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1. Programme strategy: main challenges and policy responses

Reference: points (a)(i) to (viii) and point (a)(x) of Article 22(3) and point (b) of Article 22(3) of Regulation (EU) 2021/1060 (CPR)

Overall objectives and development strategy of the programme

The Land of Hesse is one of the strongest and most innovative regions within Germany and the European Union. With a GDP value of EUR 83.319 per person employed, Hesse is the best performing country in Germany in terms of economic performance, with unemployment 4.6 % lower than that of Germany (5.2 %) and ranked 5th among the German Länder with an R & D rate of 3.02 %.

For the 2021-2027 funding period, the Hesse government has set itself the objective of supporting strategic investments for a smarter and greener, carbon-free Europe with ERDF funding. In line with the modernised cohesion policy for the new funding period, the focus on ERDF funding for the two policy objectives 1 and 2 is intended to contribute to improving competitiveness and sustainability in all regions of the EU and to pull down regions that are less strong for growth and innovation. It should be noted that there are also large spatial differences within Hesse. In order to sustainably increase economic and innovation capacity in all regions of the Land and to link the compensation with the growth objective, ERDF funding will also provide targeted support for instruments which will benefit the less performing regions in Hesse.

Future ERDF support in Hesse will be closely aligned with the country-specific recommendations issued by the Council (LSE) and the 2019 country report, including the investment guidelines (ILL). Through the ERDF, the Land of Hesse will increase its investment in education, research and innovation and in achieving national and European energy and climate objectives. The European Green Deal, as the EU's new growth strategy to connect a fair and prosperous society with a modern, resource-efficient and competitive economy, provides a key strategic basis for the new ERDF programme — as well as the European Digital Strategy and the partnership agreement at federal level. In addition to guidance on the European and national framework, the specific investment needs and the relevant Land strategies for the future ERDF programme and its instruments were decisive for the concrete design of the future ERDF programme and its instruments, in particular the Hesse Innovation Strategy 2021-2027 (HIS2027).

The new ERDF programme builds on the experience of past ERDF funding. The results of the accompanying evaluation to date confirm the relevance of the strategy and the effectiveness of the support instruments in principle. In the 2021-2027 funding period, tested and effective instruments at the level of measures, which can be expected to make tangible contributions to the new policy and specific objectives (SO), will therefore be continued with partial modification. In addition, new tools and approaches will be specifically added to the funding instruments.

In line with the new strategic approach and the five policy objectives of cohesion policy, the ERDF focuses on policy objectives 1 and 2. Depending on needs, the ERDF programme can, where appropriate, contribute to the relevant strands of European Territorial Cooperation (ETC) and exploit synergies with other EU funding instruments such as Horizon Europe. Within its objectives and measures, the ERDF programme is open to appropriate cooperation across borders with other EU regions.

The coordinated and closely coordinated implementation of the ERDF with other support instruments at national and European level is ensured by procedures which have already proven their worth in previous funding periods. At the strategic level, the coherence of objectives and instruments in sub-areas of the programme is sought in order to allow for a common and synergetic interaction between the actions. At the instrumental level, this requires particular attention to be paid to the delimitation and coordination of interventions in order, on the one hand, to allow cumulation within the State aid requirements and, on the other hand, to avoid overlaps and double funding. This is done through a clear allocation of responsibilities, intensive coordination and clearly defined demarcation criteria between programmes and measures (e.g. substantive, sectoral, spatial or size-dependent). Hessen will implement its ERDF support in a clear demarcation with the German Recovery and Resilience Plan (DARP). SZ in the ERDF are supported by measures which are clearly demarcated from the DARP's investment measures and for which it has already been verified that either support from the DARP is not or will not be possible or double funding is ruled out if used in a complementary way to achieve synergies.

Against this background, the main substantive challenges that are considered to be relevant for the ERDF in Hessen in the coming years and which were decisive for the selection of the two policy objectives 1 and 2, as well as the SZ below, are set out below. Given the long-standing experience, there are no major challenges in terms of administrative capacity and governance for the implementation of ERDF support. However, efforts to reduce the administrative burden on beneficiaries as well as on authorities and intermediate bodies will be stepped up through various measures.

Compliance with the horizontal principles (Charter of Fundamental Rights of the European Union, gender equality, anti-discrimination policies, sustainable development) will be ensured through long-established and best practices in programme implementation.

During the implementation of the programme, the managing authority will promote strategic use of public procurement to support sustainability objectives and professionalisation efforts to address capacity gaps. Beneficiaries should be encouraged to apply more quality and life cycle award criteria. Where feasible, environmental and social considerations and incentives for innovation should be integrated into public procurement procedures.

During the implementation of the programme, the supported projects shall take into account, where relevant, the principles of the New European Bauhaus Initiative.

Policy objective 1

Main challenges, market failures

Research, development and innovation are key to high competitiveness and sustainable growth. The recent CSRs and the ILL recognise that, on average, the federal states have been able to increase their R & D intensity in recent years and reach the 3 % headline target of the Europe 2020 strategy. However, it is also noted that weaknesses remain in Germany, such as the below-average and declining R & D & I activities of small and medium-sized enterprises (SMEs), low success in high-risk, disruptive innovation and cutting-edge technologies, and scientific excellence. There are also major challenges for the German economy in view of a significant shortage of skilled labour, the risks of automation and deficiencies in lifelong learning.

The needs and need for action for the use of the ERDF under policy objective 1 in Hessen derive specifically from the challenges identified in the HIS 2027. HIS2027 is embedded in the federal and EU strategic frameworks; however, it sets country-specific priorities and its own priorities, which are taken up in ERDF support.

HIS2027 focuses on the contributions that technological progress and innovation can make to addressing the societal and environmental challenges.

However, innovation economic research provides numerous indications that there is a market failure for private financing of R & D & I. Public intervention to achieve a socially optimal innovation output through support for R & D infrastructure, technology transfer and direct support for R & D & I in companies is justified in view of the public quality of new knowledge and the positive externalities induced by R & D & I activities (“knowledge spillovers”).

More recently, however, Hessen has shown weaknesses in its economic dynamism and innovation. Since the economic and financial crisis, economic and productivity growth has lagged behind developments in Germany as a whole, with (nominal) GDP growth of 4.1 percentage points and (real) GDP growth per hour worked by 3.8 percentage points below national growth. At the same time, Hessen’s R & D expenditure has only developed below average compared to the federal and European levels.

Hessen has thus lost its lead in the federal and EU comparisons. The continuation of this development not only jeopardises Hessen’s research and innovation location, but also makes it difficult to achieve the national target of spending at least 3.5 % of GDP on R & D by 2025, as well as the European headline target of a Europe-wide R & D rate of 3 %. For this reason, the Land of Hessen still sees a great need for support for the ERDF in relation to policy objective 1. Substantive links for the ERDF are seen in all four strategic areas of HIS2027, which takes into account the entire impact chain of education — research — business and their networking.

Investment needs in SO 1.1

Hessen has a wide-ranging system of public and private universities, as well as non-university research

institutions, which provides effective support to local businesses. However, in terms of intensity and performance of publicly funded research, there is potential for further development: In terms of the share of public R & D expenditure in GDP, Hessen occupies one of the 16 Länder in the past. In addition, the gap with the national average remains almost unchanged in recent years. R & D personnel intensity in the state and higher education sector in Hessen is also still significantly below average in national comparisons, despite absolute increases (37 R & D employees in the public sector per 10 000 economically active persons vs 48 on average at federal level). Hessen's universities and their partners have so far remained below their potential in the framework of the federal and regional excellence strategy. As cutting-edge research (with mainly a strong application-related dimension) — also in the field of smart specialisation, i.e. in terms of business needs — is increasingly dependent on excellent research infrastructures and technologies in the relevant research fields, this is seen as an important starting point for the ERDF and in SO 1.1. *funding for research infrastructure and large research equipment at universities and non-university research institutions* is implemented.

The key determinant of a region's innovation capacity is, by its very nature, the R & D activities of enterprises. In Hessen in particular, the R & D activity of the economy is above average, both in comparison with the national and EU averages. The business sector accounts for around 75 % of R & D expenditure and R & D personnel (only 69 %). However, over the last decade, research and innovation efforts in Hessen have slowed down by comparison: While enterprises spent 5.4 % more on R & D annually over the period 2009-2017, the annual growth rate of R & D expenditure by Hessen's enterprises was only 2.2 %. As a result, while the economy's R & D ratio is still above average at 2.26 %, it has declined from 2.36 % in 2009. This development lags considerably behind nationwide dynamics, with the R & D rate rising by 0.32 %.

In addition to R & D activities, other indicators of Hessen's regional innovation have not been able to keep up with the dynamic development in the leading regions of Germany and Europe in recent years. As a result, Hessen and its regions fall back into the relevant innovation rankings: For example, the three Hessen regions in the Regional Innovation Scoreboard show a declining index over time. The government district of Darmstadt, the most innovative region of Hessen, has dropped out of agenda item 25 of Europe's regions since 2015.

According to the Ländercheck, the Innovation Motor University of the Stifterverband, both the transfer of knowledge and technology between the relevant actors of the Hessen innovation system, and the implementation of joint research projects between the scientific and industrial sectors, are likely to be optimistic. The challenges identified for Germany as a whole in terms of research and innovation performance and insufficient cooperation between research institutions and SMEs, as identified in the CSRs, are therefore particularly urgent for the Land of Hessen in view of recent developments. The decreasing R & D & I effort of Hessen's economy jeopardises Hessen's leading role as an innovation region within the EU and the achievement of the European and national targets of increasing R & D expenditure to 3 % and 3.5 % of GDP respectively. *Support for research and development projects in enterprises* and *support for knowledge and technology transfer* are therefore key elements of HIS2027 and are specifically supported by the use of the ERDF in SO 1.1.

Investment needs in SO 1.3

In view of demographic change and the expected reduction in labour potential in the longer term, the 2019 country report for Germany concludes that future growth will depend on productivity growth and therefore on investment in more modern technologies. HIS2027 also sees sustained and sustainable productivity growth in Hessen's enterprises as a key condition for successfully addressing the challenges posed by globalisation, technological progress, structural change and economic development in the more structurally weaker regions of the country. As SMEs are the backbone of Hessen's economy (99.5 % of all enterprises have fewer than 250 employees and 97.7 % fewer than 50 employees), strengthening their performance and competitiveness is naturally of paramount importance.

Although Hessen's population will — according to the latest forecasts — continue to increase slightly until 2035, the already observed ageing process will in principle continue. A rapidly ageing population and the foreseeable lack of skilled young people, willing to start up and skilled workers pose a risk to Hessen's innovative capacity in several respects. Hessen can only exist as a modern innovation location in international competition if sufficiently qualified people are also available as business leaders and professionals. However, in 2024 it is forecast that a total of around 175 000 skilled workers will be missing in Hessen. And it is estimated that some 11 500 companies with 185 000 employees are already in the process of being handed over in Hessen.

The demographic decline in high-growth age cohorts will generally reduce the start-up potential and negatively affect future innovation: It is therefore problematic that the start-up intensity (according to IfM) in Hessen decreased by 7.6 % between 2015 and 2019, even more than in Germany as a whole (5.6 %). In the high-tech sector too, the intensity of start-ups has decreased in Hessen (-4.7 %) and in the federal average (-3.2 %).

The promotion of start-ups and the removal of specific barriers to start-ups therefore plays a central role in HIS2027. In order to create more start-ups and new businesses (also in terms of business succession), it is important to motivate more people to become self-employed, to address the lack of information and to teach entrepreneurial skills. In SO 1.3, the ERDF supports these general efforts of Hessen's innovation policy by providing targeted support for projects to *promote start-up and entrepreneurship*.

Within Hessen, there are large geographical differences in the innovativeness and competitiveness of the economy. While the government district of Darmstadt (South Hessen) is 57 % higher than the European average in terms of GDP per capita (in PPS) and 16th in Europe, the administrative districts of Kassel (+ 13 %) (North Hessen) and Giessen (+ 4 %) (Central Hessen) are only ranked 72 and 95 out of the 276 NUTS level EU regions. It should be borne in mind that GDP per capita (in PPS) in the two administrative districts is already well below the national average. At county level (NUTS3 level), only half of Hessen's districts achieve 85 % of the national average in terms of GDP per person employed as a key measure of economic performance of a region. They are all located in North and Central Hessen.

However, since the end of the financial and economic crisis, productivity growth in northern and central Hessen has been significantly higher than the Hessen average, thus catching up the more structurally weaker regions compared to the leading regions in the Rhine-Main region. In order to further support the process of convergence of structurally weak regions and to reduce the large regional disparities in the

economic performance level in Hessen, the innovativeness and competitiveness of SMEs in the previous regions needs to be strengthened and promoted in addition to those available to SMEs in all parts of the country. Through targeted support for innovation-centred investments in the structurally weaker parts of the country, capital-linked technical progress will be introduced into SMEs and the spread of innovation (“diffusion”) across the entire breadth of small and medium-sized enterprises will be encouraged. The ERDF will therefore *support investment and technological modernisation in SMEs*.

In view of digitalisation, the ongoing training of employees, including apprentices, is becoming increasingly important for Hessen’s SMEs. New technological content, as well as forms of work, need to be learned and applied at all stages of the company’s performance process in order to be able to survive on the market. A good education system that provides more digital content and methods secures future professionals and thus the innovation and competitiveness of SMEs. Skill shortages are already one of the main obstacles to innovation.

HIS2027 therefore pays particular attention to capacity building in company education and training to unlock the potential of the digitalisation and decarbonisation of the economy. SMEs, and in particular craft enterprises, are not in a position to fully acquire all knowledge and skills due to their size or special nature. This is why part of the practical training of small and medium-sized enterprises takes place in inter-company vocational training centres in business. The continuous promotion of the technical equipment of these training centres ensures high-quality, state-of-the-art training. Inter-company education centres thus serve as an innovative element in education and training and are frontrunners for small SMEs in the context of the extensive transformation needs. Against this background, within the multi-stage funding approach of HIS2027, ERDF funds are used to *promote inter-company vocational training centres*.

Policy objective 2

Main challenges, market failures

In view of European and national energy efficiency and climate objectives, policy objective 2 still requires sustained efforts towards a greener, low-carbon Europe. The ILL highlights investment needs for Germany in increasing energy efficiency, developing smart grid and system solutions and promoting development, demonstration and model projects at local level.

The key challenges for the Land of Hessen and the policy responses of the Land government are described in the Integrated Climate Change Plan 2025 (IKSP). The key objective is to reduce greenhouse gas emissions by 30 % by 2020, 40 % by 2025 and by at least 90 % by 2050 compared to the 1990 baseline. In 2019 (current data edge) emissions of 48.2 million tonnes of CO₂ equivalents were emitted in Hessen. This represents a decrease of less than 5 % compared to 1990. Emissions increased slightly in each of the previous two years. The 2020 target is not expected to be structurally achieved, even if there may be special developments due to the coronavirus pandemic. There is a clear market failure.

The causes of market failures in relation to environmental and energy objectives are identified in the current Guidelines on State aid for environmental protection and energy 2014-2020. The primary issue is negative externalities: Price-led production and consumption decisions do not take sufficient account of the negative impact on the environment and social costs. This applies in particular to the use of fossil fuels in the production of heat, in the use of fossil-powered vehicles and in the use of energy and resources, for example in production processes.

However, externalities, information asymmetries, coordination problems and indivisibility should also be taken into account as factors contributing to market failures. For example, basic infrastructure (e.g. district heating networks) for fossil energy use has been developed and developed.

From a sectoral perspective, transport is by far the largest emitter of CO₂ emissions, accounting for just over 40 %. At the current margin (2017), emissions are again slightly above 1990 levels after a steady increase in previous years. This is a particular challenge for Hessen. The second major emitter is the 'Households, Industry, Trade and Services' sector, accounting for almost 32 % of CO₂ emissions. The main source is the production of heat.

The Land of Hessen responds to these challenges by means of a set of measures described in the IKSP. The federal funding opportunities — for example under the Integrated National Energy and Climate Plan — already address a wide range of climate and energy policies. At the same time, sustainability, climate action and resource and energy efficiency are the guiding principles of the HIS 2027. Within this strategic framework, ERDF resources will be used coherently in those areas where there is a specific need for action in Hessen; the ERDF measures under policy objective 2 constitute an integral part of the country's climate policy.

Investment needs in SO 2.1

Improving energy efficiency is a key approach to climate policy. The key indicator for this is energy productivity, which in Hessen increased at just over 29 % between 1990 and 2017. In Germany as a whole, it increased by almost 46 % over the same period; compared to the Länder, productivity growth has been slower only in Rhineland-Palatinate. The difference is mainly due to a sharper decrease in energy consumption in the other regions.

Key to higher energy productivity is (ecological) innovation that leads to increased energy and resource efficiency and supports the decoupling of production and consumption processes from resource use. Special action is needed in Hessen (as in Germany as a whole) in the manufacturing sector, in particular in industry. At EUR 281.4 per gigajoule and EUR 356.6 per gigajoule, energy productivity is significantly lower than in the services sector (508.8) and the economy as a whole (419.2).

