

Recovery and Resilience Plans

Example of component of reforms and investments –

Power up

Disclaimer

This document was produced by the Commission services. The views expressed in this document do not commit the European Commission. The document takes into account the Proposal for a Regulation on the Recovery and Resilience Facility (hereafter ‘the Proposal’) adopted by the Commission on 28 May 2020¹ and the conclusions of the European Council of 17-21 July 2020², the Communication on the Annual Sustainable Growth Strategy 2021 (hereafter ASGS)³ and the Commission’s Guidance to Member States on the Recovery and Resilience Plans⁴.

The document is intended to help Member States prepare their Recovery and Resilience Plans and ensure coherence with the European flagships proposed by the Commission in the ASGS Communication⁵.

The document builds on the template⁶ that was issued together with the guidance to Member States on the Recovery and Resilience Plans. Its structure is based on Part 2 of the template, where each component of the Recovery and Resilience Plan needs to be described. Therefore, this document does not cover the information that Member States are expected to include in Part 1 (general objectives and coherence of the plan), 3 (complementarity and implementation of the plan) and 4 (overall impact) of their Recovery and Resilience Plans.

The document contains examples of reforms and investments that Member States could include under a specific component in their Recovery and Resilience Plans, including some examples of the type of information required to describe the expected impact, to fulfil the green and digital tagging of measures and to set out the type of targets/milestones that have to be defined for each reform and investment in order to allow for the tracking of progress.

Given the fictitious nature of these examples, the document should not be regarded as comprising an exhaustive list of the most important reforms and investments in the mentioned area. Member States may cover different and/or broader mix of reforms and investments in their Recovery and Resilience Plans. Furthermore, the description should not be regarded as complete. More details and evidence would be expected in the actual Recovery and Resilience Plans in order to ensure a proper assessment of the measures to be implemented.

The examples presented here are without prejudice to State aid control. Unless aid fits under the General Block Exemption Regulation, it must be notified to the Commission for assessment before it can be granted.

¹ COM(2020) 408

² EUCO 10/20

³ COM(2020)575

⁴ SWD(2020) 205

⁵ The Commission in the ASGS strongly encourages Member States to include in their Recovery and Resilience Plans investment and reforms in the areas of: renewables, energy efficiency, sustainable transport, broadband connectivity, digital public services, cloud capacities and skills.

⁶ SWD(2020) 205 PART 2/2

PART 2: DESCRIPTION OF REFORMS AND INVESTMENTS

A. COMPONENT 1: Renewable energy and hydrogen

[Please note that this example of a component is fictitious. It has been prepared by the Commission’s services to provide guidance to Member States on some reforms and investments related to the European Flagship ‘Power Up’ that could be included in the national Recovery and Resilience Plans. To substantiate the intended reforms and investments, the document references specific data sources, data sets and information relating to the baseline scenario, outstanding gaps, envisaged milestones, targets, including green and digital, etc. The references provided should not be regarded as comprehensive, compulsory elements to be replicated in national Recovery and Resilience Plans. They also do not correspond to a comprehensive State aid assessment, neither to a State aid approval. Member States can include other/additional details and evidence to clearly describe and justify the importance and coherence of the Recovery and Resilience Plan and its contribution to the green and digital transitions, with a view to satisfy the assessment criteria set out in Article 16 and Annex II of the Proposal.]

1. Description of the component

Renewable energy and hydrogen

Policy area/domain: Energy policy, climate policy, industrial policy

Objective: The objectives of this component are the following.

1) *Jobs and growth:* The renewable energy and hydrogen component aims to create X new jobs by 20XX, and to stimulate investments in capacity, infrastructure and research and development (R&D). It will contribute to reinforcing competitiveness of companies, people’s skills and to maintaining technology leadership. It will also help develop competitive and robust value chains and contribute to Europe’s open strategic autonomy on key part of these value chains, including in sectors with high-growth potential, for example offshore renewable energy linked with electrolyzers to produce clean hydrogen. This will in turn contribute to creating high-quality jobs and can help stimulate the national as well as European economy.

2) *Green transition:* The component has the potential to increase the renewable energy generation capacity by X GW per year as of 20XX and to reduce greenhouse gas (GHG) emissions from the energy sector by X tCO₂e per year during the 2021-2026 period. *[Please explain to what extent the component adds to the renewables capacity planned in NECP and the target contribution therein]*. Other harmful emissions such as particulate matter (PM) are also reduced by X µg per year during the 2021-2026 period and energy efficiency is improved by X% compared to 20XX. The increased capacity and use of renewable energy will also facilitate the uptake of renewable hydrogen. This component will allow the country’s electrolyser capacity to

reach X GW by 20XX, the production of renewable hydrogen to reach X tonnes per year by 20XX, the installation of X km of hydrogen transport pipelines and X GWh of storage capacity by 20XX.

3) *Energy security and integration of renewables generation*: This component will also increase the energy security of the country and of the EU as a whole by decreasing the country's import dependency of fossil-fuel based energy from X% in 20XX to X% in 20XX. Additionally, the component will contribute to increasing the flexibility of the market by incentivising energy storage and avoid X MW of otherwise needed infrastructure.

Examples of reforms and/or investments⁷:

Reforms:

- Facilitating the use of renewable energy and waste heat in district heating networks.
- Accelerating permitting of new renewables installations, including simplified procedures for re-powering.

Investments:

- Supporting the development of district heating networks based on renewable energy and waste heat (COFOG 04.30).
- Supporting the development of electrolysers and their connection to upstream renewable electricity production facilities to supply renewable hydrogen to industry (COFOG 04.30 and 04.40).

Estimated cost of the component: EUR XX million, of which EUR XX million (X%) are covered by RFF.

2. Main challenges and objectives

a) Main challenges

The main challenges for the country to increase the production, transportation, consumption and system integration of renewable energy and renewable hydrogen in the country are as follows.

- **Investment gap:** According to the National Energy and Climate Plan (NECP), the investment needs related to the country's X % contribution to the common EU renewable energy target is estimated at EUR X, while for renewable hydrogen they are estimated at EUR X for the period 2020-2030 [*include reference to source*]. With regard to district heating systems, it is estimated that EUR X will be needed to modernise and upgrade

⁷ Including COFOG (General government expenditure by function) classification.

them [*include reference to source*]. In some instances, dedicated renewable hydrogen infrastructure investments will be needed [*refer to report with underpinning evidence and further details on the sectors, applications and localities of hydrogen use*]. In the context of reaching climate neutrality by 2050 and of the proposed increase of the EU’s greenhouse gas (GHG) emissions reduction target by 2030, an increased renewable energy target would require additional investments in renewable energy and renewable hydrogen. This will include a combination of increasing capacity, but also investments in pipelines and port infrastructure for imports of renewable hydrogen and long-distance shipping. Increasing renewable energy and renewable hydrogen is in line with the pathways to limit global warming to 1.5°C from the Intergovernmental Panel on Climate Change (IPCC), indicating that renewables need to supply 70–85% of electricity by 2050. It is currently challenging for the country to address this investment gap.

