

## Recovery and Resilience Plans

### Example of component of reforms and investments –

#### Digital connectivity

##### 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 2020<sup>1</sup> and the conclusions of the European Council of 17-21 July 2020,<sup>2</sup> the Communication on the Annual Sustainable Growth Strategy 2021 (hereafter ASGS)<sup>3</sup> and the Commission's Guidance to Member States on the Recovery and Resilience Plans.<sup>4</sup>

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 Communication.<sup>5</sup>

The document builds on the template<sup>6</sup> 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 draft 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.

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<sup>1</sup> COM(2020) 408.

<sup>2</sup> EUCO 10/20.

<sup>3</sup> COM(2020)575.

<sup>4</sup> SWD(2020) 205.

<sup>5</sup> 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.

<sup>6</sup> SWD(2020) 205 PART 2/2.

## PART 2: DESCRIPTION OF REFORMS AND INVESTMENTS

### A. COMPONENT 1: Digital connectivity

*[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 'Connect' 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. 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

##### **Digital connectivity (in particular 5G and fibre)**

**Policy area/domain:** Digital

**Objective:** Ensure comprehensive 5G and fibre coverage, including large-scale deployment of 5G corridors and smart traffic management systems along transport pathways, and enable universal and affordable access to Gigabit connectivity in all urban and rural areas.

Examples of reforms and/or investments: *[In the example below, intended reforms and proposed investments are presented separately. However, they are not necessarily expected to be separated in the plans and can be presented together to underline the synergies between them.]*

##### *a) Examples of reforms*

- Ensure that National Digital Agendas and Broadband Plans include concrete measures to reach the EU's 2025 connectivity objectives with the appropriate very-high capacity network, in line with State aid rules;
- Assign radio spectrum for 5G networks under investment-friendly conditions;
- Based on the effective implementation of the Broadband Cost Reduction Directive and of the Commission Recommendation on a common Union toolbox for Connectivity,<sup>7</sup> remove unnecessary administrative hurdles, streamline permit granting procedures and fees as well as facilitate access to physical infrastructure, including buildings and other facilities suitable for the deployment of electronic communications networks;

<sup>7</sup> Commission Recommendation (EU) 2020/1307 of 18 September 2020 on a common Union toolbox for reducing the cost of deploying very high capacity networks and ensuring timely and investment-friendly access to 5G radio spectrum, C(2020) 6270 final.

- Ensure regulatory conditions are favourable to help bridge the gap with private investments, in particular by reducing the cost and increase the speed of network deployments;

- Designate and empower the existing national Broadband Competence Offices (BCO)<sup>8</sup> as a single point of contact for public investment and cooperation with private investors, to facilitate the necessary administrative procedures, as well as to contribute to the preparation and implementation of the common Union Toolbox for Connectivity.- Boost know-how as well as digital planning tools to minimise the environmental impact of the infrastructure projects, in line with the “do no significant harm” principle. Set up programme to increase the number of qualified professionals.

*b) Examples of investments*

- Establish, where appropriate and in line with State aid rules, public funding instruments and other initiatives to leverage private investment into appropriate very high capacity networks, in particular fibre and 5G infrastructures, with particular emphasis on incentivising the use of energy efficient networks. This includes for example setting up public grants to address structural connectivity shortages, and to build physical infrastructure required for the deployment of such very high capacity networks;

- Set up a 5G venture capital fund to address market failures and to increase access to finance by SMEs and start-ups for the development of 5G applications and services.

Estimated cost: EUR XX.X million, of which EUR XX.X million (X%) are covered by RRF.  
[Please provide costing estimate]

## 2. Main challenges and objectives

### a. Main challenges

More and better connectivity is an essential pre-requisite for the digital transition by guaranteeing ubiquitous internet access and availability of digital services, which is indispensable for everyday activities - economic, social or cultural. The Covid-19 pandemic has brought to the forefront important bottlenecks that need to be addressed in order to increase resilience and territorial and social cohesion.

