

Contents

1. Introduction: Building a sustainable future as a starting point for decision-making

2. Finnish know-how to be the best in the world

Research, development and innovation funding to at least four percent of gross domestic product

The continuity of higher education and research must be secured

Increasing mathematical and natural science competence

Getting the start of your career right
We need international professionals

3. Bioeconomy and circular economy are the keys to Finland's success

The growth potential of bioeconomy must be utilised

The circular economy is the new normal

Sustainable allocation of the research, development and innovation funding

Security of supply is the key

Wood construction must be promoted with determination

4. Sustainable forestry and environmental management are vital

Forest carbon stocks to grow

Well-being from forest

Development cooperation and service export

5. Protecting biodiversity and curbing climate change

High-quality environmental protection and management of natural resources require sufficient funding for research and monitoring

The resources of the environmental administration must be secured

Taking care of the waters and seas

Effective nature management measures should be promoted on a wide scale

Getting rid off fossil fuels!

Ecological compensation procedures are a good option

6. Health care based on high-level research

National level cooperation projects to be completed

The research funding of university hospitals must be secured

7. A fairer working life

The knowledge account as a solution for continuous learning

A more family-friendly working life

The ability to work and study needs to be supported

The right of employees to get their issues forward

Remote work rules in order

1. Introduction: Building a sustainable future as a starting point for decision-making

Professionals in the natural, environmental and forestry sciences play the key role when looking for solutions to the challenges affecting Finland and the whole world. This was true in 2018 when Loimu's Board of Delegates approved this Programme for the first time, and it is equally true now when the Programme is being updated in 2022, when we are facing more challenges and crises than for a long time. COVID-19 became a pandemic in 2020, and although the situation has been brought under control, the pandemic is not over yet. Finland's security political environment changed for good when Russia attacked Ukraine in February 2022. This had and still has a great impact on Finnish exports and security of supply. In addition to war and pandemic, our lives are also significantly affected by climate change and biodiversity loss. Despite the new crises, climate change must be curbed and biodiversity loss stopped as quickly as possible.

In addition to experts and scientific knowledge, finding solutions requires sufficient resources. The goal of raising research, development and innovation funding to four percent of gross domestic product is widely shared among parties, business life and civil society. In 2021, the parliamentary RDI Working Group published its proposal to achieve this goal. Loimu's goal is for the Parliament to immediately decide, in accordance with the RDI Working Group's proposal, on introducing a legislative act on the financing of research and development and drawing up a statutory plan for R&D funding that would extend beyond the spending limits period. Finland has world-class expertise in creating climate-wise and resource-saving solutions. Therefore, research, development and innovation investments should be directed to projects that promote biodiversity, low carbon solutions and the use of renewable natural resources.

It is very important that decisions regarding Finnish environmental protection and the management and use of natural resources are based on research-based information. This is only possible if the decision-makers have at their disposal long research-based time-series on the state of forests, waters, seas, biota, soil and climate. In the spring of 2022, we analysed the development of research work years and funding in

the fields of natural, environmental and forestry sciences over the past decades, and the results are worrying. In particular, research carried out in the State research institutes has decreased significantly due to funding cuts. We need to be able to reverse this direction so that responding to the crises plaguing Finland and the world would be more than a mention in the speeches in honour.

Mikko Salo

Executive Director of Loimu

28 September 2022

2. Finnish know-how to be the best in the world

The Union of Professionals in Natural, Environmental and Forestry Sciences Loimu ry brings together around 15,000 highly educated experts. Loimu's members include biologists, life scientists, physicists, geologists, chemists, limnologists, geographers, mathematicians, meteorologists, foresters, statisticians, environmental scientists – and many others. Loimu members work in expert and management positions in many different fields and sectors.

Finland has ambitious goals for founding our success on know-how as well as on the sustainable management and use of natural resources. These goals will be realised once we have sufficient top-expertise and resources are used reasonably. Our long-term education and innovation policy has been one of our most significant success factors. Top talents will only enter the labour market if the education in our universities creates them. Only with a high-level education system will we be able to maintain our position as one of the most prosperous and stable societies in the world.

Finland should invest more than currently in high-level education and in promoting the innovativeness that emerges from it. Our future prospects will deteriorate if the State's actions weaken the operating conditions of higher education institutions or the funding base for research, development and innovation activities.

2.1 Research, development and innovation funding to at least four percent of gross domestic product

The goal of raising RDI funding to four percent of the gross domestic product is widely shared among parties, business life and civil society. In 2021, the parliamentary RDI Working Group published its proposal to achieve this goal. Loimu's goal is for the Parliament to immediately decide, in accordance with the RDI Working Group's proposal, on introducing a legislative act on the financing of research and development and drawing up a statutory plan for R&D funding that would extend beyond the spending limits period. In the R&D funding plan, a significant share of the funding must also be directed to sectors that build a sustainable future.