- **Fragmented energy system for renewables and renewable hydrogen:** Deploying renewable energy sources, clean energy technologies for power production, heating and cooling, and renewable hydrogen, requires increased energy system integration. This means having in place a coordinated planning and operating approach to the entire energy system. This would include multiple energy carriers, infrastructures and consumption sectors. However, such an approach is currently not in place in the country [*include reference to underpinning evidence/reports and further details*].
- **Lack of integrated planning and lack of funding for the high upfront investment costs:** There is currently no legal framework in place to identify locations for renewable energy and waste heat sites in the land-use planning in the country, and there are no established processes to identify and associate potential waste heat and cold producers for transforming district heating systems to renewables based ones. The potential of long-distance delivery of low-temperature heat is not sufficiently considered in planning energy networks and relevant industrial sites that could use the heat with heat pumps. There is currently no clearly identified entity that is in charge of developing and implementing a heat planning in cities and municipalities in the country. This lack of planning also contributes to the fragmentation of the energy system.
- **Ensuring environmental sustainability:** According to the national report on achieving the environmental transition [*reference to the report*], a small share of biomass will be needed as part of the fuel mix for the district heating refurbishment networks until 20XX. X% will stem from waste water treatment and biogas as a transitional supplement to ensure flexibility in particular as geothermal generation is expected to not be operational before 20XX. At the same time, it must be avoided that increased demand for bioenergy is leading to negative environmental impacts. Therefore, the sustainability criteria set out in the Renewable Energy Directive (RED II) will be respected. The country will ensure that the use of biomass for energy is based on biomass waste and residues that can be extracted in a sustainable manner without negative impact on the environment, in particular soil organic carbon. Measures reducing emissions of air pollutants will be in place, especially of particulate matter and do not undermine compliance with air quality standards set by Directive 2008/50/EU.

- **Lack of sufficient skills:** This relates in particular to the lack of adequate skills for planning, organising and implementing integrated infrastructure modelling as well as for installing renewable energy based heating solutions. This is especially an issue on municipal level [*provide additional details on the exact skills needed here and the gap between supply and demand of these skills to implement the component*].
- **Administrative barriers:** Another challenge to increase renewable energy and renewable hydrogen relates to the insufficient roll-out and reinforcement of electricity distribution and transmission grid infrastructure. This is often triggered by barriers and delays to permitting and grid connections. While permitting procedures are necessary to avoid environmental impacts, ensure local acceptance and allow a transparent consultation of locally concerned stakeholders and citizens, barriers and delays can increase the risk for privately funded projects. Additionally, there is currently insufficient space available for both on- and offshore energy production, which will need to be allocated by the relevant administrative authority. However, any newly allocated areas need be aligned with the ‘do no significant harm’ principle.

In terms of identified market failures, investments in renewable energy and hydrogen are currently obstructed by:

- **Lack of internalisation of negative environmental externalities:** The negative environmental externalities arising from fossil fuels currently do not reflect their social cost, thereby dis-incentivising the broader uptake of renewable energy and renewable hydrogen [*include reference to underpinning evidence/reports and further details*]. According to the OECD Taxing Energy Use 2019 report, the average effective carbon tax on fossil fuels in the country amount to EUR X/tCO_{2e} and is therefore below the low-end carbon benchmark of EUR 30 per tCO_{2e}. This asymmetry in relative prices between renewable energy and renewable hydrogen vis-à-vis fossil fuels makes non-fossil heat production and renewable energy generation comparatively more expensive. This is exacerbated by the fact that there is no price internalisation in the heating segment beyond large-scale energy production sites covered in the EU Emission Trading System. Additionally, regulated gas prices at retail level do not allow for time-differentiated heat tariffs and sufficient revenue, leading to long payback periods for district heating investments. In this context, renewable or waste heat-based heating and cooling is currently not cost-competitive [*reference to existing studies*]. The financial viability of renewable energy sources needs to be ensured through a well-functioning energy market, also complemented, in specific and targeted circumstances, by public support.
- **High and uncertain upfront investment cost and lack of financial capacity with district heating owners:** For non-mature markets and renewable energy technologies, including renewable hydrogen as well as for district heating systems, high upfront and uncertain investment costs may obstruct investments to take place and relevant industries to develop. This will require investments in research and innovation along the entire value and innovation chain, including first-of-a-kind commercial scale projects, and to focus support schemes on fostering their deployment to accelerate learning by doing.

Also for some more mature technologies, investment costs are a significant barrier. For instance, the transformation of a district heating network into a modern 5th-generation network based on low-temperature heat and on more decentralised, locally available renewable energy and waste sources requires significant upfront investment costs, which the public owner of the network (often municipalities) very often does not have [*provide additional details and evidence on the high upfront costs*]. This also relates to low incentives to invest in storage under the current regulatory framework.

- **Lack of markets and certification system for renewable hydrogen:** For renewable hydrogen in particular, industries currently insufficiently valorise their investments in renewable and low-carbon hydrogen solutions, due to the lack of a functioning certification system (information constraint) and insufficient market maturity. This includes renewable hydrogen that has been transported to site or produced from electricity with green certificates. [*Further details on the market maturity and information constraint needed*]

b) Objectives

The component contributes to effectively addressing the challenges identified in the country-specific recommendations (CSRs) for the country for the years 2019 and 2020, which recommend focusing investment and investment-related policies on the clean and efficient production and use of energy, and in particular mentioning the expansion and integration of renewable energy (CSRX of 20XX). All proposed reforms and investments either implicitly or explicitly aim to increase investments in renewable energy and hydrogen. Reform 1 and 2 aim to address barriers to increase investments in renewable energy, thus being in line with focusing on investment-related policies on renewable energy (CSRX of 20XX). Investment 1 on transforming heating infrastructure aims to incentivise investments in renewable energy, thereby taking into account CSRX of 20XX and contributing to mainstreaming renewables heating in line with Directive 2018/2001/EC. Investment 2 (on supporting the construction of electrolyzers to supply renewable hydrogen to existing production plants and connect them to upstream renewable electricity production facilities) will foster investments in the hydrogen sector building on renewable energy production, thereby contributing to the implementation of CSRX of 20XX.

In line with the European Flagship ‘Power Up’ (COM(2020) 575), the objectives of the renewable energy and hydrogen component are the following:

- 1) **Jobs and growth:** The renewable energy and hydrogen component aims to create X new jobs by 20XX, of which X% among SMEs, X% among rural, remote and outermost regions, on islands, and in former coal regions. Furthermore, the aim is to stimulate investments by EUR X per year (between 20XX and 20XX) in capacity, infrastructure and R&D. It will contribute to reinforcing competitiveness of companies, which are well-placed globally, including the renewable energy sector and to maintaining technology

leadership. It will also help develop competitive and robust value chains and contribute to Europe’s open strategic autonomy on key part of these value and supply chains, including in sectors with high-growth potential, for example offshore renewable energy linked with electrolyzers to produce clean hydrogen, and access to raw materials allowing for necessary upscaling. This will in turn contribute to creating high-quality jobs, to develop people’s skills, and can help stimulate the national as well as European economy.