In planning measures to ensure investment in fibre and 5G networks consistent with Gigabit Society ambitions, key challenges to be addressed include:

- An identified investment need of [EUR X<sup>9</sup>] to ensure that all households have access to [fibre] networks capable of offering a speed of at least 100 Mbps (megabit of data

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<sup>8</sup> There is no obligation to designate the national organisation that is currently part of the European Broadband Competence Offices (BCOs) Network, if another entity would be better endowed with the necessary competences and skills to act as a single point of contact for public investment in 5G and fibre networks.

<sup>9</sup> The study SMART 2017/0018 (published in February 2020) for the Commission has estimated that ca. € 200bn in investment are needed to deploy FTTP fibre networks that can be upgraded to Gigabit speeds to all households and socio-economic drivers in NUTS3 areas which have been identified as exhibiting enduring market failure (i.e. lack of commercial viability). In addition, the estimated length of cross-border corridors on 26,000 km of highways will require investment for backhaul, 5G networks and vehicle-to-network infrastructure of around € 5.46 bn in total.

per second) download, which can be upgraded to Gigabit speeds,<sup>10</sup> up from [*provide % FTTP figures from latest Digital Economy and Society Index (DESI), and, where relevant, other figures on networks capable of providing Gigabit speeds*];

- Delays and/or difficulties with 5G radio spectrum assignment [*provide country figures from latest Digital Economy and Society Index (DESI)*] and deployment of 5G networks;
- Shortcomings in terms of access to very high capacity networks capable of offering a speed of at least 1 Gbps download and upload, in particular fibre and 5G networks, by main socio-economic drivers (such as hospitals, schools, transport hubs, public service providers, digitally intensive enterprises) and take-up to enable the use of advanced digital services and technologies;
- Important territorial divergence between urban and rural/remote connectivity, with urban populations benefiting from private investments in broadband networks with no equivalent investment in rural areas [*provide % country figures from latest Digital Economy and Society Index (DESI)*]. This results in important social divergences and exacerbated inequalities in terms of connectivity, resulting in lack of fair access to quality education, job opportunities and affordable and accessible services;
- Decreased levels of innovation and competitiveness due to lack of adequate connectivity not only of the digital sector itself but also of other economic sectors that rely on ICT infrastructures such as health, education, transport or agriculture.

In order to invest in appropriate very high capacity connectivity to reach the EU’s 2025 Gigabit and 5G connectivity objectives it is also necessary to address the underlying root causes that prevented efficient investment in connectivity infrastructure and take up of connectivity services by households and businesses. These include:

- Limited available information regarding existing physical infrastructure and coordination of civil works as well as limited access to existing physical infrastructure (e.g. ducts, poles or masts), including those belonging to energy and other utilities, for operators willing to deploy high speed broadband networks;
- Lack of construction capacities and know-how as well as planning tools;
- Costly and/or slow administrative process regarding permits and rights of way and inefficient dispute resolution processes, hampering the speed of network deployment;
- Difficulty to repurpose radio spectrum (in particular the 700 MHz frequency band) for wireless broadband;
- Citizen concerns about environmental and/or health impact of infrastructure deployment (e.g. in case of 5G);
- Insufficient access to finance for SMEs and start-ups developing applications and services supported by 5G networks.<sup>11</sup>

These investment barriers, as well as those indicated in the Commission Recommendation *on a common Union toolbox for reducing the cost of deploying very high capacity networks and*

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<sup>10</sup> This minimum benchmark should not constrain efforts to secure investment in very high capacity networks immediately capable of Gigabit speeds.

<sup>11</sup> Ongoing study of the European Investment Bank on the “Assessment of Access to Finance to Support Investments in 5G Service Innovation and Take-up” has identified a funding gap for SMEs and start-ups developing 5G applications and services in Europe of EUR 2.5 to 7.2 billion annually.