HIS2027 has defined seven areas of future competence for Hessen. One of these fields is energy efficiency. In Hessen there are specific technical competences in this area, such as electricity and heat technology and hydrogen and fuel cell technology. On the other hand, there is a deficit in the implementation of practical, business-driven innovations in this area, e.g. in terms of patent applications. Efficiency innovation contributes to resource and energy efficiency. In addition to basic R & D activities supported under SO 1.1, there is therefore a major need for action to translate R & D results into marketable solutions and will be targeted in SO 2.1 *by supporting pilot, demonstration and development projects* with high TRLs.

At the same time, innovation to improve resource and energy efficiency also leads to an increase in operational productivity and the competitiveness of enterprises. Increasing energy and resource efficiency through innovation in the commercial sector is therefore a particular need for action, but also a regional economic opportunity in Hessen. Such innovations have not yet been implemented to the extent required by energy and climate policy objectives. The sub-optimal level is due in particular to the uncertainties of long-term investments, the externalities of innovations whose returns cannot be fully internalised by the innovating entity, and the lower strategic relevance of activities beyond the core tasks of SMEs. *Support for investment in production-integrated environmental protection (Pius-Invest)* aims to increase existing potential.

In Hessen, a specific energy efficiency potential lies in the use of unavoidable waste heat from data centres. The Rhine-Main region has become an international centre for data centres in recent years. In particular, proximity to the world's largest internet node, good infrastructure (uninterruptible electricity supply) and high regional demand are reasons for this development.

Although centres are becoming more efficient and cooling is becoming more efficient, it is expected that energy demand will continue to increase due to the ever increasing demand for computing capacity. As early as 2015, data centres in Frankfurt replaced the airport as the largest electricity consumer, with a further increase of around 25 % of energy demand. The energy-efficient design of data centres is therefore the subject of both the IKSP and the Digital Hessen strategy.

In order to make data centres more energy efficient, the waste heat generated by air conditioning and cooling is to be used in the heating sector. This requires adapted infrastructure both in the pipeline network and in the technical equipment of the network and is to be built with the *promotion of efficient and low-carbon waste heat use*.

Another key investment needs in Hessen are the transformation of the heating sector. In 2019, about 293 Petajoules (PJ) were consumed in Hessen in final energy for the provision of heat; this represents more than one third of total final energy consumption. While the energy transition in the electricity sector has progressed relatively well, the "heat transition" is still at the beginning. For example, the share of renewable energy in the heating sector in Hessen is relatively low and significantly below average, at just under 10 % (Germany: 14.5 % in 2019). In addition, renewable heat production is developing relatively slowly, with a faster increase until 2010 of just under 12 % since then. The high volatility of renewable energy increasingly requires sector coupling (heat, mobility).

The efficient use of energy for heat generation and the use of renewable energies requires the modernisation of heating systems and their smart, digitalised control. It is necessary to lay the foundations for this. The heat networks in Hessen do not currently provide the necessary conditions: Hesse had a district heating network of 1.191 km at the end of 2018. This represents 5.3 % of the German network, with a population share of 7.6 %. The network consists of relatively small individual networks: The average length of the network is 4.3 km, both well below the German average (18 km) and below the length of comparable Länder (Nordrhein-Westfalen 28.1 km, Baden-Württemberg: 13.6 km) and is therefore relatively inefficient. Moreover, network losses in Hessen are 14 % higher than the average of the Länder (12 %). Among the large land-area countries, network losses are higher only in North Rhine-Westphalia. Overall, there is therefore a high need for investment in the efficient use of (renewable) energy.

In the heating sector, there are already a number of individual programmes at federal level (BAFA, KfW) but with deficits. These efficiency gains are addressed only indirectly and lead to the necessary transformation of the heat sector in Hessen not being sufficiently rapid and comprehensive.

Investment needs in SO 2.8

Due to its central location, Hessen, and in particular the Rhine-Main area, is a very important transport hub in German and European road, rail and air transport. Progressive settlements and the increasing concentration of businesses have also led to very high commuting.

The very high levels of transport have negative externalities for the climate and the environment: The transport sector accounts for more than half of total final energy consumption, which is, at the same time and with increasing trends, the largest emitter of CO₂ emissions. With more than 40 % of energy-related CO₂ emissions, the transport sector in Hessen is the sector with the highest greenhouse gas emissions (2017). Since 1990, there has been a decline in CO₂ emissions in the other sectors; only the transport sector and energy production and conversion are above 1990 levels. The further development of transport modes, transport systems and mobility is therefore a key element for climate change mitigation and sustainable development.

In the area of climate-friendly urban public transport, there is a market failure, including externalities and natural monopolies. Particularly in the densely populated agglomerations of the country, competitive pricing does not adequately reflect the social and environmental costs of motorised individual and urban transport. This makes local public transport a classic public good.

The importance of the transport sector is also highlighted in the 2019 country report: Thus, for Germany as a whole, increased public and private investment in sustainable transport infrastructure is central to achieving climate, energy and environmental objectives: It addresses not only climate protection, but also air quality and the productivity of the regional economy. The Country Report suggests investing “more in

sustainable mobility solutions”.

The Land of Hessen has responded to the challenges with a comprehensive strategy (Hessen Strategy Mobility 2035). The country’s aim is to shift traffic by 2035: Low-emission modes of transport, digitalisation, multimodality and the interconnection of mobility are expected to create a fast, safe and climate-efficient transport system. The use of the ERDF to *promote environmental and climate-friendly urban mobility* is consistent with this strategy.

Machine translated

1. Programme strategy: main challenges and policy responses

Table 1

Policy objective or JTF specific objective	Specific objective or dedicated priority *	Justification (Summary)
<p>1. A more competitive and smarter Europe by promoting innovative and smart economic transformation and regional ICT connectivity</p>	<p>RSO1.1. Developing and enhancing research and innovation capacities and the uptake of advanced technologies</p>	<p>— Hessen has a high R & D rate of more than 3 % (fifth place among the Länder), but since the 2009 economic and financial crisis the R & D rate in Hessen has increased only below average (0.05 % versus 0.4 % in Germany). — Catching up in cutting-edge research and knowledge transfer and developing R & D infrastructure: o In the proportion of public R & D expenditure as a percentage of GDP or R & D personnel per inhabitant, Hesse is, compared to the federal level, only below average in terms of excellence strategy, no university of excellence and only one cluster of excellence, Hessian universities in the World University Ranking tends to be below average in the lower half of German universities or third-party funding per professor as a whole, in particular third-party funding from DFG and from business or only average publication output or declining patent intensity of universities in the founding radar only medium or below average publications from research institutions that have been developed in cooperation with companies — R & D in companies: Above-average importance of business R & D activity, with the business sector accounting for around 75 % of R & D expenditure and R & D personnel (only 69 %). — Little dynamism of research and innovation efforts in Hessen over the last decade. — While still above average at 2.26 %, the economy’s R & D ratio decreased compared to 2009 (0.0 %, against 0.32 % in the federal government). — Patent intensity has fallen sharply in Hessen. — Falling index of the three Hessen regions in the Regional Innovation Scoreboard, Darmstadt county since 2015, no longer in agenda item 25. — Given the causes of the market failure and the nature of the</p>

Policy objective or JTF specific objective	Specific objective or dedicated priority *	Justification (Summary)
		funding envisaged, grants will be awarded. Aid for R & D infrastructure and knowledge transfer without aid is intended to cover the funding gaps inherent in the project by non-economic research organisations. In the case of economic R & D activities, necessary incentive effects to offset externalities and capital constraints can only be achieved through large grants in line with State aid rules.
1. A more competitive and smarter Europe by promoting innovative and smart economic transformation and regional ICT connectivity	RSO1.3. Enhancing sustainable growth and competitiveness of SMEs and job creation in SMEs, including by productive investments	— Hessen is one of the strongest regions in the economy within Germany and the EU (Germany with the highest productivity), but since the 2009 economic and financial crisis it has been underperforming (productivity growth 3.8 percentage points below nationwide growth). — Overall start-up intensity, particularly in the high-tech sector, is decreasing, even more so in Hessen than in the federal government. — Demographic change exacerbates the problem of business succession and skills shortages: It is estimated that around 11 500 enterprises with 185 000 employees are to be handed over in Hessen. In 2024, it is forecast that a total of around 175 000 skilled workers will be missing in Hessen. Hessen is affected roughly in the same way as the federal average. — Hessen has extreme regional disparities in terms of innovation and competitiveness. Half of Hessen's districts score only 85 % of the national average (all in North and Central Hessen). The least performing Werra-Meißner district would have to increase its productivity by 70 % in order to catch up with the Main-Taunus district as the district with the highest GDP per person employed in Hessen. — The high importance of crafts and its SME structure for the Hessen economy, with some 368 000 employees in over 75 000 businesses, generates a turnover of approximately EUR 38 billion. — Megatrends such as digitalisation and automation, as well as climate action and resource efficiency, require extensive transformation services, including in the craft industries, in order to achieve HIS2027 objectives. — It is

Policy objective or JTF specific objective	Specific objective or dedicated priority *	Justification (Summary)
		<p>necessary to strengthen the innovation and competitiveness of Hessen's craft enterprises and to secure their needs for skilled workers through education and training. — Important role of the around 40 inter-company training centres in the craft sector in Hessen for the qualification of apprentices and employees. — Grant support is required because projects provide poor public goods in the start-up ecosystem and education sector or because high incentive effect and significant profitability effect for investments in lagging regions cannot be achieved through repayable grants.</p>
<p>2. A greener, low-carbon transition towards a net zero carbon economy and resilient Europe by promoting clean and fair energy transition, green and blue investment, the circular economy, climate change mitigation and adaptation risk prevention and management, and sustainable urban mobility</p>	<p>RSO2.1. Promoting energy efficiency and reducing greenhouse gas emissions</p>	<p>— Comparatively low growth in final energy productivity in Hessen (29 %, D 46 %), in particular energy productivity in the industrial sector, is below average in Hessen. — Particularly high challenges and potentials in Hessen to increase efficiency and reduce CO2 in the heating sector/waste heat use. — High regional potential in waste heat use of data centres for heat supply. — The efficiency of heat networks in Hessen is currently less pronounced: Hesse had a limited district heating network at the end of 2018. The network is also clearly composed of relatively small individual networks (medium network length: 4.3 km, D: 18 km, North Rhine-Westphalia: 28.1 km, Baden-Württemberg: 13.6 km). — Network losses in Hessen, 14 % higher than the average (12 %). Overall, there is therefore a high need for investment in energy efficiency and the exploitation of the renewable energy network. — Modernisation of heat networks can avoid grid losses, generate economies of scale and thus improve the efficiency of heat supply. In addition, networks for heat from renewable energy sources and for the use of unavoidable waste heat can be upgraded. — Energy efficiency and CO2 savings are characterised by specific inherent risks and high uncertainties, market failures related to negative externalities of fossil energy use. Direct support to development, pilot, demonstration and</p>

Policy objective or JTF specific objective	Specific objective or dedicated priority *	Justification (Summary)
		<p>process innovation through grants should provide the necessary incentives to carry out innovation activities and enable them to carry out also high-risk projects. — Investments to modernise heating networks are associated with very long payback periods and with high uncertainty about future returns due to fluctuating energy prices. Subsidies needed to compensate for additional costs and higher risk premium in the investment calculation.</p>
<p>2. A greener, low-carbon transition towards a net zero carbon economy and resilient Europe by promoting clean and fair energy transition, green and blue investment, the circular economy, climate change mitigation and adaptation risk prevention and management, and sustainable urban mobility</p>	<p>RSO2.8. Promoting sustainable multimodal urban mobility, as part of transition to a net zero carbon economy</p>	<p>— Very high transport services in Hessen, high importance of mobility and transport for regional competitiveness. — High negative externalities of mobility for climate and environment: Transport accounts for more than half of final energy consumption. — Transport is increasingly the largest emitter of CO2 emissions in Hessen (> 40 % of energy-related CO2 emissions), while the trend is not a decrease in CO2 emissions. — Further development of transport systems and mobility is a key element for climate action and sustainable development, as well as for the competitiveness of the country as a whole. — Extraordinarily high challenges from the point of view of climate protection, but also great potential for savings. — 2019 Country Report highlights the importance of the transport sector in D: Increased investment is therefore key to achieving climate, energy and environmental objectives. — Hessen's Mobility Strategy 2035 aims at a transport transition by 2035 (digitalisation, multimodality, networking. Low-emission modes of transport); specific objective directly contributes to the focus areas of 'efficient infrastructure' and 'nahmobility and connectivity'. — In Hessen, due to the population density and the very high proportion of highly densified areas, very high demand for CO2 reduction in urban public transport. — In the area of climate-friendly, urban public transport, there are market failures due to externalities and the operation of natural monopolies, and competitive pricing mechanisms do not take sufficient account of the social costs of environmental and</p>

Policy objective or JTF specific objective	Specific objective or dedicated priority *	Justification (Summary)
		<p>climate pollution caused by fossil-driven individual and urban transport. In the vast majority of planned activities, support will be given to infrastructure projects that generate no or very little revenue. In this case, non-repayable support in the form of grants is necessary in order to raise the profitability of the investments to a sufficient level. Reflows that allow repayment of repayable support usually do not occur.</p>

* Dedicated priorities according to ESF+ Regulation

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2. Priorities

Reference: Article 22(2) and point (c) of Article 22(3) CPR

2.1. Priorities other than technical assistance

2.1.1. Priority: 1. Ein wettbewerbsfähigeres und intelligenteres Europa

2.1.1.1. Specific objective: RSO1.1. Developing and enhancing research and innovation capacities and the uptake of advanced technologies (ERDF)

2.1.1.1.1. Interventions of the Funds

Reference: points (d)(i), (iii), (iv), (v), (vi) and (vii) of Article 22(3) CPR

The related types of actions – point (d)(i) of Article 22(3) CPR and Article 6 ESF+ Regulation:

Under the specific objective, the ERDF addresses strategic areas of action under the HIS2027 as a part of a much larger set of measures. In line with the smart specialisation approach, HIS2027 focuses on making even greater use of innovation potential that builds on the knowledge resources, structures and unique features that already exist in Hessen. In HIS2027, seven areas of future competence were defined, which are also relevant for ERDF funding. However, a broad understanding of innovation, the stimulation of cross-innovation processes and horizontal measures to improve the innovation and start-up climate and framework conditions relevant to innovation across all sectors and technology fields are among the explicit guidelines of the HIS2027, which also relies on a cross-sectoral and technology-open approach. According to this understanding, the areas of competence for the future are an essential, but not exclusive, part of the process.

HIS2027 will also pave the way for greater synergies between the ERDF and the Horizon Europe research framework programme. In order to facilitate this transition, it should be possible to check at programme level, inter alia, when assessing ERDF applications, links with EU funding. Relevant links to the EU Research Framework Programme include, in particular, work programmes, future calls, and networking with the mission areas in Horizon Europe.

The measures are assessed to be in line with the DNSH principle as they do not, by their nature, have a significant negative impact on the environment or are assessed as compatible under the RRF Guidelines.

Support for research infrastructure and large-scale research equipment in universities and non-university research institutes

In line with the strategic area of HIS2027 ‘Strengthen research location — strengthen innovation infrastructure’, the ERDF aims to improve the opportunities for cutting-edge research (with mainly a strong application-related dimension) and knowledge transfer at the Hesse site in the fields of future competence, thus contributing to innovative and smart economic transformation. In the light of their respective research profiles and with broad involvement of disciplines, the proposed action aims to specifically strengthen research priorities of particular scientific quality and high innovation potential in Hessen’s universities and public research institutions and to develop new fields of research and competence, in line with the needs of industry and the priorities expressed in the future competence fields of HIS2027.

Investments in research infrastructure will further develop the competences of the supported institutions and improve the conditions for the achievement and economic exploitation of scientific knowledge. The development of infrastructural research equipment increases exchanges within science, but also between science and economic actors. The creation of improved application opportunities will also increase cooperation between universities, research organisations and (regional) companies, improve the chances of success in third-party acquisitions, thus increasing the regional and supra-regional innovation dynamics in the future.

Expenditure on the procurement of equipment, including in particular targeted support for the procurement of large-scale research equipment in accordance with Article 91 GG, will be supported as part of the large equipment support programme of the German Research Community (DFG).

Support for research and development projects in enterprises

Within the group of innovative firms, R & D companies play a particular role: They continuously bring new ideas to the market, grow faster and create more jobs than other companies. This drives technological progress and structural change. However, the reverse side of the coin is the high cost of R & D and the high uncertainty about the success of R & D projects. Many companies, especially SMEs, are therefore either reluctant to return to R & D-based innovation strategies or investing too little and/or too irregularly in R & D. In addition, companies very often face restrictions when it comes to external financing of R & D projects. In many cases, in addition to financial resources, human resources are lacking, so long-term and risky R & D projects are too often hired by

companies.

As a result, the share of medium-sized enterprises with regular or occasional own R & D activities is only around one tenth, which is too low. It is therefore a key objective of HIS2027 to increase R & D intensity in Hessen's companies. To this end, in accordance with the guidelines of the HIS2027, the existing technology-open support approach for businesses, which has proved its worth in Hessen, will be continued with a focus on the new areas of future competence.