- 2) **Green transition:** By providing incentives and capacity to produce, transport, store, sell and use renewable energy and hydrogen the component has the potential to increase the renewable energy generation capacity by X GW per year as of 20XX, and to reduce GHG emissions from the energy sector by X tCO₂e per year during the 2021-2026 period. Other harmful emissions such as particulate matter (PM₁₀ and PM_{2.5}) are also reduced by X µg per year during the 2021-2026 period. The increased capacity and use of renewable energy will also facilitate the uptake of renewable hydrogen. This component will allow the country’s electrolyser capacity to reach X GW by 20XX, the production of renewable hydrogen to reach X tonnes per year by 20XX and the installation of X km of hydrogen transport pipelines and X GWh of storage capacity by 20XX. It can also contribute to physical investment in network infrastructure enabling the energy system transition and energy system integration: apart from hydrogen infrastructure, smart and offshore grids, interconnectors, and energy storage. The further uptake of renewable energy and renewable hydrogen will create additional environmental and health co-benefits by reducing air pollution, reducing pressure on land use, and fostering circular economy (e.g., through the recyclability and reuse of materials at end of life). As indicated above, the component will increase energy efficiency by, for instance, reducing losses in the district heating network.
- 3) **Energy security and system flexibility:** By providing incentives and capacity to produce, transport, sell and use renewable energy and renewable hydrogen, this component will also increase the energy security and the markets flexibility of the country and the EU as a whole. The import dependency of fossil-fuel based energy will be reduced by X% in 20XX compared to 20XX, while the increased dependency on raw materials will be addressed by increasing recycling capacities of rare earth metals and raw materials (as part of another programme of the government). The component will increase available capacity to shift demand and/or store energy equal to X% of average daily renewable energy generation, this coming in addition to the investments planned in the NECP. The component will contribute to increasing the flexibility of the electricity/heating and cooling/transport market by encouraging thermal/mechanical/chemical storage ensuing aggregation/peak shifting and by avoiding X MW of otherwise needed infrastructure.

Within the national strategic context, expansion and integration of renewable energy capacity and development of hydrogen as well as their use in hard-to-decarbonise end-use sectors such as industry or transport will make a significant contribution to achieving climate neutrality by 2050. The present reforms and investments take place in the context of and will contribute to the existing national strategy, which was adopted in 20XX [*reference to national strategy and*

explain to what extent the component adds on the capacities and target in the NECP]. In accordance with this strategy and as reflected in the National Energy and Climate Plan, the share of renewable energy in gross final energy consumption of energy should reach X% by 20XX.

Additionally, the country has adopted the target to achieve an increase of the renewable share of (district) heating and cooling of X percentage points by 2030 in line with Directive 2018/2001/EC. The measures supporting the expansion of the use of renewable hydrogen in the different sectors (together with the development of the related renewable energy production) converge also with the EU Hydrogen Strategy that projects the installation of 40GW of electrolyser capacity producing 10 million tonnes of renewable hydrogen over 2025-2030. The national targets are to develop X GW of electrolyser capacity producing X million tonnes of renewable hydrogen over 2025-2030.

[Additional information on the political situation of and discussions in the country in the context of the component]

3. Summary description of the reforms and investments of the component

[The following outlines a mix of reforms and investments of the component. The separation of reforms and investment presented below is for illustrative purposes only. Their interlinkages and synergies are explicitly mentioned and explained as part of their description, but Member States are asked to be more specific and to provide a more detailed description of the specific context of each suggested reform and investment, in line with the template. This should also include a description on how the intended reforms and public investment projects reinforce the effects of one another and how the Member State seeks to ensure that they are of a complementary and coherent nature.]

a) Examples of reform

1. Facilitating the use of renewable energy and waste heat in district heating networks

Addressing challenges: In the country, district heating network remain essentially based on fossil fuels, characterised by significant heat losses and in need of refurbishment and upgrade towards modern low temperature systems. It is difficult to find a business case to develop district heating networks based on renewable energy due to the lack of a sufficient carbon price internalisation (e.g., solar heat, biomass or geothermal energy, and renewable electricity from local solar and wind power to feed large-scale heat pumps) and waste heat (e.g., from industry, data centres, or waste water treatment plants). Such projects require significant upfront investment costs and have long-payback time, including due to the significant investments necessary into network infrastructure and connections and the installation of new heat generation assets, such as heat pumps, renewable cogeneration and thermal storage. These costs are not easy to cover from

private investment alone without public support to reduce the cost of capital and provide guarantees for long-term investment, even if these investment constitute stable and reliable income for investors, private and public and provide opportunities for consumer engagement via e.g. energy communities and heat prosumers.

These projects are further hampered by an insufficient internalisation of carbon costs, which prevents non-fossil-based heating solutions from being competitive during operation. For instance, in the country, electricity generation is charged a levy of X €/kWh, while tax on gas production or consumption is often significantly lower due to social considerations; in addition, gas consumption benefits from regulated prices of X €/kWh at the retail level and infrastructure development support, while such support is much less available for district networks and related heat generation investment.

The legal framework of the country is another hurdle. For instance, there is currently a legal connection obligation for gas suppliers to connect consumers to the gas network, which does not exist for local district heating networks. [*Provide details of the legal context*].

Finally, district heating projects are hampered by the lack of integrated planning activities at the level of municipalities, and the lack of clearly set responsibilities between the various involved stakeholders (e.g. renewable energy producers, industry with waste heat potential, distribution system operators (DSOs), district heating network owners, urban planners), so that currently no entity has the competence to develop a comprehensive heating source map and transformation strategy.

Objectives: This reform aims to address the abovementioned challenges by making the national legislation fit to support the expansion of efficient district heating networks powered by renewable energy and waste heat sources. As such, it complements and supports the investments presented below [*link to the investment subsection*], which aim to provide appropriate financial support to promote such projects, and bring the necessary practical support to local project development, also with a view to developing skills.

Implementation: The national legislation will be revised as follows:

- To reduce taxes for renewable energy production and waste heat recovery activities, in particular in relation to district heating. The aim is to improve their competitiveness conditions, in the context of a wider green taxation reform, and addressing fossil fuel subsidies and regulated gas prices. In the longer term, to consider an incentive structure for heating systems, maintaining cost-reflective tariffs, while introducing, if needed, compensation of households at risk of energy poverty. As the country plans to introduce direct payments/subsidies to families at risk of energy poverty, no state aid concerns would arise. The national authorities note that they do not intend to request Recovery and Resilience Facility funding to support this reform.
- To remove any existing obligation for households to be connected to the gas grid, and create a level playing field by making it possible for municipalities and district heating owners to request the connection of households in the local heat zone to the district

heating grid. This should be done based on a transparent and open decision-making process showing that the district heating is energy-efficient, and leaving customers free to opt-out from district heating when other sustainable heating forms are available. This legislative evolution will increase the predictability of future demand, in particular for projects to refurbish district heating systems switching to renewable energy. One point of attention will be to analyse the need for mitigating impacts of this reform on the gas tariffs for other consumers and on the competition of the local heating and cooling market. In addition, to require operators of district heating and cooling systems to connect independent suppliers of renewable and waste heat, based on non-discriminatory criteria, as stipulated in the Renewable Energy Directive (Directive (EU) 2018/2001, Article 24(4)).