*ensuring timely and investment-friendly access to 5G radio spectrum, to foster connectivity in support of economic recovery from the COVID-19 crisis in the Union,<sup>12</sup> have already been partly addressed [include references to government actions and their evaluation].*

## **b. Objectives**

The component is in line with the country specific recommendations (CSRs) for the country for the years 2019 and 2020, which recommend focusing investment and investment-related reforms on high capacity digital infrastructure (CSRX in 20XX). [*Please indicate how each reform and investment aims to address which specific CSRs in 2019 and 2020*]. All proposed reforms and investments either implicitly or explicitly aim to increase investments in very high-capacity digital infrastructure, with a view to increasing coverage and take-up. Reform i) aims to address administrative barriers to investments in connectivity (e.g. streamlined permit granting procedures and fees, including through more efficient electronic permit processing), thereby facilitating network deployment in line with CSRX of 20XX. Investment i) aims to incentivise investments in new or upgraded connectivity infrastructure, with a focus on energy efficiency, thereby taking into account CSRX in 20XX. As such, the set of proposed measures will contribute not only to recovery but also to Europe’s long-term growth potential, job creation and economic and social resilience.

The component also supports the European Flagship “CONNECT”<sup>13</sup> by improving access to very high capacity networks and contributing to ensuring that by 2025 there is the widest possible uninterrupted 5G coverage in all areas. This will foster take-up and ensure that households and enterprises alike can take advantage of the digital transformation. To this end, Member States need to ensure that by 2025:

- all main Socio Economic Drivers (e.g. schools, transport hubs and main providers of public services, including healthcare, as well as digitally intensive enterprises) have access to Gigabit internet connections with download and upload speeds of 1 Gbps;
- all households, rural or urban, should have access to fibre networks offering a speed of at least 100 Mbps download, which can be upgraded to 1 Gigabit download and upload;
- all urban areas as well as major roads and railways should have uninterrupted 5G wireless broadband coverage, starting with fully-fledged commercial service in at least one major city in each EU member state already by 2020.

The accelerated deployment of very high capacity networks, in particular 5G and fibre (e.g. Fibre to the Premises FTTP) networks in urban and rural areas will generate important spill-over effects across society and the economy, providing the necessary infrastructure to handle emerging and future processes and applications. It will provide industry with new opportunities, make rural areas more attractive for businesses and young generations, whilst increasing Europe’s digital strategic autonomy. At the same time, it will create short-term employment and upskilling opportunities in the relevant construction and civil works sector.

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<sup>12</sup> C(2020) 6270 final.

<sup>13</sup> COM(2020) 575 final. See also EU Strategy “Towards a Gigabit Society” and “5G Action Plan for Europe”.

Particular attention will be paid to ensure ubiquitous access to very high capacity digital connectivity in rural and remote areas, where business operators still lack a business case or profitability prospects for infrastructure deployment. This will help addressing the ongoing depopulation of rural communities by increasing employment opportunities, including through the introduction of ICT in agriculture, and by ensuring better access to key services such as health care. *[Please provide a reference to any national digital/broadband strategy, where available, and explain how the component fits with the broader national strategic context]*

### **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 is for illustrative purposes only. To the degree possible, their interlinkages and synergies should be explicitly mentioned and explained as part of their description. *[These are examples. 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 a Member State seeks to ensure that they are of a complementary and coherent nature.]*

#### **a. Examples of reforms**

*[For illustrative purposes, the first sub-component is developed in more detail, setting out the challenges, objectives, implementation mode, target population and timeline. The remainder of the reform examples are left at a higher level.]*

##### **i) Address investment bottlenecks in administrative capacity**

*Challenges:* To remove unnecessary administrative hurdles hindering the deployment and use of appropriate very high capacity networks, in particular fibre and 5G networks.

*Objective:* The aim is to facilitate network deployment by inter alia reducing the associated costs, increasing the speed of network deployment (e.g. streamlined permit granting procedures and fees, including through more efficient electronic permit processing), facilitating access to physical infrastructure including other facilities suitable for the deployment of networks.<sup>14</sup>

*Implementation:* Set up, with close involvement of the national Broadband Competence Office,<sup>15</sup> an expert group of relevant stakeholders (e.g. local and national administration, telecom companies, local developers, regulatory agencies) to put forward proposals to streamline and reduce administrative barriers along the entire infrastructure investment process, with particular focus on permit granting procedures. The proposals would serve as input for the exchange of best practices with other Member States with a view to creating a

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<sup>14</sup> These reforms are also addressed in the Commission Recommendation (EU) 2020/1307 of 18 September 2020 on a common Union toolbox for reducing the cost and increasing the speed of deploying very high capacity networks and ensuring timely and investment-friendly access to 5G radio spectrum, to foster connectivity in support of economic recovery from the COVID-19 crisis in the Union.