Direct support to R & D projects in enterprises through grants is intended to mitigate the risks inherent in the R & D process and to incentivise the supported companies to also carry out risky R & D projects aimed at introducing new products, services and processes. To this end, support will be granted for personnel and material costs, as well as costs of instruments and equipment, insofar as they are incurred as a result of the project as long as they are used for the project.

Promotion of knowledge and technology transfer (WTT)

Of particular importance for the innovation capacity of a region is the transfer to enterprises of new knowledge relevant to innovation generated on the basis of scientific research. There is still room for improvement in the area of WTT in Hessen. In the context of HIS2027, a number of instruments are therefore aimed at promoting the various transfer channels between science and business. The ERDF aims to support these efforts and to support WTT projects by research and knowledge dissemination organisations (universities and research organisations) targeting enterprises.

The aim of the support for the WTT is to enable companies to develop their own research and innovation activities based on the research knowledge of Hessen's universities and non-university research institutions in order to generate product or process innovation in the medium term. To this end, existing technological knowledge in universities and research institutions should be free from discrimination and adapted to their needs and absorption capabilities by a large number of companies, and will test and demonstrate new technologies and processes. The WTT is also to be speeded up by increasing the willingness of universities and research institutions to set up. The action will provide indirect non-financial support to the participating companies, which may themselves initiate R & D projects and start their own in-house innovation activities, building on the knowledge conveyed.

On the part of universities and research institutions, in particular, the organisation of the WTT will be further developed and professionalised in order to improve the framework conditions for strengthening cooperation with industry and practice. The action will therefore continue to actively support the development of innovative models for knowledge transfer in universities and research institutions, such as competence and application centres and research campus models. Support for the WTT is granted free of aid to research and knowledge dissemination organisations. To this end, support will be provided for personnel and material costs, as well as the costs of instruments and equipment, buildings and land.

The main target groups - point (d)(iii) of Article 22(3) CPR:

The actions envisaged under the specific objective are generally targeted at higher education institutions, non-university research organisations and enterprises as key target groups. Depending on the action, more restricted target groups will be specifically targeted within this general circle. For example, in supporting research infrastructure and large-scale research equipment and knowledge and technology transfer, universities and non-university research institutions are at the heart of the actions, but ultimately also with the aim of using scientific knowledge and ideas to increase the innovative capacity of enterprises and removing barriers between the scientific system and the economy. In supporting R & D projects, innovation-related companies are the target group to directly support them in the risky innovation process for the new and further development of their products, processes and services.

Actions safeguarding equality, inclusion and non-discrimination – point (d)(iv) of Article 22(3) CPR and Article 6 ESF+ Regulation

All support measures under the specific objective shall be designed to be accessible to all, regardless of gender, ethnic origin, religion or belief, health impairment, age or sexual orientation. The supported labour market-related measures must not further increase the gender segregation of the labour market.

Good mechanisms to ensure inclusion, non-discrimination and gender equality will continue throughout the programme: The Monitoring Committee shall represent the economic and social partners with specific expertise on the cross-cutting principles that can be involved and are informed about the implementation process of the programme. For the selection of operations, non-discriminatory and transparent criteria and procedures shall be established to ensure compliance with the horizontal principles. Monitoring will collect additional information on the possible contributions to the horizontal principles of equality and non-discrimination for each project. Both aspects will also be taken into account in the evaluations.

The strategy of consistent gender mainstreaming in the context of Structural Funds support should also be effective in the implementation of the ERDF,

although not every area of intervention can expect a direct impact on gender equality, given the thematic focus of the ERDF. A gender impact assessment is carried out for each support measure, on the basis of which possible direct and indirect gender effects are identified. The Gender Relevance Check is the basis for coding ERDF funds in the gender equality dimension.

Indication of the specific territories targeted, including the planned use of territorial tools – point (d)(v) of Article 22(3) CPR

The support is nationwide. The use of integrated territorial investments or other territorial tools is not foreseen under the specific objective.

The interregional, cross-border and transnational actions – point (d)(vi) of Article 22(3) CPR

By supporting research infrastructure and large-scale research equipment, the visibility and attractiveness — both national and international — of universities and research institutions will be sustainably improved, existing networks will be strengthened and new research cooperation will be facilitated. Hessian scientists, who are internationally oriented in their research, will be supported in acquiring other excellence-oriented third-party funding projects (Land, Federal Government, EU), in particular with regard to Horizon Europe.

Cross-regional and international cooperation projects are also desirable in promoting the transfer of knowledge and technology (WTT). The funding guidelines for the WTT programme explicitly provide for the promotion of collaborative projects together with cross-regional and international research and dissemination organisations. However, such operations can only be identified and selected after the start of the programme.

As diverse as the research landscape in Hessen, the links and links with international scientific and economic partners are also present. The UNITE Alliance, coordinated by TU Darmstadt, is an example of best practice for international networking and cooperation in higher education. In UNITE! seven international partner universities are working on a trans-European campus for students, researchers and administrative staff.

At technical level, there is close interaction with the relevant federal ministries and from other federal states on the implementation of the support. Regular meetings, seminars and conferences are organised here. The Land of Hesse seeks to intensify this exchange of experience through networking with stakeholders from other EU regions — in particular with the three Hessen partner regions of Aquitaine (France), Emilia-Romagna (Italy) and Wielkopolska (Poland), with whom the Land of Hessen is jointly represented in the multi-region house in Brussels. It is envisaged that one or more information sessions

will draw attention to the opportunities for cooperation and funding under the new ERDF programme.

The planned use of financial instruments – point (d)(vii) of Article 22(3) CPR

Financial instruments (FIs) are currently not planned. Under Article 5 of the ERDF Regulation, funding includes investments in R & D infrastructure and applied research and innovation. There are several market failures for R & D implementation, with externalities, high uncertainty, indivisibility and information asymmetries. In order to trigger incentives for additional R & D in economic activities, high aid intensities are necessary to encourage the realisation of the project due to the high-risk cost-return ratio. This can be achieved not by repayable gifts, but only by grants. Repayable gifts or FIs are not suitable for non-economic R & D due to a lack of reflows. New knowledge provides a public good in a non-discriminatory manner, and the use of FIs would be economically absurd. However, the use of FIs or their combination with grants may be considered during the programme period if the market situation and needs change significantly.

2.1.1.1.2. Indicators

Reference: point (d)(ii) of Article 22(3) CPR and Article 8 ERDF and CF Regulation

Table 2: Output indicators

Priority	Specific objective	Fund	Category of region	ID	Indicator	Measurement unit	Milestone (2024)	Target (2029)
1	RSO1.1	ERDF	More developed	RCO01	Enterprises supported (of which: micro, small, medium, large)	enterprises	1.00	89.00
1	RSO1.1	ERDF	More developed	RCO02	Enterprises supported by grants	enterprises	1.00	89.00
1	RSO1.1	ERDF	More developed	RCO06	Researchers working in supported research facilities	annual FTEs	50.00	250.00
1	RSO1.1	ERDF	More developed	RCO08	Nominal value of research and innovation equipment	euro	1,152,000.00	38,280,000.00
1	RSO1.1	ERDF	More developed	HEO 04	supported knowledge and technology transfer projects	annual FTE	0.00	45.00

Reference: point (d)(ii) of Article 22(3) CPR

Table 3: Result indicators

Priority	Specific objective	Fund	Category of region	ID	Indicator	Measurement unit	Baseline or reference	Reference Year	Target (2029)	Source of data	Comments
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							value				
1	RSO1.1	ERDF	More developed	RCR02	Private investments matching public support (of which: grants, financial instruments)	euro	0.00	2022-2029	37,000,000.00	Monitoring system	
1	RSO1.1	ERDF	More developed	RCR05	SMEs innovating in-house	enterprises	0.00	2022-2029	80.00	Monitoring system	
1	RSO1.1	ERDF	More developed	HER 04	jobs created in supported projects for staff with knowledge and technology transfer tasks	annual FTE	0.00	2022-2029	60.00	Monitoring system	

2.1.1.1.3. Indicative breakdown of the programmed resources (EU) by type of intervention

Reference: point (d)(viii) of Article 22(3) CPR

Table 4: Dimension 1 - intervention field

Priority	Specific objective	Fund	Category of region	Code	Amount (EUR)
1	RSO1.1	ERDF	More developed	004. Investment in fixed assets, including research infrastructure, in public research centres and higher education directly linked to research and innovation activities	15,000,000.00
1	RSO1.1	ERDF	More developed	009. Research and innovation activities in micro enterprises including networking (industrial research, experimental development, feasibility studies)	3,750,000.00
1	RSO1.1	ERDF	More developed	010. Research and innovation activities in SMEs, including networking	12,500,000.00
1	RSO1.1	ERDF	More	028. Technology transfer and cooperation between enterprises, research centres and higher education sector	36,000,000.00

			developed		
1	RSO1.1	ERDF	More developed	029. Research and innovation processes, technology transfer and cooperation between enterprises, research centres and universities, focusing on the low carbon economy, resilience and adaptation to climate change	10,250,000.00
1	RSO1.1	ERDF	More developed	030. Research and innovation processes, technology transfer and cooperation between enterprises, focusing on circular economy	2,500,000.00
1	RSO1.1	Total			80,000,000.00

Table 5: Dimension 2 - form of financing

Priority	Specific objective	Fund	Category of region	Code	Amount (EUR)
1	RSO1.1	ERDF	More developed	01. Grant	80,000,000.00
1	RSO1.1	Total			80,000,000.00

Table 6: Dimension 3 – territorial delivery mechanism and territorial focus

Priority	Specific objective	Fund	Category of region	Code	Amount (EUR)
1	RSO1.1	ERDF	More developed	33. Other approaches — No territorial targeting	80,000,000.00
1	RSO1.1	Total			80,000,000.00

Table 7: Dimension 6 – ESF+ secondary themes

Priority	Specific objective	Fund	Category of region	Code	Amount (EUR)
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Table 8: Dimension 7 – ESF+*, ERDF, Cohesion Fund and JTF gender equality dimension

Priority	Specific objective	Fund	Category of region	Code	Amount (EUR)
1	RSO1.1	ERDF	More developed	03. Gender neutral	80,000,000.00
1	RSO1.1	Total			80,000,000.00

* In principle, 40 % for the ESF+ contributes to gender tracking. 100 % is applicable when Member State chooses to use Article 6 ESF+

2.1.1.1. Specific objective: RSO1.3. Enhancing sustainable growth and competitiveness of SMEs and job creation in SMEs, including by productive investments (ERDF)

2.1.1.1.1. Interventions of the Funds

Reference: points (d)(i), (iii), (iv), (v), (vi) and (vii) of Article 22(3) CPR

The related types of actions – point (d)(i) of Article 22(3) CPR and Article 6 ESF+ Regulation:

The measures are assessed to be in line with the DNSH principle as they do not, by their nature, have a significant negative impact on the environment or are assessed as compatible under the RRF Guidelines.

Encouraging start-up and entrepreneurship

The new HIS2027 will focus even more on business start-ups, business succession, strengthening entrepreneurship and innovation culture in SMEs. In order to address the multiple bottlenecks and barriers in this area, HIS2027 targets a wide range of non-investitive support measures in the form of awareness-raising and advisory services, as well as individual thematic projects. The support programme supported by the ERDF responds here and focuses on the implementation of a wide range of measures, such as events, workshops, business plan and start-up competitions in the field of business start-ups, business-follow-up and start-ups and smart entrepreneurship. Many of these projects contain advisory shares that are closely linked to the content of the project or allow for the establishment of thematic or sector-specific advisory bodies. Special views are given on projects to set up or strengthen local or regional start-up initiatives involving universities as networks and according to local circumstances. It also focuses on awareness raising activities to identify and develop innovative potentials and business models, as well as to scale up digitalisation processes in SMEs. The actions will create synergies with EU-funded projects such as Enterprise Europe Network, Start-up Europe and European Digital Innovation Hubs. When designing the measures, care will be taken to avoid parallel structures with these projects and rather to design them as a complementary offer with a regional approach.

The planned measure continues a long-established support programme in Hessen, which expands and further develops the regional start-up ecosystem. The accompanying evaluation for the ERDF 2014-2020 assessed the various non-monetary support measures that are available in a discriminatory manner and free of charge for start-ups and start-ups (including business successions) as effective and recommended continuation.

Promoting investment and technological modernisation in SMEs

Hessen has extreme regional disparities in terms of innovation and competitiveness. In order to drive structural change and create future-proof jobs, in the less-favoured regions and in addition to national medium-sized economic support, targeted innovation in the business processes of SMEs ('business process innovation' according to Oslo-Manual) should therefore be promoted in order to introduce new to the firm production technologies and its technological modernisation. ERDF support is limited to SMEs in structurally weaker parts of the country, including — in addition to the Werra-Meißner district as the weakest region of Hessen — the wider districts in the government districts of Kassel and Gießen, as well as the structurally weak areas of the rural districts of Darmstadt-Dieburg and Bergstraße and the municipality of Biblis. By focusing on the more structurally weaker parts of the country, in the spirit of a place-based policy approach, endogenous potentials in the business landscape should be exploited and original income generated. Support is limited to the regional export base, i.e. companies have to produce goods or provide services which are in inter-regional competition.

The objective of the measure is to support regionally significant physical investment by SMEs through grants, provided that new competitive permanent jobs are created or existing ones are secured in the less structurally weak parts of the country. The support is in line with the HIS2027, as it only supports investments that introduce extensively new buildings, plant, equipment and, in particular, digitally controlled machines, as well as intangible assets (such as patents, technical knowledge) into the operational production process, thus contributing to the necessary technological modernisation of SMEs, which are subject to high competitive pressure on cross-regional markets. This particular form of investment support, which takes place along the provisions of the GRW coordination framework, is a proven regional policy instrument in Hessen. There are positive evaluation results for the federal GRW investment support and for the specific support for farm investments under the 2014-2020 ERDF in Hessen.

The aided investment projects must ultimately be aimed at implementing innovation, significantly expanding the market or creating high-quality jobs. This includes the promotion of investment in construction, i.e. start-ups or the establishment of new establishments in the less-favoured regions. It also supports the significant expansion of existing establishments, the diversification of their production and the fundamental modification, conversion and modernisation of production processes. In order to encourage the establishment and succession of undertakings, investments to take over decommissioned or at risk of closure may also be co-financed under market conditions. Support is provided for investment costs in the necessary tangible assets. Investments in replacement, conventional vehicles and second-hand assets (except in the case of takeovers) are not eligible.

Promotion of inter-company vocational training centres (ÜBS)

With its SME structure, crafts play an important role in Hessen's economy. In this context, the ongoing digitalisation and the necessary transformation of entire business processes have a serious impact on future work content and forms of work, including in craft enterprises. In order to achieve the transformation objectives of HIS2027 with regard to sustainability and digitalisation in Hessen, it is therefore also essential to strengthen the innovation and competitiveness of Hessen's craft enterprises and to secure their need for skilled workers. Craft enterprises in particular often lack know-how about the potential for exploitation and concrete applications of new advanced technologies. This knowledge is given to them in particular through the ongoing skills of their employees and the training of young staff.

The ERDF is therefore intended to support HIS2027 in the field of education by means of focused and demand-oriented support for craft trades, which are one of the three pillars of the dual training system. In the craft sector, due to the small-scale structure and lower financial capacity, dual training takes place not only in the vocational school and in the company, but also in inter-company education centres. This is where young people are trained up to date and employees receive high-quality professional development. Equipping ÜBS with modern technology and specialised spaces in which practical equipment, systems and demonstration facilities are installed is a powerful tool for inter-company training centres to be at the forefront of the digitalisation of crafts and its businesses. Support is intended to accompany the direct support opportunities of SMEs in the craft sector in order to increase their capacity to innovate and compete.

The support programme will support the construction, expansion and modernisation of craft trades, their further development into centres of excellence and their technical equipment. As part of the promotion of education centres, their networking will also be promoted so that inter-company training takes appropriate account of digitalisation. The support is intended to complement basic and specialised vocational education and training in initial training and to implement continuing vocational education and training. The investments relate to the maintenance and further development (construction and modernisation) and facilities (equipment with modern technology) of the ÜBS. In order to ensure equipment adapted to the pace of digitalisation, the modernisation of the ICT equipment of inter-company education centres will also be promoted.

The main target groups - point (d)(iii) of Article 22(3) CPR:

The actions envisaged under the specific objective are aimed at the creation and development of SMEs as a key target group, whose competitiveness and sustainability should be strengthened. Depending on the action, specific target groups will be specifically targeted, such as start-ups, start-ups or young SMEs, as well as actors in the start-up ecosystem in promoting start-up readiness and entrepreneurship. However, beneficiaries can also be non-SMEs implementing projects aimed at the target group. In promoting investment and technological modernisation, SMEs in the industrial sector are the target group which implement investment projects in the less-favoured regions of Hessen and generate more than 50 % of their sales across regions. In promoting inter-company vocational training establishments, SMEs and craft enterprises are the indirect target group. The beneficiaries are the host organisations of the educational establishments which carry out education and training measures and implement projects aimed at the target group.

