FINLAND'S RECOVERY AND RESILIENCE JOURNEY: HELSINKI METROPOLITAN AREA ON THE PATH TO GREEN, DIGITAL AND RESILIENT TRANSFORMATION*

Taina Tukiainen

Research Director, Professor of Sustainable Leadership, Vaasa University

1. Introduction to Finland's national recovery and resilience plan

In this study, we explore the involvement of the Helsinki Metropolitan Area, comprising Helsinki, Espoo, Vantaa and Kauniainen, in Finland's recovery and resilience process, its strategic plan and the national funding calls, and we assess the influence of the Helsinki Metropolitan Area on the urban recovery landscape in Finland. To offer a comprehensive perspective, we will commence by outlining the challenges, process and plan related to recovery and resilience in Finland.

Based on the OECD¹ outlook, Finland faces various economic challenges, such as the need to raise productivity and competitiveness, improve employment rates, address structural unemployment, and better align skills with market demands. To enhance productivity and competitiveness, it is important to prioritise research, innovation, education and skills, digitalisation and green transformation. Furthermore, strengthening health care access, particularly through e-health solutions, is essential for bolstering social resilience.

Finland's National Recovery and Resilience Plan (NRRP) for 2021-2026 initially amounted to €2.085bn, but it was later revised down to €1.822bn (-13%) in June 2022.² The NRRP utilises grants rather than loans from the Recovery and Resilience Facility (RRF). The original NRRP represents 0.9% of Finland's GDP in 2019 and 0.3% of the entire RRF.³ On September 1, 2023, Finland updated its NRRP and secured a REPowerEU chapter on energy measures worth €127m from the European Commission.

Based on the European Commission assessment, Finland has allocated 50.4% of its NRRP to the green transition to achieve carbon neutrality by 2035, while digital expenditure constitutes 27.1% of the overall resources. This allocation surpasses the RRF regulation's minimum requirements of 37% for the green transition and 20% for digital transformation. The Sustainable Growth Programme for Finland is funded by the Next Generation EU recovery instrument. Finland received its first pre-financing payment of approximately €271m (13% of the plan) on January 21, 2022, with the remaining payments contingent on plan implementation progress.

* The Helsinki Metropolitan Area is a collaborative urban and spatial planning and negotiating system among four metropolitan cities comprising Helsinki, Espoo, Vantaa and Kauniainen

- OECD (2023), "Finland", in OECD Economic Outlook, Volume 2023 Issue 1, OECD Publishing, Paris,https://doi.org/10.1787/b40eafe8-en.
- 2. https://www.europarl.europa.eu/ RegData/etudes/BRIE/2022/729279/ EPRS_BRI(2022)729279_EN.pdf
- 3. https://www.europarl.europa.eu/ RegData/etudes/BRIE/2021/696209/ EPRS_BRI(2021)696209_EN.pdf

2. Finland's governmental national recovery and resilience process

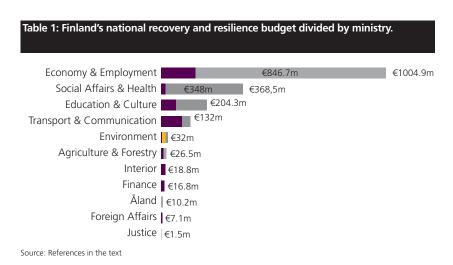
This study examines the role of partners in designing and implementing Finland's NRRP. It highlights how this framework enabled partner participation in shaping the plan.

The administrative framework for implementing the Finnish recovery and resilience plan was successfully constructed and operationalised relatively quickly and with modest resources. The administrative framework is complex due to the involvement of numerous actors.

The process involved two rounds of consultation during the governmental proposal drafting and parliamentary phases. Amid the COVID-19 emergency measures, Finland engaged in informal consultations with all partners, demonstrating the process's adaptability during crises.

From September 2020 to April 2021, the design and implementation phase of the NRRP included extensive stakeholder involvement through consultations with partners, businesses, industry, regions, municipalities, academic institutions, and NGOs. During the parliamentary process in December 2020, dedicated consultations with partners revolved around the government report concerning the Sustainable Growth Program for Finland.