<sup>15</sup> There is no obligation to designate the national organisation that is currently part of the European Broadband Competence Offices (BCOs) Network, if another entity would be better endowed with the necessary competences and skills to act as a single point of contact for public investment in 5G and fibre networks.

“Toolbox”, in line with Commission Recommendation (EU) 2020/1307 of 18 September 2020. On the basis of the “Toolbox”, the government will assess what, if any, legislative follow-up is required and will put forward the relevant proposal(s) as soon as possible, following a broader stakeholder consultation and impact assessment process. The aim would be to foster the successful finalisation of the legislative process within 18 months. In addition, a series of support measures will be taken to facilitate the necessary administrative procedures. This includes also the designation of the existing national Broadband Competence Office as a single point of contact for public investment.

*Target population:* local, regional, national administration, electronic communication service providers, construction industry.

*State aid compliance:* Administrative and regulatory measures supporting broadband roll-out, e.g. by facilitating permit granting procedures, in principle do not fall under State aid rules.<sup>16</sup>

*Timeline:* The implementation period is estimated to be from 6-18 months.

## **ii) Timely and ambitious implementation of regulatory and policy framework**

- Ensure that the National Digital Agenda and Broadband Plans include concrete measures to ensure at least that the EU’s 2025 connectivity objectives are reached and to enable all businesses, including small and medium-sized, as well as all households to fully participate in the digital economy and society.
- Improve and enhance the incentives for market operators to invest in very high capacity networks, in particular fibre and 5G connectivity, on the basis of the effective implementation of the Broadband Cost Reduction Directive, the Commission Recommendation on a common Union toolbox for Connectivity and the European Electronic Communications Code rules, together with all accompanying soft-law instruments (e.g. BEREC guidelines and Commission Recommendations) and in line with the EU Toolbox for Cybersecurity of 5G networks.<sup>17</sup>

## **iii) Assign radio spectrum for the fifth generation (5G) networks under investment friendly conditions**

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<sup>16</sup> Member States may decide in accordance with the EU regulatory framework for electronic communications, for instance, to facilitate the acquisition process of rights of ways, to require that network operators coordinate their civil engineering works and/or that they share part of their infra-structure. In the same vein, Member States may also require that for any new constructions (e.g. new water, energy, transport or sewage networks) and/or buildings a very high capacity network connection should be in place. Third parties may also place at their own cost their passive network infrastructure when general civil engineering works are carried out in any event. This opportunity should be offered in a transparent and non-discriminatory way to all interested operators and should in principle be open to all potential users and not just electronic communications operators (i.e. electricity gas, water utilities, etc.). However, it cannot be excluded that public funding of such works falls within the notion of aid of Article 107(1) TFEU if they are limited to or clearly geared towards the broadband sector. A centralised inventory of the existing infrastructure (subsidised or otherwise) possibly also including planned works, could help the roll-out of further connectivity.

<sup>17</sup> See COM(2020)50 - The Cybersecurity of 5G networks - EU Toolbox of Risk Mitigating Measures of 29 January, 2020.

- Foster the accelerated roll-out of 5G networks by developing investment-friendly spectrum authorisation processes, which promote wider area coverage, levels of spectrum fees that support efficient use of spectrum as well as common authorisation conditions for cross-border industrial use cases. Quick authorisation process, including of the 24.25-27.5 GHz band e.g. for Fixed Wireless Access, would ensure the needed certainty for investments in these networks.

## **b. Examples of investments**

### **i) Invest in building new and upgrading existing network infrastructure for very high capacity networks**

*Challenges:* Addressing the identified investment need of [EUR X] to ensure that: (a) all households have access to fibre networks capable of offering a speed of at least 100 Mbps, upgradable to Gigabit speeds<sup>18</sup>; (b) all digitally intensive enterprises and main socio-economic drivers (such as schools, transport hubs, public service providers, hospitals and other healthcare providers) have access to Gigabit fibre and secure 5G networks with download and upload speeds of 1 Gbps; and (c) all urban areas as well as major roads and railways have uninterrupted secure 5G wireless broadband coverage.