Actions safeguarding equality, inclusion and non-discrimination – point (d)(iv) of Article 22(3) CPR and Article 6 ESF+ Regulation

All support measures under the specific objective shall be designed to be accessible to all, regardless of gender, ethnic origin, religion or belief, health impairment, age or sexual orientation. The supported labour market-related measures must not further increase the gender segregation of the labourmarket.

Good mechanisms to ensure inclusion, non-discrimination and gender equality will continue throughout the programme: The Monitoring Committee shall represent the economic and social partners with specific expertise on the cross-cutting principles that can be involved and are informed about the implementation process of the programme. For the selection of operations, non-discriminatory and transparent criteria and procedures shall be established to ensure compliance with the horizontal principles. Monitoring will collect additional information on the possible contributions to the horizontal principles of equality and non-discrimination for each project. Both aspects will also be taken into account in the evaluations.

The strategy of consistent gender mainstreaming in the context of Structural Funds support should also be effective in the implementation of the ERDF, although not every area of intervention can expect a direct impact on gender equality, given the thematic focus of the ERDF. A gender impact assessment is carried out for each support measure, on the basis of which possible direct and indirect gender equality effects are identified. The Gender Relevance Check is the basis for coding ERDF funds in the gender equality dimension.

Indication of the specific territories targeted, including the planned use of territorial tools – point (d)(v) of Article 22(3) CPR

The support is nationwide. The use of integrated territorial investments or other territorial tools is not foreseen under the specific objective.

The interregional, cross-border and transnational actions – point (d)(vi) of Article 22(3) CPR

The Land of Hesse aims to increase inter-regional, cross-border and transnational exchanges and cooperation in promoting start-ups, innovation and the competitiveness of SMEs. In promoting start-up and entrepreneurship, a variety of event formats are being implemented, which have already been aimed at a wide range of participants in the past and have encouraged the creation of collaborations and networks. It is planned to expand the number of participants and networking even more with regard to cross-border and transnational actors of start-up systems — especially those from the three Hessen partner regions of Aquitaine (France), Emilia-Romagna (Italy) and Wielkopolska (Poland).

Support for investment and technological modernisation in SMEs is based, in terms of content and procedure, on the national joint scheme ‘Improving the regional economic structure’ (GRW). Close cooperation with the other Länder and the BMWi takes place here through the Working Group of Fund Officers and the GRW Sub-Committee. EU-side contact takes place centrally via the BMWi.

In promoting inter-company vocational training centres (ÜBS), the Professionals Unit cooperates closely with the Federal Government and other federal states.

In addition, close cooperation relations with other educational institutions have been established between the supported education centres on the basis of long-standing partnerships with, in particular, European partners. Bilateral exchanges with apprentices and young people, for example with partners in Italy, Spain, France and Poland, are carried out in the same way as multilateral training activities based on European programmes (Erasmus) with other partners in Poland, Italy and Scandinavia. Training centres in the craft sector are also partners in development cooperation beyond Europe (‘International Mastersman’) and, with the support of, for example, the Land of Hesse, support the development of vocational training structures in Africa on the basis of a Franco-German cooperation agreement.

The planned use of financial instruments – point (d)(vii) of Article 22(3) CPR

Financial instruments (FIs) are currently not planned. Due to the existence of market failures (public goods), the (aid-free) investments in non-monetary support to start-ups and the OBS do not generate the reflows or revenues needed to finance the projects. In the case of support for investments in SMEs, the State aid rules require an own contribution of at least 80 %. A profitability effect on the realisation of the investment projects, which is desirable from the point of view of distribution policy, can only be achieved through grants. In practice, the grants are combined with loans or participations (in so far as

relevant to the aid, taking into account the cumulation rules, up to the maximum aid ceiling applicable under State aid law). The existing funding offer is considered sufficient, so another ERDF FI would not be considered coherent. However, the use of financial instruments or their combination with grants may be considered during the duration of the programme if the market situation and needs change significantly.

2.1.1.1.2. Indicators

Reference: point (d)(ii) of Article 22(3) CPR and Article 8 ERDF and CF Regulation

Table 2: Output indicators

Priority	Specific objective	Fund	Category of region	ID	Indicator	Measurement unit	Milestone (2024)	Target (2029)
1	RSO1.3	ERDF	More developed	RCO01	Enterprises supported (of which: micro, small, medium, large)	enterprises	5.00	72.00
1	RSO1.3	ERDF	More developed	RCO02	Enterprises supported by grants	enterprises	5.00	72.00
1	RSO1.3	ERDF	More developed	HEO 01	supported inter-company education institutions	Inter-company training institutions	2.00	19.00
1	RSO1.3	ERDF	More developed	HEO 02	Participants in start-up and entrepreneurship projects	Participants	1,500.00	6,800.00
1	RSO1.3	ERDF	More developed	HEO 03	winning start-up projects	Start-up projects	23.00	105.00

Reference: point (d)(ii) of Article 22(3) CPR

Table 3: Result indicators

Priority	Specific objective	Fund	Category of region	ID	Indicator	Measurement unit	Baseline or reference value	Reference Year	Target (2029)	Source of data	Comments
1	RSO1.3	ERDF	More developed	RCR01	Jobs created in supported entities	annual FTEs	0.00	2022-2029	576.00	Monitoring system	
1	RSO1.3	ERDF	More developed	RCR02	Private investments	euro	0.00	2022-2029	151,060,000.00	Monitoring system	

					matching public support (of which: grants, financial instruments)						
1	RSO1.3	ERDF	More developed	HER 02	jobs safeguarded in supported institutions	annual FTE	0.00	2022-2029	1,944.00	Monitoring system	
1	RSO1.3	ERDF	More developed	HER 03	modernised training or boarding places	Training and boarding places	0.00	2022-2029	3,000.00	Monitoring system	

2.1.1.1.3. Indicative breakdown of the programmed resources (EU) by type of intervention

Reference: point (d)(viii) of Article 22(3) CPR

Table 4: Dimension 1 - intervention field

Priority	Specific objective	Fund	Category of region	Code	Amount (EUR)
1	RSO1.3	ERDF	More developed	021. SME business development and internationalisation, including productive investments	25,000,000.00
1	RSO1.3	ERDF	More developed	023. Skills development for smart specialisation, industrial transition, entrepreneurship and adaptability of enterprises to change	5,294,361.00
1	RSO1.3	ERDF	More developed	124. Infrastructure for vocational education and training and adult learning	16,000,000.00
1	RSO1.3	ERDF	More developed	137. Support for self-employment and business start-ups	6,000,000.00
1	RSO1.3	Total			52,294,361.00

Table 5: Dimension 2 - form of financing

Priority	Specific objective	Fund	Category of region	Code	Amount (EUR)
1	RSO1.3	ERDF	More developed	01. Grant	52,294,361.00

1	RSO1.3	Total			52,294,361.00
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Table 6: Dimension 3 – territorial delivery mechanism and territorial focus

Priority	Specific objective	Fund	Category of region	Code	Amount (EUR)
1	RSO1.3	ERDF	More developed	33. Other approaches — No territorial targeting	52,294,361.00
1	RSO1.3	Total			52,294,361.00

Table 7: Dimension 6 – ESF+ secondary themes

Priority	Specific objective	Fund	Category of region	Code	Amount (EUR)
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Table 8: Dimension 7 – ESF+*, ERDF, Cohesion Fund and JTF gender equality dimension

Priority	Specific objective	Fund	Category of region	Code	Amount (EUR)
1	RSO1.3	ERDF	More developed	03. Gender neutral	52,294,361.00
1	RSO1.3	Total			52,294,361.00

* In principle, 40 % for the ESF+ contributes to gender tracking. 100 % is applicable when Member State chooses to use Article 6 ESF+

2.1.1. Priority: 2. Ein grünerer, CO₂-armer Übergang zu einer CO₂-neutralen Wirtschaft und einem widerstandsfähigen Europa

2.1.1.1. Specific objective: RSO2.1. Promoting energy efficiency and reducing greenhouse gas emissions (ERDF)

2.1.1.1.1. Interventions of the Funds

Reference: points (d)(i), (iii), (iv), (v), (vi) and (vii) of Article 22(3) CPR

The related types of actions – point (d)(i) of Article 22(3) CPR and Article 6 ESF+ Regulation:

The measures are assessed to be in line with the DNSH principle as they do not, by their nature, have a significant negative impact on the environment or are assessed as compatible under the RRF Guidelines.

Support for pilot, demonstration and development projects

The support will support development, pilot and demonstration projects by, inter alia, companies and research organisations (applied research) (type of action). Pure research projects are not eligible. The projects supported will further develop, test and diffuse innovative technologies and strategies on energy efficiency and climate protection. In this context, the support is technologically open; most of the actions supported are aimed at increasing energy efficiency and/or reducing greenhouse gas emissions. The comprehensive problem- and solution-orientation of near-market projects may also lead to integrated approaches, including the combination with renewable energy or the use of storage technologies. Support shall be directed and limited to increasing energy efficiency, the use of renewable energy, the rational production and use of energy, the storage of energy and the integration of the grid. The planned measure has already been implemented and positively evaluated in the 2014-2020 funding period under the thematic objective ‘promoting the reduction of CO₂ emissions’. It is an essential part of the strategy for the energy transition in Hessen, the IKSP and HIS2027. The projects supported are intended to support the objectives of the Hesse Energy Act and to directly reduce climate-relevant emissions.

Development, demonstration and pilot projects are based on basic knowledge and research on energy efficiency, innovative energy technologies and new methods of efficient use of energy. On this basis, the supported projects will test energy efficiency and climate change mitigation techniques and procedures close to application and market and will be (further) developed for practical use. Initial experimentation and typology should address shortcomings, improve applicability and demonstrate profitability (where appropriate under certain circumstances). The aim is to facilitate and encourage the market implementation of techniques/installations, procedures and solutions to reduce energy consumption in Hessen. In the intervention logic, the application and market uptake of

the results of the development projects is the next step, by market and public actors as a result of the funded projects.

Promotion of investment in production-integrated environmental protection (Pius-Invest)

Support is given to the transition to resource-efficient technologies, process optimisation, the use of waste heat on farms or measures to avoid energy in the production process. The support is directly and bindingly linked to a reduction in CO₂ emissions: The eligibility condition is that the project makes a positive contribution to the company's carbon footprint. The CO₂ savings have a direct impact on the level of support ('one euro per kg'); a high rate of support is only possible if higher CO₂ savings are achieved. More efficient technologies and processes directly increase energy efficiency in the company itself and/or reduce material and energy input savings along the value chain, thus reducing energy and resource consumption per unit produced ('cradle-to-gate' approach). The support programme is also designed in such a way as to give the aided companies a visible role model.

Promoting efficient and low-carbon use of waste heat

The Land of Hesse faces particular challenges in supplying efficient and low-carbon heat: The heat transition is even lower than average and conventional approaches to efficient and low-carbon heat supply (solar or geothermal) are very limited in the sometimes highly compressed areas due to land competition. In order to increase the efficiency of heat supply, a support approach for the use of unavoidable waste heat is therefore appropriate. This can be an industrial or commercial source of waste heat. In Hessen, the focus is, for example, on the chemical industry, foundries, metal processing or the plastics industry. In Hessen, waste heat from data centres has a particular potential for efficient energy use, as the Rhine-Main region has become an international centre in recent years. In Frankfurt, data centres have replaced the airport as the largest electricity consumer; an increase of around 25 % of energy demand is expected. The energy-efficient design of data centres is therefore the subject of both the IKSP and the Digital Hessen strategy. About half of data centre operators see medium to very high potential savings.

The particular challenge of waste heat from data centres and other sources of waste heat is its low temperature level of 25-30 degrees Celsius. In order to be integrated into a heat network, large heat pumps are therefore needed, which are still hardly used in Germany. Manufacturers and users first gain experience

in the use of this technology. The support is therefore also intended to mitigate the risks of such a phase-in.

All investment measures that lead to the use of unavoidable waste heat and contribute to the avoidance of CO₂ emissions will be supported. These include, in particular, installations for the collection of waste heat, heat exchangers, heat pumps to adjust temperature levels and transport pipes. If the waste heat reaches a temperature level that allows electricity generation, installations for the conversion of waste heat into electricity shall also be supported.

Promotion of efficient heat networks

Modernising energy systems offers significant potential for efficiency. Corresponding investment needs have also been formulated in the ILL. Decentralised heat generation in particular requires very high energy input. At the same time, heat supply via heat networks in Hessen is underdeveloped. There is therefore a particular need in Hessen for the modernisation of heat networks. In conurbations such as the Rhine-Main area in particular, heating networks are one of the few ways to achieve the integration of renewable energy, waste heat or energy from coupled systems and thus an efficient supply of thermal energy.

The aim of the support is to modernise district heating, increase its efficiency and enable the efficient use of waste heat. As a result, CO₂ emissions from heat supply are to be reduced. Indirectly, the appropriate design of the support requirement is also intended to encourage greater use of renewable energy sources and high-efficiency cogeneration plants.

The funding covers investments in the modernisation of heat pipes, increasing their efficiency and the renewal of related technical installations for the efficient and extended use of the infrastructure (avoiding thermal losses, efficient use of pump current, hydraulic optimisation). This includes measures to connect new heat customers to the heat networks.

The measure also includes missing links and local development of networks, associated technical installations (e.g. heat storages) and equipment, as well as complementary installations to integrate unavoidable waste heat. The construction of new grids in neighbourhoods or rural areas may be supported in the case of systems which, when ready, can provide a zero-carbon heat supply or which have significant CO₂ savings compared to a conventional reference system.

Installations producing heat from renewable energy sources can be supported as integrated parts of smart energy systems/smart grids. A mere upgrading of existing systems without a significantly increasing share of renewable energy or unavoidable waste heat by 2030 at the latest is not eligible.

The main target groups - point (d)(iii) of Article 22(3) CPR:

The actions envisaged under the specific objective are targeted at a broad target group of enterprises (e.g. data centre operators), public law bodies and institutions, universities and research institutions, foundations, cooperatives, local authorities and associations thereof, municipal undertakings and special-purpose associations, legal entities (e.g. regional forums, associations, associations) with high potential for increasing energy efficiency and the use of waste heat. In order to increase the specific potential in the industrial sector with its high energy and resource consumption, the Pius-Invest measure focuses on manufacturing enterprises. Pius-Invest is of great importance for the implementation of the IKSP and the Hessen Resource Protection Strategy: It is one of two priority actions in the 'Industry, trade and services' sector, as one of six sectors of activity.

Actions safeguarding equality, inclusion and non-discrimination – point (d)(iv) of Article 22(3) CPR and Article 6 ESF+ Regulation

All support measures under the specific objective shall be designed to be accessible to all, regardless of gender, ethnic origin, religion or belief, health impairment, age or sexual orientation. The supported labour market-related measures must not further increase the gender segregation of the labour market.

Good mechanisms to ensure inclusion, non-discrimination and gender equality will continue throughout the programme: The Monitoring Committee shall represent the economic and social partners with specific expertise on the cross-cutting principles that can be involved and are informed about the implementation process of the programme. For the selection of operations, non-discriminatory and transparent criteria and procedures shall be established to ensure compliance with the horizontal principles. Monitoring will collect additional information on the possible contributions to the horizontal principles of equality and non-discrimination for each project. Both aspects will also be taken into account in the evaluations.

The strategy of consistent gender mainstreaming in the context of Structural Funds support should also be effective in the implementation of the ERDF, although not every area of intervention can expect a direct impact on gender equality, given the thematic focus of the ERDF. A gender impact assessment is carried out for each support measure, on the basis of which possible direct and indirect gender equality effects are identified. The Gender Relevance Check is the basis for coding ERDF funds in the gender equality dimension.

Indication of the specific territories targeted, including the planned use of territorial tools – point (d)(v) of Article 22(3) CPR

The use of integrated territorial investments or other territorial tools is not foreseen under the specific objective.

The interregional, cross-border and transnational actions – point (d)(vi) of Article 22(3) CPR

In support of pilot and demonstration projects, joint projects with partners from other Länder (including Rhineland-Palatinate, Hamburg) have already been carried out in the past. This will continue to be the case in the programme for the next funding period, particularly in the area of hydrogen technologies.

Successful cooperation in an existing inter-regional network to promote Pius will also continue. This will include the operation of a common portal to disseminate information on energy and resource efficiency to businesses and institutions. Regular meetings, exchanges of experience, seminars and conferences will also be organised. Cooperation is being carried out with the Länder of Baden-Württemberg, North Rhine-Westphalia and Rhineland-Palatinate.

At international level, there is an ongoing exchange of views on the structure and implementation of the programme (Policy Good Practice) with regions from Sweden, the Netherlands, Austria, Romania, Italy and Spain under the Interreg Europe project SMEPlus. Pius is also involved as a good practice programme under Interreg SUPER projects. This international exchange will continue in the future. Deeper cooperation is being sought with the Netherlands.