2.2 The continuity of higher education and research must be secured

A stable funding base for high-level teaching and research is of paramount importance for the development of Finnish research, development and innovation activities. The funding of universities and universities of applied sciences must be significantly strengthened, so that we can succeed in international competition. Ways include increasing direct State funding as well as the one-time capitalisation of higher education institutions with at least one billion euros. The funding of higher education institutions must be made more

predictable and clearer than at present by increasing the importance of basic funding in the funding model of higher education institutions.

In addition to basic university research, applied research plays a key role in solving global problems. The research carried out in the State research institutes has decreased over the last decade, and this development must be reversed. The funding of research institutes must be raised to a sufficient level.

2.3 Increasing mathematical and natural science competence

Scientific literacy and mathematical skills measured at the end of comprehensive school have deteriorated, which can be seen, for example, in the PISA survey of OECD countries. However, there is an increasing need for these skills. Finland's national LUMA strategy approved at the end of 2021 is a good start for strengthening competence in natural sciences and mathematics, but more practical measures are needed. The development of mathematical and natural science competence requires planned investments in the entire educational path starting from early childhood education. Girls, in particular, should be encouraged to pursue a career in the natural sciences. Science education must be strengthened by securing the continuity of funding for the LUMA centres.

In the university selections, it is good to keep the emphasis on mathematical skills in balance with language skills and understanding of social sciences and humanities. Professionals in natural sciences also need these skills to succeed.

2.4 Getting the start of your career right

The sooner professionals who graduate from higher education institutions start to work in positions corresponding to their education, the more their contribution will benefit Finnish society. The State and labour market organisations must jointly create solutions that effectively promote the qualitative employment of highly educated young professionals – not forgetting international professional.

The State must invest in the adequate resourcing of the organisation of study guidance and career services in higher education institutions. It is possible to find numerous common interests with the labour market organisations in raising the employment rate and in the employment of those with higher education in jobs corresponding to their education. Practical training during studies supports employment after graduation, and employers play a significant role by providing internships.

Once the employment services will be transferred under the responsibility of municipalities at the beginning of 2024, the services aimed at those with higher education must be taken into account as part of the municipal service package. However, it is of utmost importance that everyone receives individual support equally, regardless of their background.

2.5 We need international professionals

Finland needs a significantly greater number of international professionals. According to the Roadmap for Education-based and Work-based Immigration 2035, the Government is seeking to at least double the current volume of work-based immigration by 2030 to attain the overall increase of at least 50,000 work-based immigrants that is required in the sustainability roadmap. The number of new foreign degree students should be trebled to 15,000 by 2030. At the same time, the aim is that 75% of the foreign students should find employment and stay in Finland.

All of this requires changes from Finnish society and working life. In addition to streamlining the immigration and permit processes, we need investments in the provision of Finnish and Swedish language teaching and integration support more broadly. Society's services must be accessible to those moving to

the country, whether they are early childhood education or health services. Promoting anonymous recruitment helps to remove unnecessary employment obstacles not only for Finns but also for immigrants.

3. Bioeconomy and circular economy are the keys to Finland's success

High-level competence plays a significant role in solving the big problems of the entire humanity, such as climate change. The transition from a carbon economy to a bioeconomy and from the use of non-renewable natural resources to the use of renewable natural resources is important – not only for Finland, but for the whole world. Likewise, the transition from a disposable culture to a circular economy strengthens sustainability and creates an opportunity for new services that promote sustainability and vitality.

Finland is a world leader in the preparation of national long-term strategies and plans related to bioeconomy. The realisation of the goals outlined in these strategies and plans will result in well-being and sustainable development within the entire society. Therefore, it is extremely important that our country's Government supports the bioeconomy sector in achieving its goals with its own actions and investments.

3.1 The growth potential of bioeconomy must be utilised

Bioeconomy is an exceptionally important sector in Finland. In 2019, it created added value of EUR 27 billion per year, which corresponds to 13% of the added value created in our national economy. During the update of the Bioeconomy Strategy in 2021, opportunities to double the added value of bioeconomy by 2035 were identified, while taking into account overall sustainability. This goal must be pursued with active policy measures in accordance with the national Bioeconomy Strategy.

Focusing on high value-added products has significant growth potential. From the point of view of a competitive operating environment, Finland needs to more strongly support the promotion of bioeconomy exports, especially in companies in the SME sector.