Ultimately, these consultations tried to ensure partner engagement in designing and implementing Finland's NRRP. However, the management of funding from the Finnish recovery and resilience facility involves a broad array of government authorities, making it very complex. The plan, while relatively small compared to other countries, reflects a compromise shaped by consultations⁴ and the budget of €1,822,570,000 was divided among different ministries for 2021-2026 as follows:



After receiving parliamentary approval for the Recovery and Resilience Plan in Finland, various avenues are available for accessing national funding, such as:

Ministerial calls for applications⁵ and sectorial allocations/announcements:⁶ Different ministries initiated calls for applications tailored to specific policy

Finland has allocated 50.4% of its NRRP to the green transition to achieve carbon neutrality by 2035, while digital expenditure constitutes 27.1% of the overall resources.

- **4.** https://vm.fi/en/finlands-recovery-and-resilience-plan
- 5. https://vm.fi/rahoituksen-hakeminen
- **6.** https://tem.fi/kestavan-kasvun-ohjel-ma-tyo-ja-elinkeinoministerion-hal-linnonalalla

goals and challenges across various sectors, including health care, economic development, employment, innovation, and sustainability. Also, some sector-specific announcements were made by allocating funds to industries, sectors or thematic domains.

Large-scale strategic projects:^{7 *} Finland's NRRP places great importance on ambitious projects capable of driving transformative changes in the economy and society. These projects align with national priorities such as green and digital transitions.

Channels to access the funds, were available through official websites⁹ and EC RRF portal.¹⁰ The European Commission's RRF portal acts as a resource for understanding EU funding and the specific requirements for accessing these funds. It provides insights and understanding into Finland's allocation under the RRF, revealing national priorities. Nevertheless, the administration process involves the participation of various government authorities and adds complexity to the overall process.

Finland's green transformation involves projects for emission reduction, clean energy, circular economy, and nature-based initiatives. The digital transformation focuses on infrastructure, including 5G and data management and digitalisation in education, health care, and public services.

Finland's Next Generation EU-funded recovery plan, particularly the National Recovery and Resilience Plan faced challenges. Criticised for prioritising existing government needs, tight schedules led to fragmented fund allocation, hindering municipality awareness. The temporary funding nature limited new models, and legislative constraints reduced municipalities' influence in the process.

In summary, Finland's NRRP highlights a commitment to a sustainable and technologically advanced recovery, strategically centralised by the government. The plan provides diverse funding opportunities across sectors, empowering stakeholders to actively contribute to the nation's economic recovery and increased resilience.

Finland's urban recovery: the role of the Helsinki Metropolitan Area (Helsinki, Espoo, and Vantaa)

Throughout our study, we have underscored the pivotal role of the Helsinki Metropolitan Area – comprising Helsinki, Espoo, Vantaa, and Kauniainen – in Finland. This region, home to 1.5 million people, accounts for close to one-third of the country's population. Additionally, with advanced industries and a substantial impact on GDP, the Helsinki Metropolitan Area plays a crucial role in the nation's development. However, in this process, it is not specifically considered.

Let us begin by exploring the City of Helsinki's participation in the NRRP process. It was spearheaded by a collaborative team comprising members from the Helsinki Executive Office, the national advocacy team, and the economic development sector, in conjunction with various city divisions and the energy company Helen. Additionally, crucial support was obtained from a consultancy firm.

Finland's Next
Generation EU-funded
recovery plan,
particularly the
National Recovery and
Resilience Plan faced
challenges. Criticised
for prioritising existing
government needs,
tight schedules led
to fragmented fund
allocation, hindering
municipality awareness.

- 7. https://tem.fi/kestavan-kasvun-ohjel-ma-tyo-ja-elinkeinoministerion-hal-linnonalalla
- **8.** https://www.businessfinland. fi/kampanjasivut/suomen-kestavan-kasvun-ohjelma
- **9.** https://www.businessfinland. fi/kampanjasivut/suomen-kestavan-kasvun-ohjelma
- https://commission.europa. eu/business-economy-euro/ economic-recovery/recovery-and-resilience-facility_en

During the early phases of the NRRP's design, there were promising signals that cities might be eligible for direct funding from the NRRP. Responding proactively, the City of Helsinki meticulously crafted a comprehensive project portfolio of sustainable growth via digital and green transition, energy infrastructures, health care and sustainable travel and tourism as follows:

- 1.Digitalisation: Enhancing social and health care digitalisation, expanding 5G networks, fostering data and AI development, and promoting wellbeing.
- 2.Clean Energy and Energy Efficiency: Improving energy production, especially through Helen, utilising geothermal energy, and enhancing the energy efficiency of buildings.
- 3. Sustainable Smart Travelling: Shaping a sustainable future for transportation.
- 4. Tourism: Introducing the world's first carbon-negative travel experience.