- To foster enabling local conditions, by updating the national law on building performance standards to ensure that urban renovation programmes address the question of the replacement of existing heating installations, and in this context put the emphasis on low-carbon solutions, including district heating. This will include also to define clear rules regarding planning responsibilities for municipalities that will allow municipalities to develop a zoning heat map with heating and cooling demand and supply projections, and based on a consultative and transparent process, related to urban planning also clearly setting out the responsibilities of involved stakeholders, and the necessary consultation and transparency requirements.

The reform proposal will be consulted with all relevant stakeholders in the ordinary legislative process, including households, energy providers, industry, social partners, academia and sub-national authorities. A dedicated consultation group led by the Ministry of Energy and Buildings will be set-up, operationalised and meeting minutes as well as recommendations for the legislative process will be made publicly available. *[Further describe involvement of stakeholders]*

Target group: The reform will target in particular the district heating operators and energy/heat producers, urban planners in municipalities, renewable energy production project promoters, aggregators, DSOs, TSOs.

Timeline: The implementation period is estimated to be 18 months to adopt these legal changes (see Table 2 for details). While their implementation will start progressively, the visibility induced by the updated legislation will already support all investments undertaken in this field.

2. Accelerating permitting of new renewables installations, including simplified procedures for re-powering

Addressing challenges: Renewable energy generation projects are still hampered by excessive administrative complexity, which in turn contributes to increasing the risk and the costs of privately funded projects. While permitting procedures are of course key to ensure environmental protection and business security, they need to be kept lean and short, and their

current complexity does not appear compatible with the swift upscaling of renewable energy and hydrogen planned in the country’s National Energy and Climate Plan and needed in order to meet the national commitment of X% RES by 2030. Barriers and delays relate in particular to permitting and/or grid connection procedures. A recent report on regulatory and non-regulatory barriers at national level has listed this issue as one of the key factors preventing the uptake of investments in renewables [*link to national study*], calling to streamline procedures.

One specific hurdle relates to re-powering procedures (re-powering refers here to ‘full re-powering’, i.e., using an existing renewable energy site at the end of the support period replacing and dismantling existing wind turbines and in many cases upgrading the size of the installation). The national legislation has not been designed to accommodate the increasing number of renewable energy generation process that come to the end of their initial support/license period. Finally, procedures to allow self-consumption projects are also complex and lengthy, and capacity thresholds for allowed annual self-consumption at the national level constrains the development of self-consumption. [*Further explain the specific issues in the legislation*]

Objectives: This measure generally aims to support the acceleration and the emergence of additional renewable projects in the pipeline, by lifting the abovementioned barriers, thereby reducing costs and increasing investor certainty. To this end, the first objective of this measure is to simplify and reduce the duration of permitting procedures, in line with the orientations of the Renewable Energy Directive (Directive (EU) 2018/2001). Some of the legislative evolutions described below will actually directly contribute to the transposition and implementation of the Directive. Simplification measures include easier application, with simplified contacts between project holders and the administration, as well as more streamlined and shorter permitting procedures of a maximum duration of X months for new installations and X months for repowering.

Another specific objective in this context is to put in place re-powering procedures, to strengthen the investment perspective for renewables capacity that reached the end of the support period, thus ensuring that capacity is maintained/upgraded. In 2025-2027, 0.5 GW of photovoltaic capacity and 1 GW of onshore wind capacity will reach the end of their support period. Clarifying and simplifying procedures will be key to address these procedures adequately, in particular for projects where no environmental impacts are envisaged, with the objective to have the capacity replaced/upgraded by 50% by 2023 and 100% by 2025. Regarding self-consumption, the country will aim to lift constraints, by simplifying and shortening procedures.

Implementation: This reform will be achieved through the revision of the national legislation governing the installation of renewables installation. While some of these actions contribute to the implementation of the revised Renewable Energy Directive (Directive (EU) 2018/2001), a number of them are also meant to address the specific national barriers identified, including through contacts with stakeholders.

Revisions of the national legislation will include the following elements:

- A number of practical simplifications to the procedures for permitting, licensing and/or grid connection, with the establishment of a single contact point in each region that will

handle coordination between all necessary authorities as per Directive (EU) 2018/2001, including in the case of re-powering; rules to allow for electronic application; rules to allow for packaging of applications to reduce costs; and a clarification of the conditions under which the technology of the project for which the permit is requested can be updated after submission to ensure that the latest technology is used. The reform will also establish the principle and rules to ensure that the maximum authorisation process duration is 18 months (12 months for projects below 150 kW) thereby implementing Directive (EU) 2018/2001, and establish rules to allow for automatic authorisation in absence of decision at the end of the maximum period.

- To support smooth re-powering processes, the reform will clarify the national legislation to explicitly allow the capacity to be re-powered even before the end of the support/licence period, including the possibility to participate in tenders alongside new capacity while ensuring in the design of the auction a level playing field between repowered and greenfield projects in terms of full cost incurred, simplified permit granting procedures in the case of re-powering (with a maximum duration of 1 year) and a simple notification process for grid connection in the case of re-powering as per Directive (EU) 2018/2001 [*further details required*].
- The reform will establish a simplified notification procedure for renewable energy self-consumption projects as per Directive (EU) 2018/2001. The reform will also remove from the legislation the current capacity thresholds of X MW annually for allowed annual self-consumption.

In addition to these legislative revisions, procedures underpinning the permitting process will be made fully digital, and training courses will be provided for project holders. The country will also keep under review any additional needs for administrative, financial and human resources for permitting authorities at national, regional and local level, and take action if a need is identified to increase their capacities. While this administrative simplification will benefit project holders by making procedures simpler and shorter, this will not be at the expense of environmental and business protection. The core elements of the legislation, including production thresholds (X kW), will remain unchanged.

In the context of the legislative proposal, consultation processes will be organised with all stakeholders, including industry, environmental NGOs, and municipalities. First orientation debates have already happened in the framework of the National Renewable Energy Steering Group.

This measure has not been identified as raising concerns regarding State aid rules.

Target group: Authorities dealing with permitting of renewables installations, project promoters of renewables generation projects. For re-powering in particular, current asset owners of onshore wind and PV installations.

Timeline: The implementation period is estimated to be 18 months until the entry into force of the revised legislation. A first draft legislative text has already been drafted and is expected to be put forward by QX-20XX.

b) **Examples of investments**

1. Supporting the development of district heating networks based on renewable energy and waste heat

Addressing challenges: In the country, district heating networks are currently based on fossil fuels, with a share of X% supplied from coal and X% from gas in 20XX. A key hurdle to the development of district heating networks based on renewable heat (e.g., solar heat, heat pumps powered by renewable electricity, biomass or geothermal energy) is their lack of competitiveness vis-à-vis fossil fuels-based networks. For waste heat (e.g., from industry, data centres, or waste water treatment plants) and storage, the lack of financial and regulatory incentives to supply heat services is often an obstacle to their deployment. Projects to develop such district heating networks based on renewable and waste heat have difficulty finding an investment case and sufficient funding, as they suffer from high upfront investment costs, and a high risk perception, in particular for such first projects in the country and/or using a less mature technology.