*Objectives:* Reach identified connectivity targets as set out in section 5 through the establishment of public support measures to leverage private investment into appropriate very high capacity networks, in particular fibre and 5G, to close the relevant investment gaps. A particular emphasis should be put on public tenders, which create incentives for the deployment and use of energy efficient and secure networks (focus on 5G and fibre<sup>19</sup>) in line with the EU Toolbox for Cybersecurity of 5G networks.

*Implementation:* Appropriate measures can include for instance: (a) Setup of public support measures, including grant funding programmes, to (i) address structural connectivity shortages in market failure areas<sup>20</sup> and, when necessary, (ii) ensure appropriate access to physical infrastructures (e.g. ducts, manholes, cabinets, poles) for the deployment of appropriate very high capacity networks, with a particular focus on remote and rural areas, in line with national broadband plans; (b) set up of equity programmes or funds (e.g. through National Promotional Banks and Institutions, if applicable) to support operators to deploy new or modernise existing networks, with the overall aim to attract additional private investment; (c) set up a 5G venture capital fund to increase access to finance by SMEs and start-ups for the development of 5G applications and services. *[Please specify nature and size of investment]*.

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<sup>18</sup> This minimum benchmark should not constrain efforts to secure investment in very high capacity networks immediately capable of Gigabit speeds.

<sup>19</sup> For example, fully optical Fibre to the premises (FttP) networks have lower energy needs for active equipment than other fixed networks – see below.

<sup>20</sup> Market failures areas should be verified by updated mapping and public consultation to assess the presence of current or planned broadband infrastructures, in order to limit risks of distorting competition and crowding-out private investment. For example, based on the latest Commission decisions, market failure could be identified where households do not have access to speeds of 100Mbps download or where socio-economic drivers do not have access to speeds of 200Mbps symmetrical or 500Mbps download.



*Target population:* Local, regional, national administration, electronic communication service providers, infrastructure investors, as well as SMEs, start-ups and users of the technology.

*State aid compliance:* The envisaged public support measures may amount to State aid.

Measures related to market failure areas, as for example indicated in national broadband plans, envisaged under point a) above are in principle compliant with Art. 52 of the General Block Exemption Regulation (GBER) or with the Broadband Guidelines. Those not complying with all the requirements of the GBER will be notified to the Directorate General for Competition of the European Commission.

Measures aiming to set up equity programmes or funds as described under point b) above will not involve State aid as they will be designed in line with normal market conditions.<sup>2122</sup>

*Timeline:* The implementation period should start as soon as possible, with projects completed until the end of 2025.

## **ii) Invest in capacity-building and upskilling of workers and civil servants**

*Challenges:* Addressing the shortage of sufficiently skilled and trained workers to support the efficient roll-out of fibre and wireless connectivity infrastructure, by developing public sponsored vocational trainings for: (a) employees of civil construction companies for the installation of fibre networks, and (b) civil servants to develop in particular the planning capacity to support private investors.

*Objectives:* The aim is to provide a comprehensive and uniform basis for the upskilling of construction workers for fibre-specific skills and civil servants responsible for overseeing the installation and management of connectivity infrastructure and related administrative procedures such as permitting or allocating public funding. A uniform digital planning tool will be developed in close cooperation between relevant stakeholders at national, regional and local level [*please specify*] to facilitate and accelerate the process. This will be made available throughout the administration, complemented by a targeted training programme. Once implemented, this measure will support the re-skilling/up-skilling of X number of civil servants per year.

*Implementation:* The national government will organise a dialogue with union representatives, employers' organisations and relevant education institutes [*name the specific ones*] to discuss the training plan and its content. To develop the digital planning tool, a consultation group will be set up to define the requirements and necessary standards.

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<sup>21</sup> This would be the case, for instance, if in similar circumstances, a private investor would also participate in the investment at the same conditions. If the investment is market conform, it can go beyond market failure areas. If not designed in line with normal market conditions, state aid rules would apply as for point a) above.