The City of Helsinki's project proposal closely mirrors Finland's urban recovery plan. The national framework was set by the government and various ministries. The consultations were strategically centralised and executed within tight timelines. The City of Helsinki experienced a shortage of capacity and faced challenges in responding promptly to RRF calls within a tight timeframe. Additionally, there was a sense of disappointment as the initial plans were not fully embraced.

As Inga Nyholm, director of policy planning for the City of Helsinki, highlights, actors in the Helsinki Metropolitan Area have successfully secured funding from the Recovery and Resilience Facility, impacting the sustainability and economy of the region. The City of Helsinki has diligently pursued its comprehensive project portfolio, which includes projects focused on advancing digitalisation in social and health care, promoting the development of data and AI, and improving building energy efficiency, even with limited funding. Helsinki's experiences from the RRF process emphasise the pivotal role of cities in addressing global challenges and shaping a prosperous urban future. Enhancing opportunities for cities to contribute to EU policies would be mutually beneficial, fostering responsible use of EU funds and advancing the realisation of the EU's long-term objectives.

In summary, cities faced shortage of capacity and time pressure to respond to the fragmented plan with no substantial funding.

Despite no formal city-national partnership, the Helsinki Metropolitan Area – Helsinki, Espoo, Vantaa and Kauniainen – proactively prepared an extensive project portfolio spanning energy, sustainability, digitalisation, and green initiatives, when the possibility of RRF funding emerged during the national plan's design. The Metropolitan Area's capacity to influence policy is apparent even in the absence of a formal process.

One of the significant aspects in this recovery journey lies in its adaptability to geopolitical events, particularly concerning energy initiatives. The commitment to reduce dependence on Russian fossil fuels presented a unique opportunity for Finland to reshape its energy landscape in real time. The most substantial impact and benefits of the Recovery and Resilience Plan were observed in renewable energy projects and Business Finland's "Growth Engine" funding, which had a particularly significant impact on the energy and digital sectors.

The projects initiated through RRF funding, most of them still ongoing, have a profound impact on sustainability, the economy, and public services in Helsinki, Espoo, Vantaa and Kauniainen. Notably, investments in clean energy production, energy efficiency, and innovative solutions will propel the Helsinki Metropolitan Area towards a greener and more sustainable future by promoting green energy investments, digitalisation, improving employment rates, and enhancing health and social services. Despite the lack of a formal strategic partnership between cities and the national plan, the Helsinki Metropolitan Area has played an indispensable role in supporting and promoting key governmental initiatives.

By spring 2023, Helsinki, Espoo, Vantaa and Kauniainen had secured significant funding from the RRF in sectors such as energy and climate, social, skills and welfare and support for businesses, details of which can be found below.

Energy and climate

- Helen energy infrastructure owned by the City of Helsinki: RRF grant decisions have boosted energy infrastructure projects and new energy technology projects, aligning with Finland's carbon neutrality goals. The investments funded under RRF support the energy company Helen's mission to achieve carbon-neutral energy production by 2030.
- Helen Eiranranta heat pump plant owned by the City of Helsinki: A key project involving the construction of a heating and cooling plant in southern Helsinki, contributing to carbon-neutral district heating and cooling.
- Salmisaari air-to-water heating and cooling plant in Helsinki: The development of an industrial-scale air-to-water heating and cooling plant in Salmisaari to produce renewable district heat and cooling.
- Lohja solar park: Investment in a large-scale land-based solar park in Kirkniemi, Lohja, designed to produce renewable domestic electricity and support Finland's renewable energy goals.
- Fingrid Oyj: The new Hepokorpi power station in Espoo, which is a prerequisite for connecting the data centre to the main grid and thus for the large-scale utilisation of the waste heat of that centre. The utilisable waste heat would replace the use of fossil fuels in the district heating networks operating in the Espoo, Kauniainen and Kirkkonummi areas. In addition, the new substation would also enable the transition of other energy consumption in Espoo to clean electricity.
- Fortum Power and Heat: The heat recovery project in Hepokorpi, Espoo, where the waste heat recovered from the data centre being built will replace the use of natural gas and wood-based fuels in the district heating area of Espoo. The project replaces approximately 557GWh of energy production.
- Fortum Power and Heat Oy: At Kolabacken, Kirkkonummi, the waste heat recovered from the data centre will replace the use of natural gas and wood-based fuels in the district heating area of Espoo and Kirkkonummi.
- Elisa decentralised virtual power plant or the construction of a driven virtual power plant and the development of the virtual power plant's control system. The virtual power plant would form about 2,100-2,200 mobile network access points from backup power systems located in several different locations.
- Vantaa Energy renewable methane production facility. The plant would have an output of about 10MW and would produce about 80GWh of renewable