In this context, the lack of experience and skills also remains a significant difficulty. In the country, experience is very limited with transforming currently fossil fuels-based district heating systems into systems using waste heat and renewables sources. There is also very limited experience at the municipal level on integrated heat planning and complex project development processes – e.g., on how to identify and plan a heating zone based on renewable and waste heat, to develop projects with relevant stakeholders such as industry and data centres and with investors, and to foster robust contracts for energy or heat delivery.

Objectives: This investment aims to support the development of district heating networks based on renewable energy and waste heat in the country, first by providing financial support to such projects so they can find a satisfactory business case. This requires addressing the financing aspects across the technical components of the project as relevant (renewable energy generation and installations to produce heat based on this renewable energy; recuperation of waste heat; infrastructure to transport the energy and the heat; connection of households and other end-users to the network).

This investment also aims to provide concrete support such as technical assistance and capacity building to a number of municipalities to foster local district heating projects based on renewable and waste heat, and to gather experience to promote upskilling and reskilling in the country to support such projects in the longer term.

These actions will contribute to the national objective (spelled out in the National Energy and Climate Plan) to increase the share of renewable energy in the heating and cooling sector by X% by 2030, by replacing fossil fuels with renewable energy or waste sources for X households connected to district heating networks by 20XX, and connecting X additional households to such district heating networks by 20XX. They would also allow to improve the performance of the

district heating system in all concerned municipalities, by a reduction of energy losses of 30% and a switch to low- and moderate-temperature heating networks. The investments would also allow to improve local air quality by a reduction of NO_x of X% in 20XX in the concerned municipalities, through the replacement of local fossil fuel combustion capacities of a total of X MW. They would also improve the flexibility of the energy system, by adding X kWh of storable/adjustable production.

This investment complements and is supported by the reforms presented above [*link to the reform subsection*], which aim to ensure that the legislative framework creates an enabling environment for district heating networks based on renewable and waste heat.

Implementation: This investment aims to allow X municipalities to switch from fossil fuels-based district heating systems, to systems supplied locally from various local renewable and waste heat sources.

Municipality technical assistance and capacity building support programme: X interested municipalities have already been identified, through a national call for interest organised in 2019 by the National Energy Agency. The investment includes a full-fledged methodological support programme for these municipalities, including the organisation of several expert meetings with district heating conversion experts for the future responsible authorities of X municipalities in the country, the contracting of heating demand and supply estimation experts to provide sustained technical assistance to municipalities, and the organisation of an inclusive local stakeholder involvement process and events, associating existing co-generation and renewable energy production owners, industry and data centres, DSOs, municipality services, and citizens representatives.

This will result, by end 20XX, in the delivery of heating potential and planning maps in each of the municipalities, identifying opportunities across possible renewable and waste heat sources; and of a feasibility study for each municipality to implement a district heating system powered by at least 90% renewable and waste heat by 20XX. Each municipality will also define a clear date for the full phase out of fossil fuel generation in each district heating network. Municipalities will be encouraged to follow-up on these studies by engaging concrete works and facilitating contractual arrangements with the relevant stakeholders, including long-term heat supply contracts with industry sites and data centres.

This municipality technical assistance and capacity building support programme will be centrally managed by the National Energy Agency, and financed by blending X% of funding from the National Energy Agency with X% of support through the Recovery and Resilience Facility (up to X M€ through the Facility).

Support to investments: In parallel, this measure will aim to address the high upfront investment costs for project promoters (including the municipalities as the district heating operator), and the high risk perception and long payback periods associated to these projects, across all components of the value chain.

This measure will first of all support the necessary installations to produce and store the heat which will be used in district heating networks, based on renewable energy and waste sources, by providing financial support to investments. All feasible technologies will be considered in a technology-neutral approach, including, for instance, solar thermal heat, renewable electricity and heat pumps, geothermal and biomass energy, waste heat from industry and data centres, waste water treatment heat, and the related costs and benefits such as land use and incorporating them into the network. Projects will be selected through a competitive bidding process, scored based on criteria corresponding to different objectives (e.g., GHG abatement cost, costs per unit of CO₂ or other air emissions, energy generation and system integration costs).

In addition, this measure will support the development of infrastructure to transport energy and heat from where it produced to where it is transformed and consumed (this includes investing in the expansion and modernisation of currently existing heating networks in a number of municipalities, and connecting these networks to new renewable energy or waste heat-based heating sources), as well as paying special attention to investments to connect households and other end-users to the network and fully integrate them to the grid.

In both cases, the support will take the form of investment aid. This support will be funded by the national budget, including funding provided by the Recovery and Resilience Facility. Through the Recovery and Resilience Facility X% of funding will be provided, with a maximum of X M€ over the whole investment. The selected projects will receive investment aid, the proposed milestones and targets will ensure that projects are sufficiently mature and that the related disbursements are made within the timeframe of the Recovery and Resilience Facility. Overall, this measure will complement in the case of district heating the existing national renewable energy support scheme, which already provides support to some sources of renewable heat generation.

Regarding State aid rules:

- The national authorities are aware that investments may be covered by the General Block Exemption regulation for investment aid for renewable energy (Article 41), and for district heating, generation and network (Article 46). The country will notify support schemes for renewable energy investment aid, for district heating, generation and network, and for waste heat recovery, whenever the aid thresholds are higher than those foreseen in Article 4 of the General Block Exemption regulation, pursuant to either section 3.3.1.1 (for investment aid for renewable energy sources), 3.4. (district heating), or 3.5 (waste heat recovery) of the Energy and Environment Guidelines. *[please note that specifically with regard to district heating, the Sustainable Europe Investment Plan, annexed to the European Green Deal Communication, details (in its section 4.3.3) a series of options for Member States, to support district heating generation beyond the existing maximum aid intensities, using the 'funding gap approach', to support upgrades of distribution network outside of State aid rules, and to proceed to support upgrades in combination with investments to upgrade generation facilities within three years' time to be in line with energy efficiency requirements.]*

- As regards investments for the upgrade of the distribution network, the national authorities note that the amount of support to such investments will fall out of State aid rules because these upgrades are undertaken by a separate entity (as compared to heat generators) operating the network, it is open to third party access and subject to regulated tariffs. *[please note that if this investment is undertaken by the same entity which owns and operates the district heating generation facilities, national authorities will calculate the support in line with the State aid rules, based on Article 46 of the General Block Exemption Regulation and section 3.4 of the Energy and Environment Guidelines.]*
- The national authorities observe that the existing national renewable energy support scheme has already been notified and complies with the State aid rules.

Skills: Finally, the investment will also include X M€ (of national funding from the National Energy Agency) for knowledge transfer, upskilling and training, in particular for heat mapping and planning, to be implemented as a second step, from 202X, building on the experience of this programme.

Target group: Municipalities, DSOs, heat operators and district heating system owners, installers, renewable energy production project promoters, including potential heating and cooling sources in industry and data centres, and investors.

Timeline: The implementation period is estimated to be 3 years (see Table 2 for details).