<sup>22</sup> Measures to set up 5G venture capital programmes or funds to increase access to finance by SMEs and start-ups for the development of 5G applications and services described under point c) should also be limited to market failure areas. Compliance with section 3 of GBER, would ensure that the set-up of the programmes/funds addresses an existing market failure and is therefore compliant with State aid rules. Situations falling outside the GBER should be assessed by the Commission under the Risk Finance Guidelines, which requires – among others – an ex ante assessment of the existence of the market failure. Member States are advised to establish sufficiently early contact with the relevant Commission's services.

*Target population:* The target population are employees of civil construction companies and civil servants responsible for handling digital planning processes and related permits and authorisations, inter alia for granting access to existing infrastructure.

*State aid compliance:* Initiatives to develop the skills and/or certify individuals, e.g. through vocational training, do not fall under State aid rules. However, public funding to train the workforce of specific undertakings may constitute training aid.<sup>23</sup>

*Timeline:* [Please specify timeline.]

#### **4. Green and digital dimensions of the component**

##### 1) 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.<sup>24</sup> The Commission has set a target to achieve climate-neutral, highly energy-efficient and sustainable data centres and electronic communications networks by no later than 2030. High efficiency gains are required to prevent a rapid growth of the energy consumption of data centres. At the same time, the remaining energy-efficiency potentials are becoming smaller as technology is moving closer towards the physical limits.

Comparative analysis of the energy consumption in broadband networks has shown that optical fibre networks are the most energy-efficient solution, especially in view of increasing traffic volumes due to the data economy. Replacing copper networks (which use a much larger amount of active components requiring power) and deploying more sustainable optical fibre elements can therefore contribute to the digital transition and the Green Deal, complementing the effort to replace other obsolete or less performant infrastructure (e.g. older data centres).

In addition, by increasing coverage and take-up of very high capacity digital infrastructure, the measures put forward in this component will also boost the development of digital solutions that support the decarbonisation of all sectors and reduce their environmental footprint. 5G based solutions, for instance, are expected to bring about important efficiency gains in manufacturing, logistics.

5G networks will also facilitate deploying large-scale sensor networks that will support the collection of environmental and climate data to underpin disaster prevention and improved policy making. In less densely populated or inaccessible areas (such as forests or mountains)

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<sup>23</sup> Training aid of a maximum EUR 2 million per project will be compatible with the Internal Market if it complies with the conditions set out in Chapter I and in Article 31 of the General Block Exemption Regulation (GBER). For training aid that would not comply with the requirements of the GBER, Member States should envisage a sufficiently early notification to allow for the necessary compatibility assessment by the Commission. The assessment would follow the principles set out in the Communication from the Commission on the Criteria for the analysis of the compatibility of State aid for training subject to individual notification (2009/C 188/01).

<sup>24</sup> 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 7<sup>th</sup> compromise proposal put forward by the German Presidency on the proposal for a Regulation COM(2020)408 as a Council negotiating mandate.

very high capacity networks based on wireless solutions such as 5G are also expected to help develop new local business models (like rural tourism or smart agriculture), thereby contributing to the green transition of local economies through inter alia streamlined consumer-supply chains and reduced “food miles”. *[On the basis of Table 1, describe what % climate expenditures are comprised in the component. Where relevant, provide more details on how the expenditures of each investment/reform relates to the 37% climate target, including an explanation for the choices made in Table 1].*

In addition, the component proposed measures contribute to the green transition, taking into account the six climate and environmental objectives as defined in Regulation (EU) 2020/852 (Taxonomy Regulation). *[Provide more details, justification and evidence on how exactly the measures contribute to the environmental objectives as defined in Regulation (EU) 2020/852 (Taxonomy Regulation)].* There are clear commitments and mechanisms in each of the reform and investment 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. *[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).]*

## 2) Digital transition

The (proposed) Regulation COM(2020) 408 establishing a Recovery and Resilience Facility 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.<sup>25</sup> Digital agendas, including national broadband plans, have contributed to ensure the coherence and reinforce the synergies between actions and investment in different areas of the digital economy. Where digital connectivity investments are structured into pools of coherent projects or “programmes”, anchored into wider local, regional and national digital transition plans, their contribution to the digital transition is significant. Investments in appropriate very high capacity networks, in particular 5G and/or fibre infrastructure deployment projects, has important spill over effects on the competitiveness of the whole digital sector (supply of IT equipment, cloud technologies and solutions, data analytics, AI, high performance computing, etc.), across all sectors of the economy such as health, transport, education, agriculture, smart mobility and also for public administration.