A planned cooperation agreement between the Land of Hessen and Denmark also provides for extensive exchanges for the upgrading and modernisation of heat networks. In addition to economic aspects, the lack of experience with high shares of renewable energy in the grids and the lack of lighthouse projects are a major obstacle to the conversion of heating networks. Denmark has many years of experience in building heating networks with a high share of renewables. In particular, the large-scale use of solar thermal systems, geothermal reservoirs and heat pumps is an example from Hessen's point of view and could be the starting point for technical exchanges.

The planned use of financial instruments – point (d)(vii) of Article 22(3) CPR

Financial instruments (FIs) are currently not planned. As a general rule, the planned activities support projects that generate no or very little revenue. A grant

is necessary to raise the profitability of the investments to a sufficient level and to eliminate the basic financing gap. In the case of the Pius-Invest support measure, it is true that, in the later stages of the project, reflows are generated as a result of savings in energy and resources. However, the elimination of negative externalities requires a clear grant to provide private sector incentives for project realisation. The initial investment costs are higher than the subsequent reflows from cost savings and/or the latter are highly uncertain and associated with a long payback period. Furthermore, this measure is already linked to the “Innovationskredit Hessen”. However, the use of FIs or their combination with grants may be considered during the programme period if the market situation and needs change significantly.

2.1.1.1.2. Indicators

Reference: point (d)(ii) of Article 22(3) CPR and Article 8 ERDF and CF Regulation

Table 2: Output indicators

Priority	Specific objective	Fund	Category of region	ID	Indicator	Measurement unit	Milestone (2024)	Target (2029)
2	RSO2.1	ERDF	More developed	RCO01	Enterprises supported (of which: micro, small, medium, large)	enterprises	2.00	103.00
2	RSO2.1	ERDF	More developed	RCO02	Enterprises supported by grants	enterprises	2.00	103.00
2	RSO2.1	ERDF	More developed	RCO20	District heating and cooling network lines newly constructed and improved	km	0.00	60.00
2	RSO2.1	ERDF	More developed	HEO 05	research organisations participating in joint pilot, demonstration and development projects	Research organisations	0.00	4.00
2	RSO2.1	ERDF	More developed	HEO 06	companies cooperating in pilot and demonstration and development projects with research organisations	Enterprises	0.00	10.00

Reference: point (d)(ii) of Article 22(3) CPR

Table 3: Result indicators

Priority	Specific objective	Fund	Category of region	ID	Indicator	Measurement unit	Baseline or reference value	Reference Year	Target (2029)	Source of data	Comments
2	RSO2.1	ERDF	More	RCR03	Small and	enterprises	0.00	2022-2029	60.00	Monitoring	

			developed		medium-sized enterprises (SMEs) introducing product or process innovation					system	
2	RSO2.1	ERDF	More developed	RCR26	Annual primary energy consumption (of which: dwellings, public buildings, enterprises, other)	MWh/year	27,300.00	2022-2029	13,300.00	Monitoring system	
2	RSO2.1	ERDF	More developed	RCR29	Estimated greenhouse emissions	tonnes CO2 eq./year	21,400.00	2022-2029	6,030.00	Monitoring system	
2	RSO2.1	ERDF	More developed	HER 01	estimated greenhouse gas emissions (“cradle to gate”)	Tonnes of CO2 equivalent/year	0.00	2022-2029	24,000.00	Monitoring system	

2.1.1.1.3. Indicative breakdown of the programmed resources (EU) by type of intervention

Reference: point (d)(viii) of Article 22(3) CPR

Table 4: Dimension 1 - intervention field

Priority	Specific objective	Fund	Category of region	Code	Amount (EUR)
2	RSO2.1	ERDF	More developed	009. Research and innovation activities in micro enterprises including networking (industrial research, experimental development, feasibility studies)	1,000,001.00
2	RSO2.1	ERDF	More developed	010. Research and innovation activities in SMEs, including networking	2,000,000.00

2	RSO2.1	ERDF	More developed	011. Research and innovation activities in large enterprises, including networking	4,000,000.00
2	RSO2.1	ERDF	More developed	012. Research and innovation activities in public research centres, higher education and centres of competence including networking (industrial research, experimental development, feasibility studies)	4,000,000.00
2	RSO2.1	ERDF	More developed	029. Research and innovation processes, technology transfer and cooperation between enterprises, research centres and universities, focusing on the low carbon economy, resilience and adaptation to climate change	20,000,000.00
2	RSO2.1	ERDF	More developed	038. Energy efficiency and demonstration projects in SMEs and supporting measures	3,000,000.00
2	RSO2.1	ERDF	More developed	039. Energy efficiency and demonstration projects in large enterprises and supporting measures	6,000,000.00
2	RSO2.1	ERDF	More developed	040. Energy efficiency and demonstration projects in SMEs or large enterprises and supporting measures compliant with energy efficiency criteria	13,500,000.00
2	RSO2.1	ERDF	More developed	044. Energy efficiency renovation or energy efficiency measures regarding public infrastructure, demonstration projects and supporting measures	6,500,000.00
2	RSO2.1	ERDF	More developed	045. Energy efficiency renovation or energy efficiency measures regarding public infrastructure, demonstration projects and supporting measures compliant with energy efficiency criteria	8,000,000.00
2	RSO2.1	ERDF	More developed	055. High efficiency co generation, efficient district heating and cooling with low lifecycle emissions	10,000,000.00
2	RSO2.1	Total			78,000,001.00

Table 5: Dimension 2 - form of financing

Priority	Specific objective	Fund	Category of region	Code	Amount (EUR)
2	RSO2.1	ERDF	More developed	01. Grant	78,000,001.00
2	RSO2.1	Total			78,000,001.00

Table 6: Dimension 3 – territorial delivery mechanism and territorial focus

Priority	Specific objective	Fund	Category of region	Code	Amount (EUR)
2	RSO2.1	ERDF	More developed	33. Other approaches — No territorial targeting	78,000,001.00

2	RSO2.1	Total			78,000,001.00
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Table 7: Dimension 6 – ESF+ secondary themes

Priority	Specific objective	Fund	Category of region	Code	Amount (EUR)
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Table 8: Dimension 7 – ESF+*, ERDF, Cohesion Fund and JTF gender equality dimension

Priority	Specific objective	Fund	Category of region	Code	Amount (EUR)
2	RSO2.1	ERDF	More developed	03. Gender neutral	78,000,001.00
2	RSO2.1	Total			78,000,001.00

* In principle, 40 % for the ESF+ contributes to gender tracking. 100 % is applicable when Member State chooses to use Article 6 ESF+

2.1.1. Priority: 3. Eine nachhaltige, multimodale städtische Mobilität im Rahmen des Übergangs zu einer CO2-neutralen Wirtschaft (Urban mobility specific objective set out in point (viii) of Article 3(1)(b) of the ERDF and Cohesion Fund Regulation)

2.1.1.1. Specific objective: RSO2.8. Promoting sustainable multimodal urban mobility, as part of transition to a net zero carbon economy (ERDF)

2.1.1.1.1. Interventions of the Funds

Reference: points (d)(i), (iii), (iv), (v), (vi) and (vii) of Article 22(3) CPR

The related types of actions – point (d)(i) of Article 22(3) CPR and Article 6 ESF+ Regulation:

The measures are assessed to be in line with the DNSH principle as they do not, by their nature, have a significant negative impact on the environment or are assessed as compatible under the RRF Guidelines.

Promoting environment- and climate-friendly urban mobility

The need for action in the area of sustainable mobility has been fully demonstrated in the programme strategy. In Hessen, the transport sector has a very high share of CO2 emissions in absolute terms and compared to other regions. At the same time, the transport sector is particularly important for the Land of Hessen in maintaining competitiveness. The country has responded to this situation with a mobility strategy and a set of concrete measures (Hessen Strategy Mobility 2035). The strategy sets out seven guidelines and five focus areas. The funding programme implemented under the specific objective directly contributes to the focus areas of efficient infrastructure and mobility and networking. In addition, there are also strategic plans at local and regional level describing the needs and concrete implementation of transport services. Examples here are the local and network-wide local transport plans to be drawn up by the public transport authorities (pursuant to § 5 ÖPNVG Landkreise, kreisfreie Städte and special status cities): The plans are therefore drawn up by the municipalities or their competent bodies and adopted by the respective municipality alone or, in the case of network-wide local transport plans, by the representatives of all municipalities on the supervisory board. The high requirements imposed on local public transport plans pursuant to Section 14 of the ÖPNVG include, inter alia, multimodality.

The planned action aims to support and accelerate the transition to environment- and climate-friendly mobility. The mobility offer should in future be able to be provided in the same way as in the past, but without the emission of CO2. The aim of the support is to speed up the ‘entry into the switchover’, to increase market penetration and to gain experience with drivers and forms of mobility. Accordingly, beneficiaries will create climate-friendly mobility opportunities

and (further) develop corresponding solutions. The reduction of climate-damaging emissions in the transport sector always involves a reduction of other air pollutants. The action will thus also contribute to the “zero pollution” objective and to the EU action plan on zero pollution for air, water and soil, in particular to reduce the health impact of air pollution and to reduce the proportion of people chronically affected by traffic noise.

Support will be limited to functional urban spaces and urban mobility. In particular, the development of Hessen’s metropolitan areas places particular demands on the development of local public transport. There are very high needs in Hessen because of the population density and the very high proportion of highly densely populated areas. The demarcation is essentially based on commuting links. Such spaces are demarcated by local and network-wide local transport plans. No support is planned in rural areas. Support fits into existing integrated conceptual approaches (urban transport plans or (sustainable) mobility plans and strategies). The supported projects are necessarily derived from these plans and strategies.

The support measure is technologically open with regard to the alternative climate-friendly powertrains (e.g. battery electricity, hydrogen). Certain parts of the transport system are addressed as part of the country’s mobility strategy and through federal policy approaches. The planned measure does not exclude these areas, but focuses on segments which have not yet been taken into account or are only marginally taken into account. According to current calculations, only around 40 % to 50 % of the urgent and short-term investment needs in Hessen can be covered by federal funding (including DARF). The rapid and comprehensive implementation of the “Transition of Transport” requires further substantial investments, which will be partly supported by the measure.

More specifically, the support measures include, firstly, facilities to facilitate the transition to environmentally and climate-friendly modes of transport and the linking of mobility opportunities. Such novel, i.e. pilot-project-supported ‘mobility stations’ from the ERDF in Hessen, serve as transfer stations with attractive, climate-friendly offers (Pedelec, E-Roller, Bicycle, E-Carsharing).

A second important segment is the support of alternative powertrains in local public transport (without size limits). Support can be given to the environmental and climate-friendly modernisation and expansion of vehicle fleets, on the one hand, e- or hydrogen-powered buses and, on the other, for the first time: Two-system vehicles, i.e. light rail (in particular as part of the creation of new local public transport links). Support is limited to alternative, low-pollution mobility. Propulsion, infrastructure and mobility using fossil fuels will not be supported.

Thirdly, it supports the installation of recharging and refuelling infrastructure for environmentally and climate-friendly propulsion. The aim is to significantly improve the conditions for environmental and climate-friendly mobility in Hessen, with its particularly high needs in the transport sector. Only public

refuelling infrastructure for buses used in public transport (hydrogen fuel cell vehicles and battery-electric vehicles) will be upgraded as required. This is of great importance for the practicality and therefore acceptance of electromobility. These infrastructures will address the most important and developed environmental and climate-friendly drives in the future, namely battery-electric and hydrogen fuel cells. Charging infrastructure shall in principle be supported only in publicly accessible locations, in exceptional cases partial access may be limited.

Support for environment- and climate-friendly mobility and infrastructure is thus fully limited to environmentally and climate-friendly, sustainable projects. Conventional infrastructure (road construction) is not supported, nor is it supported for private motorised transport.

A similar support measure was implemented in the Operational Programme for the 2014-2020 funding period, in which private companies providing public transport mobility were supported. The measure has not yet been evaluated; however, the experience of financial and material implementation is very good. It concerned the purchase of charging infrastructure and vehicles; the aim is to save about 2 800 tonnes of CO2 emissions per year.

The main target groups - point (d)(iii) of Article 22(3) CPR:

Municipalities, transport associations and transport undertakings, other undertakings, other bodies and institutions governed by public law.

Actions safeguarding equality, inclusion and non-discrimination – point (d)(iv) of Article 22(3) CPR and Article 6 ESF+ Regulation

All support measures under the specific objective shall be designed to be accessible to all, regardless of gender, ethnic origin, religion or belief, health impairment, age or sexual orientation. The supported labour market-related measures must not further increase the gender segregation of the labourmarket.

Good mechanisms to ensure inclusion, non-discrimination and gender equality will continue throughout the programme: The Monitoring Committee shall represent the economic and social partners with specific expertise on the cross-cutting principles that can be involved and are informed about the implementation process of the programme. For the selection of operations, non-discriminatory and transparent criteria and procedures shall be established to ensure compliance with the horizontal principles. Monitoring will collect additional information on the possible contributions to the horizontal principles of equality and non-discrimination for each project. Both aspects will also be taken into account in the evaluations.

The strategy of consistent gender mainstreaming in the context of Structural Funds support should also be effective in the implementation of the ERDF, although not every area of intervention can expect a direct impact on gender equality, given the thematic focus of the ERDF. A gender impact assessment is carried out for each support measure, on the basis of which possible direct and indirect gender equality effects are identified. The Gender Relevance Check is the basis for coding ERDF funds in the gender equality dimension.

Indication of the specific territories targeted, including the planned use of territorial tools – point (d)(v) of Article 22(3) CPR

The support is nationwide. The use of integrated territorial investments or other territorial tools is not foreseen under the specific objective.

The interregional, cross-border and transnational actions – point (d)(vi) of Article 22(3) CPR

Hessian transport associations are in extensive cross-regional cooperation, for example to develop and coordinate cross-regional networks. Cooperation takes place in particular with the Länder of Rhineland-Palatinate and Baden-Württemberg.

International cooperation exists and will continue, in particular with regard to the development of SUMP (centre of expertise on sustainable urban mobility). For example, the Centre of Sustainable Urban Mobility is part of the ERDF/INTERREG project E-Smartec (<https://www.fznum-hessen.de/das-fachzentrum/#esmartec>) with the cooperation partners Centre for Research and Technology Hellas (GR), Region of Central Macedonia (GR), Coventry University Enterprise Ltd (UK), POLIS (BE), Link Campus University (IT), Rome Mobility Agency (IT), University of Žilina (SK) and Municipality of Venlo (NL). The centre of expertise on sustainable urban mobility is also a member of Polis, a network of more than 60 local authorities in Europe (polisnetwork.eu), which have joined forces to exchange views on transport problems and possible solutions.

The planned use of financial instruments – point (d)(vii) of Article 22(3) CPR

The use of financial instruments is not planned. In the area of climate-friendly, urban public transport, there are market failures due to externalities and the operation of natural monopolies. In the vast majority of planned activities, support will be given to infrastructure projects that generate no or very little revenue. In this case, non-repayable support in the form of grants is necessary in order to raise the profitability of the investments to a sufficient level.

Reflows that allow repayment of repayable support usually do not occur.