2. Supporting the development of electrolyzers and their connection to upstream renewable electricity production facilities to supply renewable hydrogen to industry

Addressing challenges: The development of a renewable hydrogen ecosystem within the country is hampered by the lack of competitiveness of renewable hydrogen, compared to fossil-based hydrogen. Renewable hydrogen production projects have difficulties to emerge due to high upfront investment costs for electrolyzers, and a high risk perception, in particular for the first projects using a new technology and for specific applications where there is limited experience. This also fuels difficulties for hydrogen end-users to increase their demand, also due to a high risk perception. Breaking that deadlock and bridging the market failure where low-emission solutions cannot economically compete with more polluting options due to lack of market signals requires to initiate projects in relatively more mature end-use sectors, for instance ammonia production, which is already used to using fossil-based hydrogen, but still needs to take action to shift from fossil-based hydrogen to renewable hydrogen.

Beyond the production of hydrogen, there is also still a lack of infrastructure to transport hydrogen and distribute it to the end-users. Long-distance hydrogen transportation infrastructure is not expected to emerge immediately, and projects should initially remain at a rather local scale. However, a further hurdle is the difficulty for the various involved parties in a local value chain – i.e., renewable energy producers, renewable hydrogen producers (developing electrolyser

projects), infrastructure project developers, end-users of hydrogen (e.g., ammonia producers) – to develop projects together. Local stakeholders, and in particular municipalities or regional authorities, are well-positioned to support the emergence of local projects and to bring investors to the table, but they often lack specific skills and capacities.

Objectives: The objective of this measure is to facilitate the emergence of projects associating all relevant actors – renewable energy producers, renewable hydrogen producers installing new electrolyser capacities, infrastructure project managers able to connect the renewable energy production sites to the electrolysers and then to deliver the hydrogen where it is needed. The renewable hydrogen will be used to replace fossil-based hydrogen as a feedstock for various processes including for example producing green ammonia⁸ which can be used for green fertiliser production. In addition, both renewable hydrogen as well as green ammonia can be used for local energy storage applications, supporting a wider integrated approach of the local energy system.

To help deliver this objective, the measure aims to support interested local authorities such as municipalities (or other interested stakeholders) who are willing to engage with a local industrial ecosystem to develop such projects. In addition, the measure aims to provide appropriate financial support to each of the steps of this value chain to enable their projects to emerge.

The development of a local production capacity of renewable hydrogen from additional renewable electricity will support regional development, allow the decarbonisation of the existing industrial processes, and provide new economic opportunities for both producers and consumers of renewable hydrogen.

Implementation:

National call for interest: The measure will start in 202X with a call for interest to municipalities, regional authorities, businesses, consumers or other interested parties, within the country, to identify where production processes/plants are currently using fossil-based hydrogen and where there is a potential to cost-effectively support a switch to renewable hydrogen, or new projects based on renewable hydrogen. Municipalities will be provided with financial and technical resources to support the analysis, the development of planning maps to identify possible renewable energy sources and transmission infrastructure needs, the stakeholder processes and engagement needed to ensure that the renewable electricity project developers, renewable hydrogen producers, end-consumers (e.g., ammonia producers) as well as the investors can decide on an appropriate ownership structure for the project, set up the right contractual and legal arrangements and conditions to pursue these projects.

⁸ In general, support from EU instruments is not available for activities under the Emission Trading System (ETS) to prevent distortion of the incentive system provided by the EU ETS. As part of a broader strategy (e.g., within the Just Transition Fund), complying with the ‘do no significant harm’ principle and leading to an overall significant reduction of GHG emissions intensity of the sector by leading to emission rates that are well below the relevant ETS benchmark, green ammonia could be eligible under the Recovery and Resilience Facility.

This programme will be centrally managed by the National Energy Agency, and financed by blending X% of funding from the National Energy Agency with X% of support from the Recovery and Resilience Facility (up to X M€ from the Facility).

Support to investments: As a complement, this measure will aim to support, in a cost-effective way, the financing gap for investments in the production of renewable hydrogen. Projects will be supported through the following schemes, which will be available as a priority for the projects identified through the abovementioned programme, but could also be used for other projects outside the programme in case these projects demonstrate their quality and funds remain available:

- Renewable electricity producers generally already benefit from operating aid under the existing national renewables support scheme. Promoters of new renewable electricity generation facilities for the production of electricity to power renewable hydrogen production will now be in a position to apply for this existing support scheme, through competitive bidding procedures. In addition, this national support scheme will be reinforced and prolonged, which will contribute to increase its overall budget, thereby allowing to finance more projects (additional funding would only go to new projects, not to projects already selected). The national authorities have already demonstrated the compliance of the existing national renewables support scheme with State aid rules. The authorities confirm that the conditions of operation of the support scheme will remain the same as described in the State aid decision. The intention is that the budget will merely be increased by not more than 20% compared to the initially approved State aid budget. In this context, the national authorities have assessed that this would not require a new notification under State aid rules.
- Upfront investment aid (building on funding provided through the Recovery and Resilience Facility, with X% funded from National Energy Agency funds and up to X M€ provided through the Facility) will support new electrolyzers by renewable hydrogen promoters – as well as planning and safety aspects – whenever they will be able to show that hydrogen is produced exclusively from renewable electricity; taking into account the aid amounts envisaged, the national authorities note that small projects could be covered by State aid rules on renewable energy investment aid or aid for environmental protection going beyond EU standard (Article 41 or 36 of the General Block Exemption regulation, for projects up to 15 M€ of aid, and limited to 40/45% of the difference in costs between an electrolyser and a steam methane reform facility), where the aid intensity can go up to 100% in case of competitive bidding procedures; and that for larger projects, a notification of the scheme will be required under section 3.2 and/or section 3.3 of the Energy and Environment Guidelines.
- Upfront investment aid (building on funding provided through the Recovery and Resilience Facility, with X% funded from National Energy Agency funds and up to X M€ provided through the Facility) will also help invest to resolve any infrastructure constraints necessary to transport, distribute, store, and dispatch the renewable electricity, renewable hydrogen, including the development of grid planning for local DSOs. Some

of these activities would not fall under State aid rules (for instance, upgrades of transmission and distribution networks for investments undertaken by TSOs and DSOs, as the relevant conditions are met, namely the legal or natural monopoly status of TSOs and DSOs). Whenever investments are not the upgrade of existing networks, but relate to a “new” network of hydrogen transport pipelines, the national authorities are aware that a State aid notification will be required. *[please note that notification could cover a whole scheme rather than individual investments]*

- Finally, support to investment will be available (building on funding from the Recovery and Resilience Facility, with X% provided by the National Energy Agency funds and up to X M€ from the Facility) to support the necessary upgrades to their process from producers to shift their feedstock from gas-based hydrogen to renewable hydrogen (adaptation of the process to renewable hydrogen, decommissioning of existing fossil-based processes, etc.). Overall, switching to renewable hydrogen will lead to significant reductions in the greenhouse gas emissions from e.g. ammonia plants, and will lead them to be significantly more performant than the EU Emission Trading System’s benchmark. *[if relevant under national circumstances, complement to explain the link to the actions underway in the context of the Just Transition Fund, e.g. if a territorial just transition plan has already been adopted and this investment is necessary for its implementation]* The national authorities note that small projects could be covered by State aid rules under Article 36 or 41 of the General Block Exemption regulation, and that for larger projects, a notification of the scheme will be required under section 3.2 of the Energy and Environment Guidelines. The national authorities further note that support can only cover part of the eligible equipment costs in this context, notably up to a percentage (of 40/45%) of the difference in costs between an electrolyser and a steam methane reform facility.
- The national authorities will also ensure that aid cannot be cumulated for the same costs.