3.2 The circular economy is the new normal

Circular economy is an economic model that helps to curb climate change, biodiversity loss and depletion of natural resources. In the circular economy, products and materials remain in use for a long time. The circular economy practically means, in addition to recycling, rental services, repair and sharing. The circular economy is an essential part of the work of the nature sectors in companies, the public sector and organisations.

The State must support the promotion of the circular economy by supporting circular economy research and development in universities and companies as well as through legislative means.

3.3 Sustainable allocation of the research, development and innovation funding

The green transition RDI programme proposed in the Bioeconomy Strategy should be supported. Funding for research, development and innovation should be increased in those fields where the utilisation of Finnish know-how best promotes the achievement of the goals of global sustainable development. Climate change mitigation is humanity's biggest challenge in the coming decades and centuries. Finland has world-class expertise in the research and utilisation of renewable natural resources. Therefore, research, development and innovation investments should be directed to projects that promote the transition from the use of non-renewable natural resources to the use of renewable natural resources.

In order to make forest research more efficient, a clear domestic financial instrument like the Development Fund for Agriculture and Forestry (Makera) should be created for the sector.

3.4 Security of supply is the key

In recent years, various crises have highlighted risk factors in, for example, the industrial production chains, availability of critical raw materials, energy production and domestic food production. In uncertain conditions, the importance of security of supply is emphasised. Taking care of the long-term sustainability of domestic production will be even more critical in the future. This requires the innovative utilisation of new technologies in all industries in the development of the circular economy and sustainable use of natural resources as well as in the fight against climate change and biodiversity loss.

In forestry, securing the supply of wood, together with securing carbon stocks and biodiversity, is essential. Maintaining the degree of domestic origin of food production requires favoring farming methods that promote soil health and increasing the input of domestic production. New innovations in the pharmaceutical and food industries demand for significant investments. The green transition requires a significant but, at the same time, responsible increase in the production of critical minerals.

A comprehensive understanding of the interfaces between the circular economy and the natural resource economy as well as the new development needs and opportunities of industry and primary production are all key areas of the special expertise of Loimu members.

3.5 Wood construction must be promoted with determination

Promoting the use of wood as a construction material in both public and private construction throughout the country is one of the bioeconomy's opportunities to replace current building materials with more sustainable alternatives. High-quality wood construction binds carbon for the entire life cycle of the building.

4. Sustainable forestry and environmental management are vital

Sustainable management and use of forests and the environment is vital for Finland. Forests, in particular, are key to our future: they have been Finland's most important natural resource and the basis of our well-being, and the sustainable development desired for the future places new expectations on forests.

With responsible top expertise based on research and experience, we can find sustainable forest and environmental management solutions that will also secure our future well-being. Goals for a sustainable future include increasing the sizes of the carbon sinks by keeping forests in good growth condition with sustainably implemented wood production. In addition, the carbon stock must be increased by keeping forest growth greater than the outturn. The amount and use of long-lasting forest products should be increased, which will increase the carbon stock. Forest-based products that replace fossil raw materials must be developed. At the same time, the diversity and preservation of forests must be ensured. In addition, investments in the knowledge base, know-how and development work of the natural resources sector must be stronger than before.

4.1 Forest carbon stocks to grow

The carbon stock of forests must be increased by keeping the carbon balance of Finland's forests positive. This requires greater growth than outturn and a sustainable use of natural resources. The carbon stocks and sinks of forests are increased through sustainable felling, land use and forest management. In the utilisation of forests, the aim should be to ensure that the carbon removed during felling is bound to products with the longest possible lifecycle and circular economy innovations, such as wood construction, recyclable materials and products that replace fossil raw materials, which further increases the carbon stock of the entire natural resources sector.

Forest growth, carbon sequestration and environmental sustainability are maintained and nurtured with timely forest management measures that support tree growth. Long-term actions are needed for achieving climate-sustainable forest management. Investing in long-term good management and growth of forests requires the continuity of incentive systems.

4.2 Well-being from forest

Finland's forests should be used in a versatile way so that the social benefits derived from forests are spread widely. Finland's forests and natural resources must be used and developed, among other things, to ensure the security of our country's supply, while taking into account the biodiversity. Finland should invest in the sustainable utilisation of forests for health promotion and tourism purposes as well as in the development of the natural product sector and other ecosystem services. The possibilities of an even more diverse use of forests must be investigated and decisions based on research must be made, which will produce well-being for Finns. Ensuring this requires long-term securing of related public resources.