2.1.1.1.2. Indicators

Reference: point (d)(ii) of Article 22(3) CPR and Article 8 ERDF and CF Regulation

Table 2: Output indicators

Priority	Specific objective	Fund	Category of region	ID	Indicator	Measurement unit	Milestone (2024)	Target (2029)
3	RSO2.8	ERDF	More developed	RCO57	Capacity of environmentally friendly rolling stock for collective public transport	passengers	0.00	6,200.00
3	RSO2.8	ERDF	More developed	RCO59	Alternative fuels infrastructure (refuelling/ recharging points)	refuelling/recharging points	4.00	29.00

Reference: point (d)(ii) of Article 22(3) CPR

Table 3: Result indicators

Priority	Specific objective	Fund	Category of region	ID	Indicator	Measurement unit	Baseline or reference value	Reference Year	Target (2029)	Source of data	Comments
3	RSO2.8	ERDF	More developed	RCR29	Estimated greenhouse emissions	tonnes CO2 eq./year	2,289.60	2022-2029	1,010.90	Monitoring system	
3	RSO2.8	ERDF	More developed	RCR62	Annual users of new or modernised public transport	users/year	0.00	2022-2029	1,458,000.00	Monitoring system	
3	RSO2.8	ERDF	More developed	RCR63	Annual users of new or modernised tram and metro lines	users/year	0.00	2022-2029	10,260,000.00	Monitoring system	

3	RSO2.8	ERDF	More developed	HER 06	Avoided particulate matter emissions	Kilograms of PM 2.5 per year	0.00	2022-2029	38.40	Monitoring system	
3	RSO2.8	ERDF	More developed	HER 07	Avoided emissions of nitrogen oxides	Kilograms of NOx per year	0.00	2022-2029	611.00	Monitoring system	

2.1.1.1.3. Indicative breakdown of the programmed resources (EU) by type of intervention

Reference: point (d)(viii) of Article 22(3) CPR

Table 4: Dimension 1 - intervention field

Priority	Specific objective	Fund	Category of region	Code	Amount (EUR)
3	RSO2.8	ERDF	More developed	081. Clean urban transport infrastructure	3,000,001.00
3	RSO2.8	ERDF	More developed	082. Clean urban transport rolling stock	20,000,000.00
3	RSO2.8	ERDF	More developed	086. Alternative fuels infrastructure	7,000,000.00
3	RSO2.8	Total			30,000,001.00

Table 5: Dimension 2 - form of financing

Priority	Specific objective	Fund	Category of region	Code	Amount (EUR)
3	RSO2.8	ERDF	More developed	01. Grant	30,000,001.00
3	RSO2.8	Total			30,000,001.00

Table 6: Dimension 3 – territorial delivery mechanism and territorial focus

Priority	Specific objective	Fund	Category of region	Code	Amount (EUR)
3	RSO2.8	ERDF	More developed	27. Other approaches — Functional urban areas	30,000,001.00
3	RSO2.8	Total			30,000,001.00

Table 7: Dimension 6 – ESF+ secondary themes

Priority	Specific objective	Fund	Category of region	Code	Amount (EUR)
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Table 8: Dimension 7 – ESF+*, ERDF, Cohesion Fund and JTF gender equality dimension

Priority	Specific objective	Fund	Category of region	Code	Amount (EUR)
3	RSO2.8	ERDF	More developed	03. Gender neutral	30,000,001.00
3	RSO2.8	Total			30,000,001.00

* In principle, 40 % for the ESF+ contributes to gender tracking. 100 % is applicable when Member State chooses to use Article 6 ESF+

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3. Financing plan

Reference: points (g)(i), (ii) and (iii) of Article 22(3), Article 112(1), (2) and (3), and Articles 14 and 26 CPR

3.1. Transfers and contributions (1)

Reference: Articles 14, 26 and 27 CPR

Programme amendment related to	<input type="checkbox"/> contribution to InvestEU
	<input type="checkbox"/> transfer to instruments under direct or indirect management
	<input type="checkbox"/> transfer between ERDF, ESF+, Cohesion Fund or to another Fund or Funds

(1) Applicable only to programme amendments in accordance with Articles 14 and 26 except complementary transfers to the JTF in accordance with Article 27 CPR. Transfers shall not affect the annual breakdown of financial appropriations at the MFF level for a Member State.

Table 15A: Contributions to InvestEU* (breakdown by year)

Contribution from		Contribution to	Breakdown by year							
Fund	Category of region	InvestEU window	2021	2022	2023	2024	2025	2026	2027	Total

* For each new request for contribution, a programme amendment shall set out the total amounts for each year by Fund and by category of region.

Table 15B: Contributions to InvestEU* (summary)

Fund	Category of region	Sustainable Infrastructure (a)	Innovation and Digitisation (b)	SME (c)	Social Investment and Skills (d)	Total (e)=(a)+(b)+(c)+(d)
Total						

* Cumulative amounts for all contributions done through programme amendments during the programming period. With each new request for contribution, a programme amendment shall set out the total amounts for each year by Fund and by category of region.

Justification, taking into account how those amounts contribute to the achievement of policy objectives selected in the programme in accordance with Article 10(1) of the InvestEU Regulation

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Table 16A: Transfers to instruments under direct or indirect management (breakdown by year)

Transfers from		Transfers to	Breakdown by year							
Fund	Category of region	Instrument	2021	2022	2023	2024	2025	2026	2027	Total

Table 16B: Transfers to instruments under direct or indirect management* (summary)

Fund	Category of region	Total
Total		

* Cumulative amounts for all transfers done through programme amendments during programming period. With each new request for transfer, a programme amendment shall set out the total amounts transferred for each year by Fund and by category of region.

Transfers to instruments under direct or indirect management - Justification

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Table 17A: Transfers between ERDF, ESF+ and Cohesion Fund or to another Fund or Funds* (breakdown by year)

Transfers from		Transfers to		Breakdown by year							
Fund	Category of region	Fund	Category of region	2021	2022	2023	2024	2025	2026	2027	Total

* Transfer to other programmes. Transfers between ERDF and ESF+ can only be done within the same category of region.

Table 17B: Transfers between ERDF, ESF+ and Cohesion Fund or to another Fund or Funds (summary)

	ERDF			ESF+			CF	EMFAF	AMIF	ISF	BMVI	Total
	More developed	Transition	Less developed	More developed	Transition	Less developed						
Total												

* Cumulative amounts for all transfers done through programme amendments during the programming period. With each new request for transfer, a programme amendment shall set out the total amounts transferred for each year by Fund and category of region.

Transfers between shared management funds, including between cohesion policy funds - Justification

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3.2. JTF: allocation in the programme and transfers (1)

3.3. Transfers between categories of region resulting from the mid-term review

Table 19A: Transfers between categories of region resulting from the mid-term review within the programme (breakdown by year)

Transfers from	Transfers to	Breakdown by year			
Category of region*	Category of region*	2025	2026	2027	Total

* Applicable to ERDF and ESF+ only

Table 19B: Transfers between categories of region resulting from the mid-term review, to other programmes (breakdown by year)

Transfers from	Transfers to	Breakdown by year			
Category of region*	Category of region*	2025	2026	2027	Total

* Applicable to ERDF and ESF+ only

3.4. Transfers back (1)

Table 20A: Transfers back (breakdown by year)

Transfers from	Transfers to		Breakdown by year							
			2021	2022	2023	2024	2025	2026	2027	Total
InvestEU or other Union instrument	Fund	Category of region								

(1) Applicable only to programme amendments for resources transferred back from other Union instruments, including elements of AMIF, ISF and BMVI, under direct or indirect management, or from InvestEU.

Table 20B: Transfers back* (summary)

From	To						
InvestEU / Instrument	ERDF			ESF+			Cohesion Fund
	More developed	Transition	Developed	More developed	Transition	Developed	

* Cumulative amounts for all transfers done through programme amendments during programming period. With each new request for transfer, a programme amendment shall set out the total amounts transferred for each year by Fund and by category of region.

3.5. Financial appropriations by year

Reference: point (g)(i) of Article 22(3) CPR and Article 3, 4 and 7 JTF Regulation

Table 10: Financial appropriations by year

Fund	Category of region	2021	2022	2023	2024	2025	2026		2027		Total
							Financial appropriation without flexibility amount	Flexibility amount	Financial appropriation without flexibility amount	Flexibility amount	
ERDF*	More developed	0.00	42,483,251.00	43,166,666.00	43,863,920.00	44,575,116.00	18,468,944.00	18,468,944.00	18,838,911.00	18,838,911.00	248,704,663.00
Total ERDF		0.00	42,483,251.00	43,166,666.00	43,863,920.00	44,575,116.00	18,468,944.00	18,468,944.00	18,838,911.00	18,838,911.00	248,704,663.00
Total		0.00	42,483,251.00	43,166,666.00	43,863,920.00	44,575,116.00	18,468,944.00	18,468,944.00	18,838,911.00	18,838,911.00	248,704,663.00

* Amounts after the complementary transfer to the JTF.

3.6. Total financial appropriations by fund and national co-financing

Reference: point (g)(ii) of Article 22(3), Article 22(6) and Article 36 CPR

For the Investment for jobs and growth goal: programmes using technical assistance according to Article 36(5) CPR in accordance with the choice made in the Partnership Agreement

Table 11: Total financial allocations by fund and national contribution

Policy / JTF specific objective number or technical assistance	Priority	Basis for calculation Union support	Fund	Category of region*	Union contribution (a)=(b)+(c)+(i)+(j)	Breakdown of Union contribution				National contribution (d)=(e)+(f)	Indicative breakdown of national contribution		Total (g)=(a)+(d)	Co-financing rate (h)=(a)/(g)
						Union contribution		Flexibility amount			Public (e)	Private (f)		
						without technical assistance pursuant to Article 36(5) (b)	for technical assistance pursuant to Article 36(5) (c)	without technical assistance pursuant to Article 36(5) (i)	for technical assistance pursuant to Article 36(5) (j)					
1	1	Total	ERDF	More developed	136,924,663.00	112,449,060.00	3,935,717.00	19,845,301.00	694,585.00	205,386,995.00	106,567,635.00	98,819,360.00	342,311,658.00	39.9999999416 %
2	2	Total	ERDF	More developed	80,730,000.00	66,299,324.00	2,320,476.00	11,700,677.00	409,523.00	121,095,000.00	46,595,000.00	74,500,000.00	201,825,000.00	40.0000000000 %
2	3	Total	ERDF	More developed	31,050,000.00	25,499,741.00	892,490.00	4,500,260.00	157,509.00	46,575,000.00	46,575,000.00	0.00	77,625,000.00	40.0000000000 %
Total			ERDF	More developed	248,704,663.00	204,248,125.00	7,148,683.00	36,046,238.00	1,261,617.00	373,056,995.00	199,737,635.00	173,319,360.00	621,761,658.00	39.9999999678 %
Grand total					248,704,663.00	204,248,125.00	7,148,683.00	36,046,238.00	1,261,617.00	373,056,995.00	199,737,635.00	173,319,360.00	621,761,658.00	39.9999999678 %

* For ERDF and ESF+: less developed, transition, more developed, and, where applicable special allocation for outermost and northern sparsely populated regions. For Cohesion Fund: not applicable. For technical assistance, application of categories of region depends on the selection of the fund.

** Indicate the total JTF resources, including the complementary support transferred from the ERDF and the ESF+. The table shall not include the amounts in accordance to Article 7 JTF Regulation. In case of technical assistance financed from the JTF, the JTF resources should be split into resources related to Articles 3 and 4 JTF Regulation. For Article 4 JTF Regulation, there is no flexibility amount.

4. Enabling conditions

Reference: point (i) of Article 22(3) CPR

Table 12: Enabling conditions

Enabling condition	Fund	Specific objective	Fulfilment of enabling condition	Criteria	Fulfilment of criteria	Reference to relevant documents	Justification
1. Effective monitoring mechanisms of the public procurement market			Yes	Monitoring mechanisms are in place that cover all public contracts and their procurement under the Funds in line with Union procurement legislation. That requirement includes: 1. Arrangements to ensure compilation of effective and reliable data on public procurement procedures above the Union thresholds in accordance with reporting obligations under Articles 83 and 84 of Directive 2014/24/EU and Articles 99 and 100 of Directive 2014/25/EU.	Yes	Act Against Restrictions of Competition (GWB): https://www.gesetze-im-internet.de/gwb/ Procurement Regulation (VgV): https://www.gesetze-im-internet.de/vgv_2016/ Regulation on statistics on public procurement and concessions (VergStatVO): https://www.gesetze-im-internet.de/vergstatvo/	Directive 2014/24/EU was transposed into national law by Part 4 of the GWB and the VgV. The monitoring and the obligation to provide procurement data are governed by § 114 GWB. Section 114(1) obliges the supreme federal authorities and Länder to report on the application of the provisions of the GWB and the statutory ordinances adopted pursuant to Section 113 GWB, upon request to the Federal Ministry of Economic Affairs and Climate Protection (BMWK). In particular, the VgV and the VergStatVO are among the statutory ordinances adopted pursuant to Paragraph 113 of the GWB. § 114(2) obliges contracting authorities within the meaning of § 98 to transmit certain data on public contracts and concessions within the meaning of Sections 103 and 105 of the GWB to the Federal Statistical Office.
				2. Arrangements to ensure the data cover at least the following elements: a. Quality and intensity of competition: names of winning bidder, number of initial bidders and contractual value; b. Information on final price after completion and on	Yes	Procurement Regulation (VgV): https://www.gesetze-im-internet.de/vgv_2016/ Regulation on statistics on public procurement and concessions (VergStatVO): https://www.gesetze-im-internet.de/vergstatvo/	The VergStatVO gives concrete expression to the obligation to provide contracting authorities with procurement data referred to in Paragraph 114(2) of the GWB. Section 3 of the VergStatVO, in conjunction with the annexes referred to therein, lays down the data to be transmitted. These include: The name of the tenderer to whom the tender was

Enabling condition	Fund	Specific objective	Fulfilment of enabling condition	Criteria	Fulfilment of criteria	Reference to relevant documents	Justification
				participation of SMEs as direct bidders, where national systems provide such information.			awarded, the number of tenders received, the value of the contract, the number of SMEs involved as direct bidders and the value of the contract after conclusion.
				3. Arrangements to ensure monitoring and analysis of the data by the competent national authorities in accordance with article 83 (2) of directive 2014/24/EU and article 99 (2) of directive 2014/25/EU.	Yes	Regulation on statistics on public procurement and concessions (VergStatVO): https://www.gesetze-im-internet.de/vergstatvo/	The BMWK and the competent Land authorities analyse the submitted data on the procurement procedures and prepare them in accordance with Section 4 of the VergStatVO.
				4. Arrangements to make the results of the analysis available to the public in accordance with article 83 (3) of directive 2014/24/EU and article 99 (3) directive 2014/25/EU.	Yes	Act Against Restrictions of Competition (GWB): https://www.gesetze-im-internet.de/gwb/ Procurement Statistics Regulation (VgStatV): https://www.gesetze-im-internet.de/vergstatvo/ BMWK website: https://www.bmwi.de/Redaktion/DE/Textsammlungen/Wirtschaft/eu-statistik.html	Paragraph 114(2) of the GWB requires contracting authorities within the meaning of Paragraph 98 to transmit certain data on public contracts and concessions within the meaning of Paragraphs 103 and 105 of the GWB to the Federal Statistical Office. § 4 VgStatV provides for the publication of evaluations of procurement statistics in accordance with the reporting obligations laid down in Directives 2014/24/EU and 2014/25/EU.
				5. Arrangements to ensure that all information pointing to suspected bid-rigging situations is communicated to the competent national bodies in accordance with Article 83(2) of Directive 2014/24/EU and Article 99(2) of Directive 2014/25/EU.	Yes	Act on the establishment and operation of a Register for the Protection of Competition for Public Contracts and Concessions (Competition Register Act — WRegG): https://www.gesetze-im-internet.de/wregg/BJNR273910017.html , Hessisches Vergabe- und Tarifpflichtgesetz (HVTG), Joint Circular on public procurement (Procurement Decree), website of the	Information on unlawful bid-rigging pursuant to Section 1 of the GWB and Article 101 TFEU is sent to the Federal Cartel Office and the Regional Cartel Authority in the Hessen Ministry of Economic Affairs, Energy, Transport and Housing (point 4.6 of the Joint Circular on public procurement). The assessment of the criminalisation of restrictive agreements in tendering

Enabling condition	Fund	Specific objective	Fulfilment of enabling condition	Criteria	Fulfilment of criteria	Reference to relevant documents	Justification
						Land Cartel Authority of Hessen (https://wirtschaft.hessen.de/landeskartellbehoerde)	procedures pursuant to Section 298 of the Criminal Code is an activity of the Public Prosecutor's Office. In addition, a nationwide electronic competition register is being set up at the Federal Cartel Office. Information is available to check whether a company is/can be excluded from the tendering procedure for certain economic offences. In addition, Hessen maintains a register to protect fair competition in accordance with Section 17 of the HVTG. Open. Contracting entities report information on serious corporate misconduct to the Observatory for verification and recording.
2. Tools and capacity for effective application of State aid rules			Yes	Managing authorities have the tools and capacity to verify compliance with State aid rules: 1. For undertakings in difficulty and undertakings under a recovery requirement.	Yes	Application form including annexes	The granting of the aid is subject to the condition that the undertakings demonstrate that they are not undertakings in difficulty or that they are subject to an outstanding recovery order. In particular, the undertakings shall provide an explanation in each case in the application. They also declare that the co-financing is secured and proves it (e.g. loan commitment, bank confirmation of own funds). The declarations are verified or verified on the basis of submitted documents (e.g. annual accounts, revenue forecast) and/or available sources (e.g. Federal Gazette, Commercial Register, EU transparency database, Commission recovery statistics) and the audit result documented.
				2. Through access to expert advice and guidance on State aid	Yes	Information on State aid on the website of the Hessen Ministry of Economy,	— Regular meetings of the Federal-Länder Committee on Aid

Enabling condition	Fund	Specific objective	Fulfilment of enabling condition	Criteria	Fulfilment of criteria	Reference to relevant documents	Justification
				matters, provided by State aid experts of local or national bodies.		Energy, Transport and Housing: https://wirtschaft.hessen.de/wirtschaft/foerderung-fuer-unternehmen-und-gruender/staatliche-beihilfen-hessen	<ul style="list-style-type: none"> — Regular and ad hoc information from the Department for State aid control policy in the BMWK to the relevant State aid units and other bodies on current developments in State aid law — Existence of a central point of contact in the BMWK for all State aid issues — Provision of training on State aid issues for members of the administration — Extensive information on State aid issues on BMWK website, including documents on ‘Structural Funds and EU State aid rules’ — Unit II 1 is the central point of contact for EU State aid control in the HMWEVW. It advises on all matters of State aid law, coordinates any necessary notifications and exemptions through the BMWK to the European Commission and keeps up-to-date developments in State aid law.
3. Effective application and implementation of the Charter of Fundamental Rights			Yes	Effective mechanisms are in place to ensure compliance with the Charter of Fundamental Rights of the European Union ('the Charter') which include: 1. Arrangements to ensure compliance of the programmes supported by the Funds and their implementation with the relevant provisions of the Charter.	Yes	Commission Notice — Guidelines on ensuring compliance with the Charter of Fundamental Rights of the European Union in the implementation of the European Structural and Investment Funds (2016/C 269/01): https://eur-lex.europa.eu/legal-content/DE/TXT/PDF/?uri=OJ:C:2016:269:FULL&from=RO	In line with the Commission Guidelines on ensuring compliance with the Charter of Fundamental Rights of the European Union in the implementation of the ‘ESI Funds’ (‘GRC’); 2016/C269/01) the MA’s working guidelines and guidelines, as well as the agreements with intermediate bodies, take into account the respect of the GRC. At all stages of programme implementation, the competent authorities shall justify