It should be noted that at this stage, this project is not integrated in a broader cross-border Important Projects of Common European Interest (IPCEI) on hydrogen technologies and systems, but this is under consideration. Support for IPCEI projects would lead to a notification to the Commission under State aid rules.

Skills: Finally, the National Energy Agency will use resources (for X% from its budget and X% from the Recovery and Resilience Facility funds) to set up new and wider upskilling and re-skilling programmes, to be implemented as a second step, from 202X, to help support regional development, and ensure new economic and job opportunities for more regions, building on the experience of the abovementioned programme.

More generally, this measure will also allow national authorities to reflect on the need for a legislative revisions (which would be implemented at a later stage) to put in place a more elaborate framework. Regulatory elements are decisive for financial viability of hydrogen applications, and therefore consistency and purposefulness of the full regulatory framework will be reviewed and adapted to enable hydrogen technologies to contribute at an optimal level to

emission reductions. This review will contribute to reduce risk in investments and facilitate access to market-based financing, allowing also higher leverage of private support.

In the longer term, the development of hydrogen production will also support the development of a wider hydrogen ecosystem, with multiple uses for hydrogen for other industrial uses and possibly heavy-duty transport options.

Target group: The investment will target renewable power producers, investors in electrolysers, industrial users of renewable hydrogen, infrastructure project developers and DSOs, local municipalities and stakeholders.

Timeline: The implementation period is estimated to be 24 months.

4. Green and digital dimensions of the component

a) Green transition

The (proposed) Regulation COM(2020) 408 establishing a Recovery and Resilience Facility sets a binding target of at least 37% of the plan’s total allocation to contribute to climate mainstreaming.⁹

Building and integrating additional renewable generation capacity is the cornerstone of the Green Deal, and of the decarbonized energy system necessary for reaching increased 2030 greenhouse gas reduction targets and climate-neutrality by 2050. This will go hand in hand with the electrification and boosting the use of renewable energy in end-use sectors. Renewable hydrogen can contribute to the decarbonisation of the energy use in transport, industry, power, heating, and, through its storage and transport capacity, can ensure back up for weekly and seasonal variations in the renewable energy supply. Renewable hydrogen can replace fossil fuels in some carbon intensive industrial processes, making them more sustainable, and can be used for the production of renewable synthetic gases and liquids.

By providing incentives and increasing the capacity to produce, transport, store, sell and use renewable energy and hydrogen, reforms and investments under this component significantly contribute to the climate change mitigation objective.

Therefore, by comprising X% of climate expenditures (see Table 1 below) this component contributes to the 37% climate mainstreaming target [*where relevant, provide more details on how the expenditures of each investment/reform relates to the climate change target, including*

⁹ Communication COM(2020) 575 on the Annual Sustainable Growth Strategy 2021 sets out a climate target of 37% for each national Recovery and Resilience Plan, to follow the commitment of the European Council of July 2020. This is reflected in the 7th compromise proposal put forward by the German Presidency on the proposal for a Regulation COM(2020) 408 as a Council negotiating mandate.

an explanation for the choices made in Table 1]. The component also contributes to broader environmental objectives with X% environmental expenditures (see Table 1 below).

The component is also aligned with achieving the carbon reduction target by 2030 and becoming climate neutral by 2050 [*provide further details and evidence how this is ensured*].

In addition, the component’s proposed measures contribute to the green transition, for instance, by considering the six climate and environmental objectives as defined in Regulation (EU) 2020/852 (Taxonomy Regulation). The proposed reforms and investments contribute significantly to the climate change mitigation objective. This relates directly to the renewable energy and clean energy technologies measures, and to the reductions in GHG emissions in Reform 1, Reform 2, Investment 1 and Investment 2. [*Provide more details, justification and evidence, where possible, on how exactly the measures contribute to the six environmental objectives as defined in Regulation (EU) 2020/852 (Taxonomy Regulation)*].

There are clear commitments and mechanisms in each of the reforms and investments to ensure that the *do no significant harm* principle is respected, and effectively implemented for the other environmental objectives as defined in the EU Taxonomy Regulation. As part of this component, there is no support for natural gas or other fossil fuels or activities leading to a significant increase in GHG emissions. Regarding the use of bioenergy, it must be avoided that increased demand for bioenergy should lead to negative environmental or health impacts. Therefore, the sustainability criteria set out in the Renewable Energy Directive (RED II) will be respected (for installations of at least 20 MW total rated thermal input for solid biomass fuels, 2 MW for gaseous biomass fuels). [*Further details, evidence and justification needed to explain how each reform/investment relates to the ‘do no significant harm’ principle defined in Regulation 2020/852 (Taxonomy Regulation).*]

a) Digital transition

The (proposed) Regulation COM(2020) 408 establishing a Recovery and Resilience Facility as amended by the Council sets a binding target of at least 20% of the plan’s total allocation to contribute to the digital transition or to the challenges resulting from it.¹⁰

The digitalisation in the energy system (smart grids, smart appliances, smart demand-side management) will be needed to facilitate the decarbonisation and in particular to enable a stronger energy sector, as well as cross-sectoral integration – namely higher penetration of renewables and more energy-efficiency – between the energy sector and other sectors (e.g.

¹⁰ Communication COM(2020) 575 on the Annual Sustainable Growth Strategy 2021 proposes setting a 20% digital target for each national Recovery and Resilience Plan. This was endorsed by the European Council of 1-2 October. It is reflected in the 7th compromise proposal put forward by the German Presidency on the proposal for a Regulation COM(2020) 408 as a Council negotiating mandate. See Article 15(3)(c1) which sets out the 20% digital target, based on a methodology for digital tagging set out in Annex III.

vehicle to grid). The expenditures related to reforms and investments in these areas will contribute to the digital target of 20%.

By comprising X% of digital expenditures (see Table 1 below), this component contributes to the abovementioned digital target of 20% *[where relevant, provide more details on how the expenditures of each investment/reform relates to the digital target, including an explanation for the choices made in Table 1, in particular if it is chosen to increase the coefficients for support to the digital objective from the values set out in Annex III of the (proposed) Regulation COM(2020) 408 as amended by Council].*

[Please fill in Table 1 from the template on the contributions of the measures to the green and digital transitions. Please note that when relevant investments/reforms contribute to the mutually reinforcing goal of the twin transition, Member States can simultaneously associate those to both one green intervention field and one digital intervention field. The Table is only provided for illustrative purposes and does not reflect the ongoing work for the definition of a common methodology to track digital expenditures.]