The contribution of infrastructure projects to the digital transition will largely depend on the deployment of state of the art very high capacity networks with a capacity/speeds and other technical characteristics at least in line with the 2025 objectives of the Strategy “Towards a Gigabit Society” and capable of supporting real time communications and advanced services, such as for example fibre networks reaching end users and base stations operating 5G technology.

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<sup>25</sup> 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. This is reflected in the 7<sup>th</sup> 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.

Synergies between the deployment of such Gigabit networks and the support to the setup of services and applications making use of them (e.g. smart cities, digital public services, ICT in farming, Industry 4.0, IoT, logistics, tourism, automated driving...) are encouraged and will contribute to increase the impact of the intervention on vertical sectors as well as to reinvigorate the competitiveness of the national (and European) digital ecosystem.

By comprising X% digital expenditures (see Table 1 below) this component contributes significantly to the 20% digital target set out in Article 15(3)(c) of the (proposed) Regulation COM(2020) 408 [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 you choose 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 below 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							
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).							
Short title	Green objectives				Digital objectives	Transition challenges	
	Climate	Environmental	Intervention field	DNSH		Green	Digital
	Tag	Tag					
Component 1: (Reform 1: Timely and ambitious implementation of regulatory and policy framework )	0%	0%	n/a	yes	100%		
Component 1: (Reform 2: Assign radio spectrum for the fifth generation (5G) networks under investment friendly conditions )	0%	0%	n/a	yes	100%		
Component 1: (Reform 3 : Address investment bottlenecks in administrative capacity )	0%	0%	n/a	yes	100%		
Component 1: (Investment 1: build or upgrade existing physical infrastructures for the deployment of Very High Capacity Networks )	0%	0%	n/a	yes	100%		
Component 1: (Investment 2: Invest in up-skilling and capacity building of public sector workers )	0%	0%	n/a	yes	100%		

## 5. Milestones, targets and timeline

Examples of milestones and targets to measure progress in implementation:

### Reforms

- By date X, ensure publication of expert group recommendations and reporting on proposed follow-up through national and local administration;
- By date X adopt and publish best practices for reducing the cost and increasing the speed of deploying very high capacity networks, as input for the common European best practices in the form of a Toolbox by 30 March 2022;
- By date X, ensure the adoption of regulatory reforms aimed at (i) reducing cost and increase speed of network deployment (streamlined permit granting procedures and fees, including through more efficient electronic permit processing); (ii) facilitating access to physical infrastructure and other facilities suitable for the deployment of networks;
- By date X, publish legislative proposal to simplify the complex licensing and permitting system. By date Y the draft law is approved by parliament;
- By date X, establish and publicise a single point of contact within the administration for investment with the objective of facilitating the completion of necessary administrative procedures by telecom operators and investors;
- By date X, YY% of public sector bodies give access to their physical infrastructure;
- By date X, YY% of public sector bodies make available information through the single information point, provided in Article 4(2) of Directive 2014/61/EU5;
- By date X, YY time is required to obtain a network deployment permit and YY% of permit requests processed within a given deadline;
- By date X, assign EU pioneer radio spectrum bands as defined by the Radio Spectrum Policy Group<sup>26</sup> for the fifth generation (5G) networks [*if not already done*].