4.3 Development cooperation and service export

Finland is a top country in forest, environmental, climate, natural resources, soil and water expertise. In development cooperation, Finns have a great deal to contribute as experts in projects related to the use of natural resources. Afforestation projects, training projects related to the use of forest resources, sustainable use of forests and principles of forest protection are forms of action which Finland should actively promote to combat the effects of climate change in developing countries.

Finland's development cooperation allocations should be increased to the UN recommended level of 0.7% of gross domestic product.

5. Protecting biodiversity and curbing climate change

We Finns must take care of our environment. By taking care of the operating conditions of highly educated environmental professionals, we can ensure that Finland will be a leading country in environmental expertise and sustainable development now and in the future. The operating conditions for environmental research must be ensured and voluntary nature management measures must continue to be funded at a sufficient level.

The conservation of Finnish biodiversity is guided by the Biodiversity Strategy and the Action Plan for the Conservation and Sustainable Use of Biodiversity in Finland drawn up based on it. Attention must continue to be paid to the implementation and monitoring of these programmes in order to ensure high-quality protection and management of our environment.

Along with the biodiversity loss, climate change is the biggest challenge of our time, and to mitigate it, we need an active policy and a high level of competence to support the policy.

5.1 High-quality environmental protection and management of natural resources require sufficient funding for research and monitoring

It is very important that decisions regarding Finnish environmental protection and management and forestry are based on research-based information. This is only possible if the decision-makers have at their disposal long research-based time-series on the state of forests, waters, seas, biota, soil and climate. Sufficient resources must be invested in the maintenance and development of these monitoring systems.

5.2 The resources of the environmental administration must be secured

Achieving environmental sustainability goals requires effective administration. Finland must maintain its position as an attractive investment country that takes environmental aspects into account responsibly, and sufficient resources must be allocated to ensure these operating conditions. Municipalities and regional authorities implement climate and diversity activities on a practical level and have the best capabilities to reach citizens, organisations and local companies with the aim of achieving sustainability goals.

The resources connected to environmental permit procedures must be secured in different administrative branches, without forgetting municipalities, court instances and the development of legislation. High-quality and prompt environmental permit processing is in the interest of both the environment and investing companies. In order to implement the climate goals, municipalities and regions must be allocated sufficient funding. In addition to project-based funding, continuous funding from the State to municipalities and regional authorities is needed for the climate work. Continuous funding based on State contributions enables long-term work, which effectively serves the implementation of climate goals.

5.3 Taking care of the waters and seas

Finland has profitable action plans for managing its water areas in a sustainable manner. The implementation of the 2022–2027 Action Plan for Sea Management in Finland must be ensured. The implementation of regional water management plans must also be secured with sufficient resources and expertise. The Ministry of the Environment's Water Protection Enhancement Programme must be continued and proven practices established.

5.4 Effective nature management measures should be promoted on a wide scale

The joint Helmi environmental programme of the Ministry of the Environment and the Ministry of Agriculture and Forestry is a good example of cross-sector cooperation in halting biodiversity loss in Finland. Voluntary nature management measures must be promoted and diversified in future. Along with the Helmi programme, the Forest Biodiversity Programme for Southern Finland (METSO) and the new programme to promote the nature management of commercial forests to replace the Monimetsä project, which will end at the end of 2022, are examples of measures whose funding must be secured beyond election periods.

5.5 Getting rid off fossil fuels!

Renewable natural resources should be used instead of non-renewable natural resources, wherever possible. This is especially important and acute in energy production, where the burning of non-renewable natural resources causes considerable climate and environmental harm. Finland's goal of carbon neutrality by 2035 must be achieved.

5.6 Ecological compensation procedures are a good option

The utilisation of ecological compensation in safeguarding biodiversity requires a reform of the legislation. Sufficient resources must be reserved for this development work and the development work must be continued. Undermining the nature values protected by the Nature Conservation Act should always be avoided.

Voluntary ecological compensation has been proposed to be included in the Nature Conservation Act. For example, municipalities are interested in the implementation of voluntary compensation as part of land use planning and companies are also interested in this to demonstrate their environmental responsibility. In future, efforts should be made to find a compensation reserve (reimbursement items), develop a

compensation register, market opportunities for voluntary compensation and develop mediation and consulting activities related to compensation.

Ecological compensation must cover as much of nature as possible, because its steering effect is best when all species and habitat types are included. In the case of endangered species and habitat types, compensation measures should be aimed at the same or more representative species, the habitat of the species or the same habitat type as the one affected by the weakening effect.

6. Health care based on high-level research

Finland has a high level of expertise in research, development and innovation related to health care. Progress has been made in the field in recent years and this development should be continued. Finland has the opportunity to become one of the leading players in healthcare research and business operations. There are several ongoing projects that Loimu considers to be very important for the development of Finnish healthcare research and business. The projects must be carried forward determinately so that the results of the operations can benefit Finnish society as quickly and efficiently as possible.