Enabling condition	Fund	Specific objective	Fulfilment of enabling condition	Criteria	Fulfilment of criteria	Reference to relevant documents	Justification
							<p>their decisions. Every person has the right to be heard, to an effective remedy and to a fair trial in respect of those decisions. The rights and principles of the CFR are taken into account in the planning of the measures and the selection criteria. Respect for the GRC is a funding condition and subject to on-the-spot checks. Beneficiaries are informed about the GRC and provide explanations in this regard. The MA provides targeted information on the website. Members of the BGA and federal and provincial representatives can contribute with information, assistance and expertise to compliance with the Charter.</p>
				<p>2. Reporting arrangements to the monitoring committee regarding cases of non-compliance of operations supported by the Funds with the Charter and complaints regarding the Charter submitted in accordance with the arrangements made pursuant to Article 69(7).</p>	<p>Yes</p>	<p>MA report to BGA on complaints/infringements related to GRC at least once a year and, if necessary, in the circulation procedure.</p> <p>Conciliation Body for Disabled Equality Act: https://www.schlichtungsstelle-bgg.de/Webs/SchliBGG/DE/AS/startseite/startseite-node.html</p> <p>Hessen enforcement body: https://www.lbit.hessen.de</p> <p>Federal Anti-Discrimination Agency: https://antidiskriminierungsstelle.de/DE/startseite/startseite-node.html</p> <p>Hessen Anti-Discrimination Agency: https://soziales.hessen.de/Soziales/Antidiskriminierung/Beratung</p>	<p>The MA assumes the role of contact person for the application and implementation of the Charter of Fundamental Rights (CFR). It shall set up an electronic mailbox where breaches of the CFR can be reported. Reference is made to the mailbox via the website (including a linked list of contact points and information on the GRC). In the BGA, on the basis of a rule in the RoP, a separate agenda item is included in the meetings at which the MA informs the BGA of complaints and, where appropriate, activities relating to the GRC. Complainants receive support in connection with Articles 26 and 21 of the Charter of Fundamental Rights of the European Union, e.g. through the Conciliation Body on the Federal Disability Equality Act, the Land enforcement body, the Federal</p>

Enabling condition	Fund	Specific objective	Fulfilment of enabling condition	Criteria	Fulfilment of criteria	Reference to relevant documents	Justification
							Government's anti-discrimination body or the Land. Proven infringements may be sanctioned upon withdrawal of the support.
4. Implementation and application of the United Nations Convention on the rights of persons with disabilities (UNCRPD) in accordance with Council Decision 2010/48/EC			Yes	A national framework to ensure implementation of the UNCRPD is in place that includes: 1. Objectives with measurable goals, data collection and monitoring mechanisms.	Yes	Federal Ministry of Labour and Social Affairs: NAT. Action Plan, Federal Law on Participation, Implementation, Backgrounds and Examples from practice: www.gemeinsam-einfach-machen.de Federal Commissioner for Disabled Persons (UN-BCRC coordination body): http://www.behindertenbeauftragter.de Representative of the disabled in Hessen: https://soziales.hessen.de/ueber-uns/beauftragte-fuer-menschen-mit-behinderungen German Institute for Human Rights: (UN-CRPD monitoring centre): http://www.institut-fuer-menschenrechte.de/monitoring-stelle-un-brk	The Federal Government has drawn up NAP 1.0 as a monitoring mechanism for the implementation of the UNCRPD 2011. It documents and coordinates the state of implementation as part of the data collection process. NAP 2.0 was adopted in 2016, with 175 measurable targets or measures in 13 areas of action. The NAP Status Report was published on May 2021 and the NAP 2.0 is updated. NAP is a dynamic tool without an intended end date. The monitoring body for the implementation of the UNCRPD is the monitoring body of the German Institute for Human Rights (UN-BRK, Article 33). It reports to the UN Committee of Experts on the Rights of M. m. B. on the implementation of the Convention in the State Report process. Hessian Action Plan for the Implementation of the UNCRPD (LAP) in force in 2012, evaluated in 2015. LAP contains measurable specific objectives with associated actions. Hessian Ministry of Social Affairs and Ministry of Culture form focal points under Article 33 of the UNCRPD. Hessian Commissioner for M. m.B. exercises State coordination mechanisms, advises Landtag and Provincial Government to implement participation and equivalent living conditions. Every citizen has access to the commissioner.

Enabling condition	Fund	Specific objective	Fulfilment of enabling condition	Criteria	Fulfilment of criteria	Reference to relevant documents	Justification
				<p>2. Arrangements to ensure that accessibility policy, legislation and standards are properly reflected in the preparation and implementation of the programmes.</p>	Yes	<p>Disability Equality Act (BGG): https://www.gesetze-im-internet.de/bgg/index.html</p> <p>Communication Aid Regulation: https://www.gesetze-im-internet.de/khv/index.html</p> <p>Hessisches Disability Equality Act (HessBGG): https://www.rv.hessenrecht.hessen.de/bshe/document/jlr-BGGHERahmen</p> <p>Hessen Ordinance on Accessible Information Technology (HVBIT): https://www.rv.hessenrecht.hessen.de/bshe/document/jlr-BITVHEpELS</p> <p>General Equal Treatment Act (AGG): https://www.gesetze-im-internet.de/agg/</p>	<p>The requirements of the UNCRPD will be taken into account in the OP throughout the planning and implementation process, e.g. in the directives and in the specific application and authorisation procedure, with the essential principles already being ensured by the mandatory mainstreaming of the horizontal principle of anti-discrimination.</p> <p>In addition, a working tool with text elements is drawn up for drawing up the guidelines. In order to provide additional guidance for support measures (with participants), a guide on low and inclusive planning, design and implementation of measures will be developed.</p> <p>The administrative bodies involved are trained on the UNCRPD and on accessibility issues. The representative of the Land of Hessen for M. m.B., as a member of the BGA, contributes to ensuring compliance with the UNCRPD at all stages of programme implementation.</p>
				<p>3. Reporting arrangements to the monitoring committee regarding cases of non-compliance of operations supported by the Funds with the UNCRPD and complaints regarding the UNCRPD submitted in accordance with the</p>	Yes	<p>Conciliation Body BGG: https://www.schlichtungsstelle-bgg.de/Webs/SchliBGG/DE/AS/startseite/startseite-node.html</p> <p>Specialised Office for Accessibility</p>	<p>The MA will take over the role of “Contact on the application and implementation of the UNCRPD” in the FP 2021-2027. The MA sets up a functional mailbox to report complaints and breaches of the UNCRPD in conjunction with the implementation of the ERDF. Reference is made to the</p>

Enabling condition	Fund	Specific objective	Fulfilment of enabling condition	Criteria	Fulfilment of criteria	Reference to relevant documents	Justification
				arrangements made pursuant to Article 69(7).		<p>Federal Government: https://www.bundesfachstelle-barrierefreiheit.de/DE/Ueber-Uns/ueber-uns_node.html</p> <p>Country Centre of Excellence for Accessible IT: https://lbit.hessen.de/</p>	<p>mailbox via the ERDF website. Information is checked by the MA for validity. If the notifications prove to be sustainable, the representative of the Land of Hessen for M. m. m., for example, will be involved in further steps. Furthermore, other bodies may be involved, e.g. the Land Competence Centre for Accessible IT or the German Institute for Human Rights (DIM) or the Conciliation Body BGG or the Federal Office for Accessibility.</p> <p>The MA, as Chair of the CGA, ensures compliance with the UNCRPD. To this end, a stand-alone agenda item will be included in the BGA meetings, informing them about the UNCRPD notifications and, where appropriate, activities. If necessary, they shall also be informed in writing. The Rules of Procedure include a separate provision on this matter.</p>
1.1. Good governance of national or regional smart specialisation strategy	ERDF	RSO1.1. Developing and enhancing research and innovation capacities and the uptake of advanced technologies	Yes	Smart specialisation strategy or strategies shall be supported by: 1. Up-to-date analysis of challenges for innovation diffusion and digitalisation.	Yes	RIS.HE, Chapter 6	The RIS.HE provides a comprehensive status quo assessment of the performance of the innovation system in Hessen. It looks at indicators, innovation benchmarks and research landscape indicators, as well as research activities in the economy. Digitalisation, which, on the one hand, concerns innovation in almost all research fields and economic sectors as a cross-cutting issue and, on the other hand, is a particularly innovative sector with the digital economy itself, is of particular importance. As a result, the field of

Enabling condition	Fund	Specific objective	Fulfilment of enabling condition	Criteria	Fulfilment of criteria	Reference to relevant documents	Justification
							future competence ‘Digital Technologies and Digital Economy’ is the area of specialisation of RIS.HE. Hessen has ambitious objectives in the field of digitalisation and already has excellent location conditions in the area of digital infrastructure and unique features in the field of digital research and digital transformation. The objectives are specified in particular in the ‘Digital Hessen Strategy’ and the ‘Gigabit Strategy for Hessen’.
				2. Existence of competent regional or national institution or body, responsible for the management of the smart specialisation strategy.	Yes	RIS.HE, Chapter 9	Chapter 9 of the RIS.HE sets out in detail the governance structures in Hessen. The “Technological Innovation, Resource Efficient Production” Unit in the Ministry of Economy of Hesse is responsible for the preparation, implementation and monitoring of the Smart Specialisation Strategy. The governance system described above is to be further developed in future and extended by the establishment of a coordinating body on 1 January 2022 at Hessen Trade & Invest GmbH (HTAi), which is owned by the Land, for the implementation and continuous monitoring of the HIS. In addition, the Interministerial Working Group on Research ensures the exploitation of synergies and the close articulation of activities in the implementation of RIS.HE. The Fund Management Authorities for HORIZON, ERDF, ESF and EAFRD also participate in the Research Working Group.
				3. Monitoring and evaluation	Yes	RIS.HE, Chapter 10	A comprehensive monitoring plan has

Enabling condition	Fund	Specific objective	Fulfilment of enabling condition	Criteria	Fulfilment of criteria	Reference to relevant documents	Justification
				tools to measure performance towards the objectives of the strategy.			been developed with different levels of analysis, which are regularly filled. Monitoring and evaluation tools are presented and explained in chapter 10 of the RIS.HE. A comprehensive monitoring report shall be published regularly by the coordinating body. Various monitoring tools are taken into account (cf. Annex ‘Monitoring of the Hessen Innovation Strategy’). A comprehensive evaluation of the measures and an overall overall evaluation of RIS.HE in terms of their effectiveness, efficiency, relevance and coherence are carried out regularly (cf. Annex ‘Evaluation of the Hessen Innovation Strategy’).
				4. Functioning of stakeholder cooperation (“entrepreneurial discovery process”).	Yes	RIS.HE, Chapter 5	Chapter 5 of the RIS.HE highlights the importance of the entrepreneurial discovery process (guidelines of the Hessen Innovation Strategy 2021-2027). The RIS.HE was accompanied by an intensive process of participation by various stakeholders in the Land of Hessen. Key elements of this participatory process will be consolidated in the governance structure of RIS.HE. Examples include the work of the inter-ministerial working group and the Research Working Group, the Innovation Congress as a platform for exchanges with a wide range of stakeholders in the Hessen innovation system, and the continuation of established cooperation with the institutional bodies responsible for monetary and non-monetary support for innovation.

Enabling condition	Fund	Specific objective	Fulfilment of enabling condition	Criteria	Fulfilment of criteria	Reference to relevant documents	Justification
				5. Actions necessary to improve national or regional research and innovation systems, where relevant.	Yes	RIS.HE, Chapter 6, 7 & 8	<p>Based on the status quo assessment of the performance of the Hessen innovation system in Chapter 6 of the RIS.HE, the SWOT matrix summarises existing weaknesses and risks (pages 63-67 of the RIS.HE). The focus on future competences in Chapter 7 of the RIS.HE and the defined approaches in Chapter 8 of the RIS.HE show thematic and strategic measures to strengthen the innovation system and manage industrial change in Hessen.</p> <p>For this purpose, there was a thematic development of existing skills for the future (as a response/adaptation to industrial and societal change) in order to improve the regional R & I system and international cooperation, promoted in particular by EEN Hessen. Cooperation with partners outside Hessen focuses in particular on the Hessen partner regions of Nouvelle Aquitaine, Emilia-Romagna and Wielkopolska. The particularly close cooperation with these partner regions has been institutionalised since May 2013 through the joint link between the Multi-Regions House in Brussels.</p>
				6. Where relevant, actions to support industrial transition.	Yes	RIS.HE, Chapter 6, 7 & 8	<p>Based on the status quo assessment of the performance of the Hessen innovation system in Chapter 6 of the RIS.HE, the SWOT matrix summarises existing weaknesses and risks (pages 63-67 of the RIS.HE). The focus on future competences in Chapter 7 of the RIS.HE</p>

Enabling condition	Fund	Specific objective	Fulfilment of enabling condition	Criteria	Fulfilment of criteria	Reference to relevant documents	Justification
							<p>and the defined approaches in Chapter 8 of the RIS.HE show thematic and strategic measures to strengthen the innovation system and manage industrial change in Hessen.</p> <p>For this purpose, there was a thematic development of existing skills for the future (as a response/adaptation to industrial and societal change) in order to improve the regional R & I system and international cooperation, promoted in particular by EEN Hessen. Cooperation with partners outside Hessen focuses in particular on the Hessen partner regions of Nouvelle Aquitaine, Emilia-Romagna and Wielkopolska. The particularly close cooperation with these partner regions has been institutionalised since May 2013 through the joint link between the Multi-Regions House in Brussels.</p>
				7. Measures for enhancing cooperation with partners outside a given Member State in priority areas supported by the smart specialisation strategy.	Yes	RIS.HE, Chapter 6, 7 & 8	<p>Based on the status quo assessment of the performance of the Hessen innovation system in Chapter 6 of the RIS.HE, the SWOT matrix summarises existing weaknesses and risks (pages 63-67 of the RIS.HE). The focus on future competences in Chapter 7 of the RIS.HE and the defined approaches in Chapter 8 of the RIS.HE show thematic and strategic measures to strengthen the innovation system and manage industrial change in Hessen.</p> <p>For this purpose, there was a thematic</p>

Enabling condition	Fund	Specific objective	Fulfilment of enabling condition	Criteria	Fulfilment of criteria	Reference to relevant documents	Justification
							development of existing skills for the future (as a response/adaptation to industrial and societal change) in order to improve the regional R & I system and international cooperation, promoted in particular by EEN Hessen. Cooperation with partners outside Hessen focuses in particular on the Hessen partner regions of Nouvelle Aquitaine, Emilia-Romagna and Wielkopolska. The particularly close cooperation with these partner regions has been institutionalised since May 2013 through the joint link between the Multi-Regions House in Brussels.
2.1. Strategic policy framework to support energy efficiency renovation of residential and non-residential buildings	ERDF	RSO2.1. Promoting energy efficiency and reducing greenhouse gas emissions	Yes	1. A national long term renovation strategy to support the renovation of the national stock of residential and non-residential buildings is adopted, in line with the requirements of Directive (EU) 2010/31/EU of the European Parliament and of the Council , which: (a) entails indicative milestones for 2030, 2040 and 2050; (b) provides an indicative outline of financial resources to support the implementation of the strategy; (c) defines effective mechanisms for promoting investments in building renovation.	Yes	Federal Government's long-term renovation strategy pursuant to Article 2a of Directive (EU) 2018/844 of the European Parliament and of the Council amending Directive 2010/31/EU	The long-term renovation strategy describes: a) 2030 energy performance roadmap and audit mandate to update the long-term renovation strategy, including the definition of milestones beyond 2030, taking into account new national and EU targets. (b) A broad set of measures and incentives for climate action, energy efficiency and renewable energy, in particular for investment promotion, advice and communication (see Chapter 2.3), including CO2 building renovation programme/MAP and Federal support for efficient buildings (BEG): Budget 8.7 billion in 2020 and 18.4 billion new pledges in 2021 (C) Policies, measures and mechanisms for cost-effective renovations and leveraging investments

Enabling condition	Fund	Specific objective	Fulfilment of enabling condition	Criteria	Fulfilment of criteria	Reference to relevant documents	Justification
				2. Energy efficiency improvement measures to achieve required energy savings	Yes	Federal Government's 2030 Climate Action Programme for the implementation of the 2050 Climate Action Plan Building Energy Act Energy Efficiency Strategy 2050	Support programmes and energy advice provide a tangible boost to energy efficiency. Additional measures have been adopted with CSF, in particular JITs, fiscal support and BEG. EffSTRA sets the 2030 efficiency target in a higher order, and brings together measures in the new nat. Energy Efficiency Action Plan (NAPE) and shapes the "Roadmap Energy Efficiency" dialogue
2.2. Governance of the energy sector	ERDF	RSO2.1. Promoting energy efficiency and reducing greenhouse gas emissions	Yes	The integrated national energy and climate plan is notified to the Commission, in accordance with Article 3 of Regulation (EU) 2018/1999 and consistent with the long-term greenhouse gas emission reduction objectives under the Paris Agreement, which includes:	Yes	Integrated National Energy and Climate Plan	The integrated national energy and climate plan has been notified to the Commission in accordance with Article 3 of Regulation (EU) 2018/1999 and in line with the long-term greenhouse gas emission reduction targets under the Paris Agreement; it shall include the following: all elements required by the template in Annex I of Regulation (EU) 2018/1999.
				1. All elements required by the template set out in Annex I to Regulation (EU) 2018/1999.			
				2. An outline of envisaged financial resources and mechanisms for measures promoting low-carbon energy.	Yes	Integrated National Energy and Climate Plan	The integrated national energy and climate plan has been notified to the Commission in accordance with Article 3 of Regulation (EU) 2018/1999 and in line with the long-term greenhouse gas emission reduction targets under the Paris Agreement; it shall include the following: an outline of envisaged financial resources and mechanisms for measures promoting low-carbon energy.

