden and severe disruption to energy supplies.

To cater for this situation, the EU already has national emergency plans developed under the Security of Supply Regulation. The Commission urges Member States to update their contingency plans in view of the updated preparedness overview, taking into account the recommendations contained in it. While the risk for unmet gas demand for this summer is limited, additional measures are necessary to avoid a risk that storages will not be sufficiently filled for next winter.

These updated plans should be complemented with the establishment of a coordinated rationing and curtailment of demand based on EU wide principles during an EU-wide emergency<sup>25</sup>. Based on the principle of solidarity, a reduction of gas demand in less affected Member States to the benefit of more affected Member States should be considered even in case such rationing is not foreseen in the national emergency plan. National emergency plans would include market based-measures to reduce energy consumption by undertakings (voluntary curtailment), for instance interruptible contracts by which undertakings agree to be stop their consumption in exchange of more advantageous prices in normal times. **A European coordinated plan for the curtailment of industry** would minimize the overall impact of emergency measures on the European economy in case of a large-scale disruption with impacts across borders. Such plan would take into account the critical role of industries concerned for security, food, health and safety at European and global level, the impact on supply chains across borders, the potential of the industry to switch to alternative supply or reduce its consumption, and the impact on the competitiveness of different territories.

In order to set up such plan and implement it, the following measures will be taken:

- The Commission will identify best practice among Member States' Plans demand reduction Plans and share it;
- The Commission, in dialogue with industry, will map key and critical EU and global value chains relevant for the EU. This should be complemented by a similar exercise by Member States at the national level
- A coordination mechanism will be set up with Member States and involvement of industry, building on analytical support, to identify, agree and update as necessary, a set of common criteria for curtailment and critical industrial interdependencies from an EU perspective. The Gas Coordination Group will be consulted
- Such common criteria will be implemented on the basis of an early warning system to ensure effective and efficient EU coordination.

On that basis, the Commission will issue guidance, including criteria for identifying priority non-protected consumers and the above mentioned best practice.

The Commission will issue, this autumn, guidance on updating National Energy and Climate Plans to monitor the achievements on saving energy and enhancing preparedness.

## Conclusions

The time to reduce Europe's strategic energy dependence is now. REPowerEU accelerates diversification and more renewable gases, frontloads energy savings and electrification with the potential to deliver by 2027 at least the equivalent of the fossil fuels Europe currently

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<sup>25</sup> This is declared by the Commission at the request of at least two Member States and may be also declared at the request of one.

imports from Russia every year. It does it with a coordinated planning, in the joint interest and with strong European solidarity.

The urgency to successfully reduce Europe's energy dependence is two-fold. While the climate crisis has been severely compounded by a security crisis in the EU's immediate neighbourhood, the EU cannot allow that its demand for energy is used as an economic or political weapon.

The green transformation of Europe's energy system will strengthen economic growth, reinforce its industrial leadership, and put Europe on a path towards climate neutrality by 2050.

The European Commission calls on leaders, Member States, regional and local authorities, and indeed every citizen and business, to reduce Europe's energy dependence from Russia through the implementation of this REPowerEU plan.

## ANNEX 1

### REPowerEU Actions [to be completed]

#### ***In the mid to long term, phasing out Russian fuel dependency before 2027***

1. *MS Repower plans have new chapters according to the modified RRF leading to investment and reforms, worth XXX bn*
2. *A fully integrated and adapted gas and electricity infrastructure network reflecting the new reality by 2027*
3. *A massive boost to industrial decarbonisation thanks to 20 bn frontloaded Innovation Fund*
4. *Increased ambition of the energy savings obligation (Article 8 EED recast), by increasing the savings rate to at least 2% as of 2024*
5. *Strengthened implementation of energy audit results*
6. *Advanced timelines and increased ambition for EU-wide buildings Minimum Energy Performance Standards*
7. *Advanced sunset clause for Member States subsidising fossil fuel-based boilers in buildings from 2027 to 2025*
8. *Strengthened energy requirements of new buildings and tighten heating system requirements for existing buildings.*
9. *Increased role of transport in the framework of the EU energy efficiency policy with a range of regulatory measures to increase transport energy efficiency.*
10. *A hydrogen accelerator bringing about XXX GEw of hydrolysers to be built providing fuel for hard to abate sectors*
11. *Accelerated permitting by full implementation of existing flexibility and go –to areas thanks to a modified regulatory framework*
12. *Completed and modernised regulatory framework for hydrogen and clean energy thanks to delegated acts and standards*