At the same time, care must be taken to provide high-quality resources, level and quantity of training for the hospital's research staff. In particular, the research funding of university hospitals must be secured when the wellbeing services counties start their operations.

6.1 National level cooperation projects to be completed

The establishment of National Competence Centers, which have been prepared for years, must be completed successfully and sufficient funding must be secured for them. The Genome Center Finland, the National Cancer Centre, the Neurocenter Finland and the harmonisation of biobanks have all progressed, but funding has often been at stake in the State budget planning. High-quality research work requires stable funding.

6.2 The research funding of university hospitals must be secured

The State grants funding (VTR) to university-level health research as compensation for the costs caused by scientific research carried out in the service system. The level of funding has collapsed to less than a quarter in just above 20 years. In 1997, the VTR funding for health care was EUR 91 million. In the current year, it will be only EUR 25 million, some of which is currently used for social welfare research. The direction must be reversed so that it will be in line with the State's own RDI goals. The research carried out in university hospitals is world-class research, but it cannot be carried out without sufficient funding. Both the State and the wellbeing services counties are responsible for the adequacy of funding.

7. A fairer working life

A sustainable future needs a reform of working life. The functionality of working life is important at all levels. A functioning working life is created in workplaces with the cooperation of employers and employees and supported with the reasonable solutions of labour market organisations and political decision-makers.

Working life must be developed even more in the direction that it offers everyone equal and more flexible opportunities to build a productive career. The development work must take into account different life situations, such as taking care of children or family members or studying. The reforms must concern different areas of the working life legislation and they must be made whilst taking into account the entirety of the working life legislation.

7.1 The knowledge account as a solution for continuous learning

The key to the continuation of the Finnish success story is the development of continuous learning and flexible training models for those performing demanding expert work. Together with eight other professional unions of Akava, Loimu has developed a knowledge account model, which is a new way to share the costs of continuous learning between employees, employers and the State. The knowledge account is a response to the growing need for competence development during the working career.

7.2 A more family-friendly working life

A family-friendly, diverse and equal working life must be promoted with ambitious legislation. Employers' knowledge of family-friendly practices must be increased, and workplaces must be encouraged to create models and guidelines that support the reconciliation of work and family as well as equality.

The family leave reform will enter into force in 2022. The reform improves the opportunities for both parents to reconcile full-fledged parenting and career progression. Next, the family leave reform should be taken into account in collective agreements. Both parents have an equal right to paid leave in relation to the duration of family leave. In addition to the care of children, the care of older close relatives must also be made possible better than at present.

7.3 The ability to work and study needs to be supported

The best support for both the ability to work and study is preventive support. Legislation can mandate a minimum level, but employers and educational institutions have a responsibility to promote good practices and allow for flexibility, taking into account different life situations. Well-being must be considered at the level of the entire organisation in planning and management. Labour market organisations can be involved in developing solutions to promote well-being both through collective agreements and in practical projects. Promoting communality is a key to increase well-being and prevent problems in both workplaces and during studies.

7.4 The right of employees to get their issues forward

A considerable part of wage earners work in fields that do not have a collective agreement. They do not have access to the representation, negotiation and mediation system established by the collective agreement, where disputes are ultimately resolved in the labour court. If the employer does not comply with the laws of working life, it is a matter of personal interest governed by private law. The employee's threshold to pursue their case through court proceedings against their employer is high. This is why trade unions should be provided with a right of action, which gives them the opportunity to pursue the case of their members through court proceedings, even in industries without a valid agreement.

The right of association of sole proprietors in the platform economy must be promoted. The fairness of the service that assign contracts and assignments to those who perform the work and the authors of assignment-related offers is important, even if the assignment platform is not the actual employer of the expert work.

7.5 Remote work rules in order

In 2020, the COVID-19 pandemic instantly changed the remote working practices of most workplaces and showed a clear need for legislative development. The definition of remote work should be added to the legislation. The rights and obligations related to remote work must be specified in the necessary parts in the Working Hours Act, the Occupational Safety and Health Act and the Act on Accidents at Work and Occupational Diseases.

The employee must have the right to partial remote work, if the work tasks allow it and it does not cause unreasonable harm to the employer's operations. However, the employer should not have the right to

obligate the employee to work remotely. The employer must continue to organise adequate and safe working spaces and tools for in-office work.

The scope of the Act on Accidents at Work and Occupational Diseases is being expanded to better cover accidents caused during remote work. Employers must have a legal obligation to take out remote working insurance for their employees who are working remotely.