5. Programme authorities

Reference: point (k) of Article 22(3) and Articles 71 and 84 CPR

Table 13: Programme authorities

Programme authorities	Name of the institution	Contact name	Position	Email
Managing authority	Hessen Ministry of Economy, Energy, Transport and Housing, Unit II 6 “ERDF Managing Authority Hessen, European Regional Aid”	Holger Haubfleisch	Head of the Hessen ERDF Managing Authority	Holger.Haubfleisch@wirtschaft.hessen.de
Audit authority	Hessen Ministry of Economic Affairs, Energy, Transport and Housing, Unit No 7 ‘ERDF Audit Authority, Internal Audit’	Kai Peters	Head of the Hessen ERDF Audit Authority	Kai.Peters@wirtschaft.hessen.de
Body which receives payments from the Commission	Federal Office for Economic Affairs and Export Control (BAFA), Federal Cash Office of Trier	Thomas Meyer		Thomas.Meyer@bafa.bund.de
Body which receives payments from the Commission in case of technical assistance pursuant to Article 36(5) CPR	Federal Office for Economic Affairs and Export Control (BAFA), Federal Cash Office of Trier	Thomas Meyer		Thomas.Meyer@bafa.bund.de

The repartition of the reimbursed amounts for technical assistance pursuant to Article 36(5) CPR if more bodies are identified to receive payments from the Commission

Reference: Article 22(3) CPR

Table 13A: The portion of the percentages set out in point (b) of Article 36(5) CPR that would be reimbursed to the bodies which receive payments from the Commission in case of technical assistance pursuant to Article 36(5) CPR (in percentage points)

6. Partnership

Reference: point (h) of Article 22(3) CPR

The involvement of the relevant partners is a key success factor for ERDF support, in particular in terms of fairness of needs, targeting and effectiveness of the programmes. The Land of Hessen therefore attaches great importance to the partnership principle in the 2021-2027 funding period, as in previous funding periods. Close partnership will be established both in the preparation and in the implementation, monitoring and evaluation of the programme.

Involvement of partners in the preparation and preparation of the programme

The programme was set up under the auspices of the Hessen Ministry of Economy, Energy, Transport and Housing, with the participation of numerous partners inside and outside the Hessen administration. In particular, the economic, social and regional partners have been closely involved in this framework. The IWB-ERDF Monitoring Committee for the period 2014-2020 was used as a partnership body.

The partners were involved in several steps in the preparation of the programme for the new funding period. The Monitoring Committee played a central role in this process, which was kept informed of the new programming and general funding architecture for the 2021-2027 funding period and the state of preparations. As part of the 8th meeting of the Follow-up Committee, a workshop on the 2021-2027 funding period was held on 11 November 2019, during which the members drew up proposals in small groups on the content of the programme along the political objectives of the European Union. The results were then presented in plenary, discussed and taken into account in the further planning process.

At the 10th meeting of the Follow-up Committee on 7 December 2020, the first results of the socio-economic analysis, the key elements of the programme strategy and the funding priorities to be envisaged were then the subject of the agenda. In addition, at the 10th meeting, the outlines of the Hessen Innovation Strategy were presented as the central country framework document for the programme strategy. In its development, a comprehensive stakeholder participation process has been integrated by the relevant department.

At the 11st meeting of the Follow-up Committee on 27 May 2021, a first draft of the programme, together with the expected funding opportunities, was presented and used strategically in view of the key findings of the socio-economic analysis already carried out.

In drawing up the programme for the 2021-2027 funding period, the partners were involved in a wide variety of ways in the concrete design of the planned funding programmes, with the possibility of intensive information and participation by the partners through face-to-face events being significantly hampered by the coronavirus pandemic. However, early foreseeable changes to the new funding period resulting from the requirements of the EU regulations or from the Commission's considerations were intensively discussed with relevant partners and options for simplifying the funding process.

The draft programme drawn up on this basis for submission was last discussed and discussed by the Monitoring Committee on 8 December 2021.

Monitoring Committee

The close partnership during the preparation of the programme will continue once it has been approved, inter alia in the framework of the new Monitoring Committee. In accordance with Article 38, once the programme has been approved, the Hessen ERDF Monitoring Committee is to be set up. With regard to the membership of the Monitoring Committee, continuity is sought for the 2014-2020 funding period. On this basis, membership of a representative or representative of the following authorities and non-governmental organisations shall be envisaged:

- Hessen Ministry of Economy, Energy, Transport and Housing, ERDF Fund Manager of Hessen (Chair)
- Federal Ministry of Economic Affairs and Energy (Federal ERDF Coordination Centre)
- European Commission, Directorate-General for Regional and Urban Policy
- Hessen Ministry of Social Affairs and Integration, ESF Fund Manager of Hessen
- Anti-discrimination unit based in the Hessen Ministry of Social Affairs and Integration
- Hessen Ministry of the Environment, Climate Protection, Agriculture and Consumer Protection, EAFRD Fund Manager of Hessen
- Hessen Ministry of Science and Arts
- Hessen Ministry of Culture
- Hessian State Chancellery, European and International Affairs Department
- Regional councils in Kassel, Gießen and Darmstadt (including as regional environmental authorities)
- Hessischer Landkreistag
- Hessischer Stadttag (Hessischer Stadttag)
- Hessian Association of Cities and Municipalities
- Association of Hessen Chambers of Commerce and Industry
- Association of Chambers of Skilled Crafts of Hessen
- Association of Hessen's Entrepreneurs' Associations
- Hessen Tourism Association
- Hessen-Thüringen district of the German Trade Union Confederation (DGB)
- Federal Employment Agency, Hessen Regional Directorate
- Conference of Hessen University Bureaus
- Hessian universities
- Universities of Applied Sciences
- Hessen Regional Women's Council
- Hessen Nature Conservation Advisory Council
- North Hessen Regional Management
- Regional Management of Mittelhessen
- Hessian Regional Fora
- Regional Association of Metropolitan Regions FrankfurtRheinMain
- Rhine-Neckar Region Association
- Wirtschafts- und Infrastrukturbank Hessen (Intermediate Body)

Other institutions and organisations involved may be involved by the Chair in the work of the Monitoring Committee as a permanent expert or on an ad hoc basis. The members and one alternate shall be appointed by name. The sending institutions are reminded of the desirability of a balanced participation of women and men. If the member and alternate are prevented from attending, they may be replaced. The monitoring committee shall be responsible for the tasks set out in Article 40 of the CPR.

In agreement with the managing authority, the Monitoring Committee will adopt its rules of procedure in accordance with the institutional, legal and financial framework of the Federal Republic of Germany and the Land of Hessen in order to carry out its tasks.

Involvement of partners in the implementation, monitoring and evaluation of the programme

The monitoring committee to be set up shall be entrusted with the tasks arising from the implementation, monitoring and evaluation of the programme, as laid down in Article 40 of the CPR.

As is the case for programming, institutional and organisational continuity in partnership will make use of the existing experience and expertise of the current partners for their respective areas of representation as well as for the implementation and follow-up of the new programme. The representatives of the partners in the monitoring committee should continue to act as multipliers for the distribution of information on ERDF support to their members.

An important role for the successful implementation of the programme lies with the partners in approving the methodology and criteria for the selection of operations. As in the previous funding period, the partners are involved in the development of the selection criteria.

The partners shall be kept informed, through the Monitoring Committee, of the implementation of the programme. An important basis is the continuous transmission of programme progress data by the managing authority in accordance with Article 42 CPR, which provides results on financial and physical implementation based on the indicators set out in the OP. Partners will also be consulted on any problems affecting the successful implementation of the programme. Proposals for programme amendments shall be approved by the Monitoring Committee. Partners will also have the opportunity at any time to express questions about the implementation of the programme and to make recommendations on its further implementation.

In addition, partners will be involved in the context of the accompanying evaluation. The evaluation plan and any amendments must be examined and approved by the Monitoring Committee. This will give the partners the opportunity to make recommendations on how to carry out evaluations or themes to be evaluated. The evaluation results are presented to the partners in the Monitoring Committee and discussed in partnership so that the members of the Monitoring Committee have the opportunity to review the progress made in the implementation of the evaluation plan and the subsequent follow-up of the

conclusions and recommendations made during the evaluation.

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7. Communication and visibility

Reference: point (j) of Article 22(3) CPR

The ERDF managing authority is pursuing a combination of various communicative measures in order to increase the visibility of the EU, to provide information on EU funding in Hessen and to ensure transparency. To this end, an action plan will be developed and adapted as necessary. The BGA is involved and continuously informed in this process. The communication activities will be the subject of an evaluation.

Objectives

The actions have two main objectives. Objective 1: The funding offers are described in a clear and comprehensible manner, and potential applicants are informed according to the target group. Objective 2: A large proportion of the population will be informed about the achievements and achievements of EU funding. In order to achieve these objectives, a network of multipliers (e.g. media, press agencies, partners and specialist departments) will be developed and networked to generate multiplicative effects. The other EU funds in Hessen should also be involved on an ad hoc basis. The actions will be geared to the development stages of the programme. At the beginning of the funding period, a wide range of information is initially provided; further progress in the programme will increasingly include the concrete project level and achievements. For people with disabilities, information is provided, for example by means of easy-to-language services.

Target groups

Communication activities will be targeted at different target groups.

First objective:

- Potential applicants such as SMEs, livelihoods and universities
- Multipliers
- Media (including social media)
- Economic and social partners
- Departments and subordinate authorities involved
- Second objective:
- Multipliers
- a general public
- Media (including social media)
- Economic and social partners

Channels of communication

A multimedia communication approach will be taken to reach citizens from different audiences through different channels in analogue and digital formats. Projects of strategic importance will be communicated,

e.g. through events.

Communication on funding offers

Awareness raising, information and advice for promotion is central to communication. This is done in particular by the intermediate body via a website and specific support advice.

Events

Primary target groups: “potential applicants”, “multipliers”, “public” and “economic and social partners”. At regular intervals, high-profile events will be held to inform about ERDF funding in Hessen. The presence of the ERDF will also be sought at general public and thematic events.

Printed matter (also available digitally)

Primary target groups: ‘potential applicant’, ‘public’, ‘media’, ‘multiplier’. Information brochures on the content, the state of implementation and background information on the ERDF will be published at regular intervals.

Internet

All target groups: Both up-to-date and basic information on the funding programme should be made available via a website for the ERDF in Hessen. In addition, the social media channels of the HMWEVW are also to be used for the ERDF, as appropriate. There shall be a link to the Member State’s single website portal.

Press, TV, radio

Primary target groups: ‘Media’, ‘public’, ‘potential applicant’ and ‘multipliers’. Press publications are mainly planned on an ad hoc basis. In particular, the HMWEVW and the other bodies involved in the funding will receive appropriate information on the press and, where appropriate, on radio and television during appropriate events.

Budget and communication officers

The planned budget of the communication activities for the entire eligibility period amounts to 8 % of the Technical Assistance budget. This appropriation is intended to be adapted to the needs of the implementation of the programme and to be based on the thematic priorities of the programme.

The function of communication officer(s) shall be transferred to an entity within the managing authority.

Monitoring and evaluation indicators

- Number of accesses to the website
- Number of participants in information events organised by the ERDF Hessen
- Publication of information material and promotional brochures

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8. Use of unit costs, lump sums, flat rates and financing not linked to costs

Reference: Articles 94 and 95 CPR

Table 14: Use of unit costs, lump sums, flat rates and financing not linked to costs

Intended use of Articles 94 and 95 CPR	Yes	No
From the adoption, the programme will make use of reimbursement of the Union contribution based on unit costs, lump sums and flat rates under the priority according to Article 94 CPR	<input type="checkbox"/>	<input checked="" type="checkbox"/>
From the adoption, the programme will make use of reimbursement of the Union contribution based on financing not linked to costs according to Article 95 CPR	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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Appendix 1: Union contribution based on unit costs, lump sums and flat rates

A. Summary of the main elements

Priority	Fund	Specific objective	Category of region	Estimated proportion of the total financial allocation within the priority to which the SCO will be applied in %	Type(s) of operation covered		Indicator triggering reimbursement		Unit of measurement for the indicator triggering reimbursement	Type of SCO (standard scale of unit costs, lump sums or flat rates)	Amount (in EUR) or percentage (in case of flat rates) of the SCO
					Code(1)	Description	Code(2)	Description			

(1) This refers to the code for the intervention field dimension in Table 1 of Annex I to the CPR and the Annex IV to the EMFAF regulation

(2) This refers to the code of a common indicator, if applicable

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Appendix 1: Union contribution based on unit costs, lump sums and flat rates

B. Details by type of operation

C. Calculation of the standard scale of unit costs, lump sums or flat rates

1. Source of data used to calculate the standard scale of unit costs, lump sums or flat rates (who produced, collected and recorded the data, where the data is stored, cut-off dates, validation, etc.)

2. Please specify why the proposed method and calculation based on Article 94(2) CPR is relevant to the type of operation.

3. Please specify how the calculations were made, in particular including any assumptions made in terms of quality or quantities. Where relevant, statistical evidence and benchmarks should be used and, if requested, provided in a format that is usable by the Commission.

4. Please explain how you have ensured that only eligible expenditure was included in the calculation of the standard scale of unit cost, lump sum or flat rate.

5. Assessment of the audit authority(ies) of the calculation methodology and amounts and the arrangements to ensure the verification, quality, collection and storage of data.

Appendix 2: Union contribution based on financing not linked to costs

A. Summary of the main elements

Priority	Fund	Specific objective	Category of region	The amount covered by the financing not linked to cost	Type(s) of operation covered		Conditions to be fulfilled/results to be achieved triggering reimbursement by the Commission	Indicator		Unit of measurement for the conditions to be fulfilled/results to be achieved triggering reimbursement by the Commission	Envisaged type of reimbursement method used to reimburse the beneficiary(ies)
					Code (1)	Description		Code (2)	Description		

(1) This refers to the code for the intervention field dimension in Table 1 of Annex I to the CPR and the Annex IV to the EMFAR regulation

(2) This refers to the code of a common indicator, if applicable

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Appendix 3: List of planned operations of strategic importance with a timetable

Article 22(3) CPR

Increasing the use of waste heat from data centres in the Rhine-Main area

- By 2024, 1 data centre with ERDF support will deliver its waste heat to surrounding residential areas, commercial objects or to a heat network.
- By 2027, five data centres supported by the ERDF will deliver their waste heat to surrounding residential areas, commercial objects or to a heat network.

Greenhouse gas emissions savings from process and organisational innovation in Hessen's small and medium-sized enterprises.

- 2024: The programme has been successfully launched and the first wave of projects is in the process of being implemented.
- 2029: Savings of at least 24 000 tonnes of CO₂ equivalent per year were achieved in the supported SMEs.

Frankfurt vocational training campus

Building a common, climate-neutral and sustainable place for dual training

- 2nd quarter 2022: Setting sustainability and energy efficiency standards for the common educational location
- 4th quarter 2022: Inclusion of the developed methodological/didactic concepts in the planning of spatial concepts (Reference to A, third indent)
- 1st quarter 2023: Completion of spatial planning (based on A indent 4)
- 3rd quarter 2023: Building permit
- 4th quarter 2023: Demolition of existing buildings and soil remediation
- Q3 2024: Base stone laying
- Q1 2026: Indicative fixed
- 4th quarter 2027: Inauguration of the building
- Q1-3 2028: Testing the collaboration with the new methodological and didactical concepts and the common operator model
- 4th quarter 2028: At the beginning of the 2028/2029 'real company' training year of the new educational establishment

DOCUMENTS

Document title	Document type	Document date	Local reference	Commission reference	Files	Sent date	Sent by
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