The City of Helsinki experienced a shortage of capacity and faced challenges in responding promptly to RRF calls within a tight timeframe. Additionally, there was a sense of disappointment as the initial plans were not fully embraced.

methane per year. Renewable hydrogen produced at the plant and carbon dioxide, which is separated from the flue gases of the hazardous waste processing plant, would be used as raw materials for methane.

Social services, universities and welfare

- For young people low-threshold Ohjaamo services for cities: Funding allocated for 2021-2024 to support vital services in Helsinki, Espoo, Vantaa and Kauniainen.
- Social and health care sector reform: Funding allocated to address health care and social welfare reforms, improve accessibility to services, and clear backlogs resulting from the COVID-19 pandemic for Helsinki, Espoo, Vantaa and Kauniainen.
- Support for all the universities registered in the Helsinki Metropolitan Area.

Support for business

 Business Finland: €352m for green and digital transformation for the Helsinki Metropolitan Area for companies via Growth Engine and other instruments registered in the Helsinki Metropolitan Area.¹¹

To date, RRF funds amounting to approximately €500m have been invested across sectors such as green and digital transformation, health care and education. These investments have had a significant impact on both the Helsinki Metropolitan Area and Finland's wider recovery efforts. Notably, over €352m has been allocated to companies' green and digital transformation, and around €90.6m is specifically designated for direct energy investments in the Helsinki Metropolitan Area. This represents 45% of the Ministry of Economy and Employment's total allocation, providing substantial support to the area. The Helsinki Metropolitan area, where almost a third of Finland's population lives and which produces a third of GDP through its advanced industries, received 45% of the total allocation from the Finnish stimulus money directed towards green and digital change

Indeed, a considerable portion of RRF investments in Finland is spearheaded by companies in the energy sector, overshadowing the role of city administration services. Notably, many of these beneficiary companies in the energy sector also operate as municipal utility entities, serving as crucial intermediaries between the public and private sectors. Their dual role plays a pivotal part in Finland's progressive green transition, positioning them as significant contributors to the transformation between these sectors and significantly impacting the nation's ongoing development. Anticipating similar trends in other countries in the coming years further highlights the influential role of these municipal utility entities.

The most significant advantage of RRF funds stems from collaborative efforts and investments that aid cities in achieving their carbon neutrality targets by 2030, transforming energy and infrastructure into environmentally friendly and clean assets, and directly impacting the climate roadmap. City governance, which involves working in cooperation with businesses, communities, academia, research institutions and citizens, is of paramount importance. This is about a new way of coordinating all the city's administrations around the systems changes that have to take place in the climate transition. It means moving away from a silo mentality to a holistic approach in city

¹¹ https://tietopankki.businessfinland.fi/anonymous/ extensions/MyonnettyRahoitusRRF/ MyonnettyRahoitusRRF.html

administration, and working alongside the business sector, academia and civil society to ensure the broad involvement of everyone who is empowered and required in climate efforts.¹²

According to Pekka Timonen, mayor of the city of Vantaa, the city's rapid growth spanning over 50 years has generated a need for innovative solutions. Vantaa has fostered innovation through collaborations with international companies, organisations, universities and residents, earning the European Rising Innovative City award in 2021. The city is committed to achieving ambitious climate goals, with Vantaa Energy currently planning an advanced thermal storage facility to store energy from sources like solar and wind power and waste heat. Furthermore, Vantaa actively participates in circular economy initiatives, including the recycling of concrete and other building materials. The European Union's Recovery and Resilience Facility has played a significant role in supporting companies and expertise in Vantaa.

Any positive development or transformation that happens within the city's boundaries serves the city's best interests. This holistic approach, combining investments and coordinated action, is instrumental in driving Finland's and the city's climate transition.