Table 1. Green and digital impact							
<i>Please indicate if 0%, 40% or 100% of the reform/investment contributes to the objective. For reforms/investments and the climate objective, Member States should use the methodology for climate tracking applied for cohesion policy funds, in particular as set out in Table 1, Table 4 and Table 6 of Annex I to [Common Provision Regulation COM(2018) 375] and justify their choice, in particular for reforms. For reforms/investments and environmental objectives, they are invited to follow the same methodology. In both cases, please indicate the relevant intervention field for every reform/investment by choosing the most appropriate one. If several ones can be applied, the Member State should motivate why they choose the selected one. For green objectives, Member States are invited to indicate that the do not significant harm (DNSH) principle is respected defined in Regulation 2020/852 (Taxonomy Regulation).</i>							
Short title	Green objectives				Digital objectives	Transition challenges	
	Climate Tag	Environmental Tag	Intervention fields for investments	DNSH		Green	Digital
Component 1: (Reform 1: Facilitating the use of renewable energy and waste heat in district heating networks)	100%	40%	34	Yes			
Component 1: (Reform 2: Accelerated permitting for new renewables installations, including simplified procedures for re-powering)	100%	40%	32	Yes			
Component 1: (Investment 1: Supporting the development of district heating networks based on renewable energy and waste heat)	100%	40%	34	Yes			
Component 1: (Investment 2: Supporting the development of electrolysers and their connection to upstream renewable electricity production facilities to supply renewable hydrogen to industry)	100%	40%	32	Yes			

5. Milestones, targets and timeline

[Only two examples, one reform and one investment, are shown here for illustrative purposes, directly in the text. Actual RRP's should include this information in the Excel files attached to the Template.]

Table 2. Milestones and targets											
Related reform or investment	Milestone or target name & number	Qualitative indicators (for milestones)	Quantitative indicators (for target)			Timeline for completion (indicate the quarter and the year)	Data source /Methodology	Responsibility for reporting and implementation	Description and clear definition of each milestone and target	Assumptions/ risks	Verification mechanism
			Unit of measure	Baseline	Goal						
Component 1											
Reform 1: Facilitating the use of renewable energy and waste heat in district heating networks	1. Creation of a consultation group with all relevant stakeholders	Set up, operationalise and publish meeting minutes of a consultation group with all relevant stakeholders, including households, energy providers, industry, social partners, academia and sub-national authorities, renewable energy producers, distribution system operators, district heating network owners and urban planners	n/a	n/a	n/a	Q2-2021	Ministry for Energy and Buildings [add more information on data source / methodology]	Ministry for Energy and Buildings	Set up a consultation group with all relevant stakeholders, including households, energy providers, industry, social partners, academia and sub-national authorities, renewable energy producers, distribution system operators, district heating network owners and urban planners. The consultation group will be led by the Ministry for Energy and Buildings and aims to channel the various interests into the legislative procedure. The meeting minutes and recommendations will be published.	Risk of lobbyism, risk of balancing different stakeholders, risk of not taking up recommendations formed by consultation group in the legislative process	Published list of stakeholders, minutes and recommendations
	2. Adoption of legal changes related to law X and law Y	Remove legal obligation for households to be connected to the gas grid to be amended in law X and make it possible for municipalities and district heating owners to request the connection of households in the local heat zone to the district heating grid under certain conditions in law Y	n/a	n/a	n/a	Q4-2021	Ministry for Energy and Buildings [add more information on data source / methodology]	Ministry for Energy and Buildings Municipalities	The adoption of legal changes related to law X and law Y will remove any existing obligation for households to be connected to the gas grid, and create a level playing field by making it possible for municipalities and district heating owners to request the connection of households in the local heat zone to the district heating grid under certain conditions.	Risks of delays in parliament	Published legal changes in the official journal
	3. Adoption of legal changes related to law Z	Update building performance standards and define rules on planning responsibilities for municipalities in law Z	n/a	n/a	n/a	Q2-2022	Ministry for Energy and Buildings [add more information on data source / methodology]	Ministry for Energy and Buildings Municipalities	The adoption of legal changes related to law Z will update building performance standards to ensure that urban renovation programmes address the replacement of existing heating installations, and in this context put the emphasis on low-carbon solutions, including district heating. Additionally, clear rules will be defined regarding planning responsibilities for municipalities, also setting out the responsibilities of involved	Risks of delays in parliament; regional/local resistance to changes	Published legal changes in the official journal

Component example: 'Power up'

									stakeholders.		
Reform 2: Accelerating permitting of new renewables installations, including simplified procedures for re-powering											
Investment 1: Supporting the development of district heating networks based on renewable energy and waste heat	1. Roll out of the municipal technical assistance and capacity building support programme in X municipalities, including the publication of the municipalities' heating potential and planning maps	n/a	Number of municipalities having concluded the municipal technical assistance and capacity building support programme	0	X	Q4-2021	Ministry for Energy and Buildings [add more information on data source / methodology]	Ministry for Energy and Buildings National Energy Agency Municipalities	Roll out of the municipal technical assistance and capacity building support programme in X municipalities, including the publication of the municipalities' heating potential and planning maps. This includes a methodological support programme, the organisation of several expert meetings, the contracting experts to provide sustained technical assistance and stakeholder meetings. The maps will be accompanied by feasibility studies to implement a district heating system powered by at least 90% renewable and waste heat by 20XX.	Risks of lack of interest or participation of municipalities in programme	List of municipalities that concluded the municipal technical assistance and capacity building support programme. Publication of the municipalities' heating potential and planning maps and feasibility studies.
	2. Increase investments in installations to produce and store heat for district heating networks by X% by 20XX (X% financed by the RRF)	n/a	%	Z (existing level of public and private investments in installations to produce and store heat for district heating networks in 20XX)		X	QX-20XX	Ministry for Energy and Buildings, National Statistical Institute [add more information on data source / methodology]	Ministry for Energy and Buildings National Energy Agency	Public investment aid with X% financed by the RRF to incentivise investments in installations to produce and store heat for district heating networks is increased by X% in 20XX compared to 20XX.	Assuming sufficiently advanced projects readily available
[develop similar milestones/targets for the remaining investment support elements of Investment 1]											

Component example: 'Power up'

Investment 2: Supporting the development of electrolysers and their connection to upstream renewable electricity production facilities to supply renewable hydrogen to industry												
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6. Financing and costs

[Member States should provide information on the total estimated cost of the component, backed up by appropriate justification. This should be complemented by the appropriate detailed justification on the plausibility and reasonability of the estimated costs, as explained in the guidance. The justification can be annexed to the RRP. While the table is introduced directly in the text, actual RRP's should include this information in the Excel files attached to the template.]

Table 3. Estimated cost of the plan															
Component (name)	Investment/Reform (short description or cross-reference)	Relevant time period	Total estimated costs for which funding from the RRF is requested (mn/bn national currency, e.g. mn EUR)	If available: Total estimated cost by year (mn/bn national currency/EUR)						Funding from other sources (as requested by Art. 8 in the Regulation)				COFOG level 2 category / or type of revenue (if relevant, e.g. tax expenditure)	
				2020	2021	2022	2023	2024	2025	2026	from other EU programmes		from the national budget		Other sources (please specify)
											mn.bn nat. currency	specify the EU programmes and breakdown by programme if relevant (e.g. regional operational programme)			