#### ***In the short term:***

13. *Gas purchases via the energy platform for all MS who want to participate (add volume)*
14. *New energy partnerships with reliable suppliers, evolving into medium term broad cooperation in renewables and low carbon gases*
15. *80% filling of storage by 1 November 2022*
16. *Preparation of coordinated curtailment plans in case of gas supply disruption*
17. *Energy savings measures changing habits and expressing solidarity in the face of the crisis, as set out in the Savings Plan xx bcm equivalent*
18. *Rapid roll out of solar PV on all rooftops and scale up of solar energy production xxx bcm equivalent*
19. *Biomethane scaled up ready to be the gas of the future xxx bcm equivalent*

## **ANNEX 2.**

### **Infrastructure needs for gas, electricity and oil –**

#### **Achievements of the TEN-E framework to establish resilient European electricity and gas networks**

The TEN-E Regulation has established a new approach to EU-wide infrastructure planning based on regional cooperation with Member States and relevant stakeholders to identify projects of common interest (PCIs) that contribute to the development of energy infrastructure priority corridors and thematic areas. It also requires Member States to streamline permit granting procedures for PCIs and provides access to financing from the Connecting Europe Facility (CEF) to enable their timely implementation.

Since the TEN-E Regulation was established in 2013 gas PCIs have helped to establish a more resilient European gas infrastructure based on more diversified supplies. Gas PCIs have contributed to reduce bottlenecks in the European gas infrastructure, diversify supply sources as well as counterparts and routes. Once the ongoing PCI projects are implemented all Member States will have access to at least three gas sources or the global liquefied natural gas (LNG) market.

In 2022 alone, PCIs with a total additional gas transmission capacity of 20 bcm/year have been or will be commissioned, e.g. the gas interconnector between Poland and Lithuania (the GIPL pipeline), the Poland-Slovakia interconnector, the Baltic Pipe between Poland and Denmark, the Greece-Bulgaria pipeline (IGB). LNG terminals in Cyprus (2 bcm/year) and Alexandroupolis Greece (5 bcm/year) are due to be operational in 2023. Moreover, several gas PCIs are expected to be completed in the coming years which include several storage projects in South Eastern Europe (Greece, Romania, Bulgaria) as well the LNG terminal in Gdansk in Poland (at least 6 bcm/year).

It is thanks to these projects, many of which have benefitted from financial support through the Connecting Europe Facility, that Member States are able to react to recent supply cuts in a spirit of solidarity.

In addition to significant improvements in the European gas infrastructure, key electricity interconnectors have been kick started also through CEF grant for works, e.g. the Biscay Bay electricity interconnector between France and Spain to increase the interconnection capacity with the Iberian Peninsula, the Celtic interconnector between France and Ireland and the EuroAsia interconnector between Greece and Cyprus which both will end the isolation from the Union's electricity grid of Ireland and Cyprus respectively supporting the integration of renewable energy sources and enhancing security of supply. Moreover, the synchronisation of the electricity grids of the Baltic States, the last Member States having electricity systems still dependant on third countries, is well underway for completion at the latest by 2025. Support under the TEN-E policy as well as financially, under CEF for over EUR 1.2 billion, have been essential to set the project on track.

The accelerated implementation of electricity PCIs<sup>26</sup> will be crucial for a better interconnected system that will enable to increase the share of renewable energy sources and reduce renewable energy curtailment significantly faster in line with the REPowerEU objectives.

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<sup>26</sup> The current 5<sup>th</sup> PCI list includes in total 67 electricity PCIs.