### Investments

#### Investment (i)

- By date X, establish grant funding and/or equity funding support programmes of at least [XXX EUR] to support operators to deploy new or modernise existing networks, in particular in market failure areas; by date Y, at least X% of additional market failure areas are covered;
- By date X, set up a 5G/6G venture capital fund of at least [XXX EUR] to increase access to finance by SMEs and start-ups for the development of 5G applications and services as well as 6G technologies; by date Y, at least Y000 additional SMEs and start-ups have received support through the fund;
- By date X, complete timely state aid notification to facilitate agreement with DG COMP on framework for planned public investment programmes;
- By date X, YY% decommissioned copper lines are replaced by fibre networks, by number of households served;
- By date X, X00 new or upgraded physical infrastructures are built (e.g. ducts, manholes, cabinets, poles) to support the deployment of Very High Capacity Networks;
- By date X, YY% of 5G enabled base stations over total existing base stations in the country;

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<sup>26</sup> [https://rspg-spectrum.eu/wp-content/uploads/2013/05/RPSG16-032-Opinion\\_5G.pdf](https://rspg-spectrum.eu/wp-content/uploads/2013/05/RPSG16-032-Opinion_5G.pdf).

- By date X, X000 additional households have improved access to very high capacity networks (mobile and fixed);

Investment (ii)

- By date X, roll out official vocational training programme to increase the number of qualified professionals in civil works for the deployment of very high capacity networks with such and such characteristics in the curricula;
- By date X, Y000 additional qualified professionals in civil works for the deployment of very high capacity networks are trained by the vocational training programme;
- By date X, roll out official training scheme for civil servants responsible for overseeing the installation and management of connectivity infrastructure with such and such characteristics in the curricula;
- By date X, Y000 additional civil servants are trained in digital planning tools.

[Only one example of reform is 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						
<b>Component 1 Example: Digital connectivity</b>											
Action 1: Address investment bottlenecks in administrative capacity	<p>1. By date X, set up a multi-level expert group to identify administrative hurdles, to streamline permit granting procedures, plan approvals and fees to facilitate network deployment.</p> <p>2. By date X+Y months, ensure publication of expert group recommendations and reporting on proposed follow-up through national and local administration.</p>	<p>The working group brings together local and national administration, telecom companies, local developers, regulatory agencies to put forward proposals to streamline and reduce administrative barriers along the entire infrastructure investment process, with particular focus on permit granting procedures.</p>	Na	Na	Na	Q2 2022	Ministry of Public Administration, Ministry of the Economy (add data base, methodology, etc.)	Ministry of Public Administration, Ministry of the Economy	<p>1. The working group needs a clear mandate and financial means to operate efficiently. It also needs to bring together representatives of all administrative levels as well as key stakeholders, including electronic communication service providers, and the construction industry in order to work effectively. The government will ensure that the objective of the working group are clearly followed and that the work is results-oriented and follows a clear timetable.</p> <p>2. A set of recommendations will be developed and published. National administration will ensure appropriate follow-up, based on the preparation of an action plan and legislative proposals (if legislative action is required).</p>	<p>Possible conflicting views and interests within the working group, delaying or hindering the definition of recommendations.</p>	<p>Publication of mandate, working group members and regular publication of meeting minutes; hyperlink to the final report, including recommendations; hyperlink to the action plan and legislative proposals.</p>
	<p>3. By date X publish legislative proposal to simplify the complex licensing and permitting system.</p> <p>4. By date X+Y the draft law is approved by parliament;</p>	<p>Following stakeholder consultations and a comprehensive impact assessment, a legislative proposal is published and swiftly negotiated in the legislative procedure.</p>	Na	Na	Na	Q1 2024	Ministry of Public Administration, Ministry of the Economy (add data base, methodology, etc.)	Ministry of Public Administration, Ministry of the Economy	<p>Following a comprehensive oral and written stakeholder consultation, taking into account the recommendations published by the working group, the responsible ministry will launch a detailed impact assessment of the proposed legislation and, thus, start the legislative process.</p>	<p>Preparing administrative reform can take significant time and requires input of a broad range of experts and practitioners. The Ministry and Institute have experience in this process and consider the proposed timeline realistic, but significant delays in the consultation period (e.g. due to another wave of the pandemic) could cause a delay in the achievement of this milestone.</p>	<p>Impact Assessments documents, including results of consultations; publication of related legislative proposals; adopted legislative acts.</p>

## 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 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)			