As stated by Jukka Mäkelä, mayor of Espoo, companies based in Espoo play a pioneering role by locally piloting innovative energy, infrastructure and other solutions before expanding them globally. This strategy positions Espoo as a key player and aids in achieving carbon neutrality by 2030. The European Union's Recovery and Resilience Facility has played a crucial role in supporting these companies and their expertise. Effective solutions, according to Mäkelä, emerge through collaboration among the public and private sectors, cities, universities and businesses. In this collaborative effort, Espoo contributes to Finland's global competitiveness and exports by fostering intelligent, sustainable and emissions-free urban development and energy solutions. This not only reduces carbon footprints but also enhances global carbon handprints.

In conclusion, our study has provided a narrative of the Helsinki Metropolitan Area's contributions to the national recovery plan and the utilisation of RRF funds. It showcases the proactive role, adaptability in changing geopolitical scenarios and its commitment to advancing Finland's urban recovery efforts. The Helsinki Metropolitan Area's story is emblematic of the broader journey Finland is undertaking in the context of the EU green and digital transition – a journey marked by innovation, sustainability and resilience.

4. Best practices and lessons learnt

Finland's nationwide gains: RRF funding as a catalyst for green, digital and resilient transformation

In the context of the broader European Recovery and Resilience Facility, the Finnish case, notably its Helsinki Metropolitan Area, stands out due to its smaller allocation of RRF funds. While southern European countries like Spain (€69.5bn), Italy (€68.9bn), and France (€39.4bn) initially received substantial RRF grants, the Nordic countries, including

As stated by Jukka Mäkelä, mayor of Espoo, companies based in Espoo play a pioneering role by locally piloting innovative energy, infrastructure and other solutions before expanding them globally.

https://en.viablecities.se/publikationer

Denmark (€1.6bn), Sweden (€3.3bn) and Finland (€1.8bn) are finally receiving more modest allocations. Finland distinguishes itself with a strong focus on resilience, innovation and green, digital transformation, leveraging its limited resources effectively.

In the Nordic countries, despite their relatively modest RRF budgets, a common thread unites them in their shared commitment to climate objectives in their RRF plans. However, each nation faces unique economic circumstances based on the OECD economic outlook, which shape its journey.

In Finland, the situation is marked by the shadow of Russia's aggression against Ukraine, which has amplified the need to expedite the shift away from fossil energy sources. The Finnish economy grapples with pressing challenges, including high inflation, tightened monetary conditions and disruptions in energy supplies. While Finland is progressing towards meeting its greenhouse gas emissions abatement targets, there are opportunities to lower abatement costs, such as through the implementation of a carbon tax. Furthermore, promoting innovation in productivity growth, increasing investments in research and development, and ensuring a skilled workforce are all critical factors for Finland's continued success.

The funding from the Recovery and Resilience Facility has unquestionably acted as a catalyst for Finland's shift towards a greener and more digital future, enhancing economic resilience. Nevertheless, it is crucial to recognise that these advantages are not confined to Finland alone. The Helsinki Metropolitan Area has benefited notably from the strategic allocation of RRF funds, particularly in the energy sector and for various companies. Despite this positive progress, there is still untapped potential for even more substantial transformation.

Examining how the Helsinki Metropolitan Area's investments align with EU priorities and the localisation of the European Green Deal reveals a commitment to sustainability and climate action that extends beyond national boundaries. In essence, the Finnish approach showcases how smaller budgets can be used strategically to drive innovation and support European objectives, emphasising the value of targeted investments in achieving long-term resilience and sustainability.

Finland's allocation of RRF funding, in comparison to its national economic scale, might be characterised as relatively modest. Yet it is essential to recognise that effectiveness does not always correlate directly with the size of the investment. In Finland's case, the RRF has been a small but effective instrument. This effectiveness is not limited to the national level; it has trickled down to the Helsinki Metropolitan Area, where the impact of these funds has been particularly pronounced. However, it must be remembered that the final results will only be available after 2026.

Direct support for cities marginal - or virtually absent

The new city governance model and business funding initiatives have played a pivotal role in the Helsinki Metropolitan Area's transformation. However, one crucial element that remains unaddressed is the need for more direct support to cities and regions.

The impact of the pandemic on local economies and community resilience has been profound, highlighting the urgency of allocating a more substantial portion of the Recovery and Resilience Facility funding directly to cities and regions. This approach could serve as a lifeline, reinvigorating local economies and fortifying community resilience in the face of ongoing challenges.

By bolstering local economies and enhancing community resilience, the Helsinki Metropolitan Area can further solidify its position as a beacon of sustainable urban development and recovery. This missing piece of the puzzle could make a significant difference in ensuring that the benefits of the RRF funding reach every corner of the region and contribute to a more resilient, inclusive and prosperous future.

One crucial element that remains unaddressed is the need for more direct support to cities and regions.

Business Finland impactful "Growth Engine" instrument and direct clean energy funding

A notable feature of Finland's RRF approach has been the strategic distribution of funds through Business Finland's "Growth Engine" and energy sector investments. These initiatives have had a substantial impact, not only on a national scale but also for the Helsinki metropolitan cities. To date, investments totalling around €445m from RRF funds, covering green and digital transformation, which equates to 45% of the Ministry of Economy and Employment's total, have benefitted the Metropolitan Area immensely. The results have been impactful, particularly for businesses, which in turn have contributed to the overall prosperity of cities and regions within the Helsinki Metropolitan Area.

City governance for carbon neutrality by 2030

The substantial investments in energy and infrastructure have contributed significantly towards achievement of ambitious climate-neutral targets by 2030. This coordinated approach, supported by these investments, is essential for achieving climate goals and advancing sustainability in cities, ultimately contributing to a greener, more resilient future. The benefits of this approach are felt not only in the cities and region but also resonate on a national and global scale as a model for effective urban sustainability and resilience.

Investing in skills, education and culture

The allocation of RRF funding to universities and educational institutions in the Helsinki Metropolitan Area has been instrumental in enhancing their expertise and research capabilities. This investment aligns with the Helsinki Metropolitan Area's commitment to ensuring excellence and skill development. However, it is crucial to emphasise that RRF funding supplements, rather than substitutes, ongoing research and innovation funding in the Helsinki Metropolitan Area, highlighting the need for sustained support for skills and education. This approach will contribute to the continued progress in education and culture, further reinforcing its position as a hub of knowledge and creativity.

Navigating Finland's recovery landscape: RRF Impact on the Helsinki Metropolitan Area and lessons for future resilience

As the RRF funding takes the stage in the transformation of Finland, it is essential to emphasise the tangible impact these major investments have on the Helsinki Metropolitan Area. A comprehensive evaluation can be conducted after 2026 to assess the results and impacts.

In conclusion, the audit¹³ reveals that the EU recovery and recovery support instrument's plan encompasses 131 intermediate goals or targets and 55 measures across 31 authorities during 2021-2026. Common indicators, however, only capture a fraction of Finland's national objectives. The monitoring and reporting structure for achieving national goals lack the governance model needed to comprehensively assess the effectiveness of the Sustainable Growth Programme and the Recovery and Revitalisation Plan across all considerations. As a result, the overall implementation of the plan cannot be thoroughly monitored and verified to determine its accomplishments. Furthermore, managing project performance financed by support authorities faces challenges, particularly in defining project goals and indicators, planning implementation and verifying effectiveness.

Finland's implementation of the Next Generation EU-funded recovery plan encountered challenges. The municipalities were disappointed because they get marginal or not even direct funding for those purposes. The tight schedule led to fragmented fund allocation, hindering municipality awareness, and the temporary funding nature limited new models. Legislation constraints framed the process, giving municipalities limited influence. Key lessons highlight the need to adapt the plan to the national context and involve all sectors, while recommendations stress clear responsibilities and sector participation phases.

Finland's experience showcases its potential to steer especially green and digital transformation. Despite its relatively modest scale, the RRF has proven to be an important instrument for the green and digital transformation. Nevertheless, there is room for further improvement, particularly clear divisions of responsibilities, breaking government branch silos, involving all sectors of society and avoiding an overly government-led approach.

Recommendations for effective delivery include identifying phases for sector participation, understanding legislative limitations, and ensuring traceability of the recovery process's effectiveness by redirecting larger funds towards businesses and local communities. This approach could unlock even greater potential and pave the way for a more prosperous and resilient future for the Helsinki Metropolitan Area and the entire nation of Finland

13. https://www.vtv.fi/ app/uploads/2023/11/ VTV-Tarkastus-14-2023-Elpymisja-palautumissuunnitelmantoimeenpano.pdf