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Agenda for sustainable growth



Ministry of Economic Affairs
and Employment of Finland

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Sustainable growth is a requirement for wellbeing in Finland

The Ministry of Economic Affairs and Employment
creates sustainable growth opportunities.



Finland wants to remain a Nordic welfare state – prepared for even major reorganisation of its structures where necessary. This requires good employment and productivity growth. Growth is generated by entrepreneurship and work done. The Ministry of Economic Affairs and Employment wants to promote this goal with its policy measures.

1

We will turn the transformation of work into an opportunity.
That is why employment and industrial policies must be better integrated.

2

We want to succeed in global competition.
That is why we will reform our innovation policy.

3

We urge cities and regions to pursue growth together.
That is why we will reform our regional development and urban policies.

4

We will tap the potential of the energy transition.
That is why we will help the Finnish energy sector utilise its strengths commercially.

5

We will influence the EU's future.
That is why the Finnish EU Presidency will highlight trade policy, a more efficient internal market, sustainable development, the circular economy and digitalisation.

Dear reader

At the Ministry of Economic Affairs and Employment, we work for economic growth that promotes the wellbeing of the nation. We want to communicate the structuring of our growth policy thinking through a document setting out an agenda for growth. The aim is to outline Finland's growth policy over a long horizon extending beyond individual government terms. Public officials carrying out preparatory work will be able to draw upon this agenda to raise proposals relevant to current political decision-making, with the agenda helping to ensure coherence in policy. In the same context, we want as extensively as possible to share and develop a common understanding of the significance and mechanisms of economic growth and the administrative and policy tools available to influence it. Above all, we want to motivate people in Finland to pursue sustainable economic growth.

Published in spring 2017, the Agenda for Growth (version 1.0) of the Ministry of Economic Affairs and Employment identified 12 key themes for growth policy. Policy recommendations at the general level arose from an examination of these themes. That version still remains a relevant background paper.

It was subsequently decided to look into growth policy also at the Government level through joint consideration involving the various ministries. Their respective themes were covered under the leadership of the Prime Minister's Office together with the permanent secretaries. In that context, a decision was made to call the document Agenda for Sustainable Growth. The term 'sustainable' communicates aspects including economic growth being a tool, not a goal.

The Agenda for Sustainable Growth (version 2.0) sets the operational spearheads for Finland's growth policy while not overlooking the basic duties of the Ministry of Economic Affairs and Employment Group. Its particular aim is to achieve consistency in the Ministry's objectives and their implementation. The newly established departments, Group actors and key stakeholders were consulted extensively during the preparation process. There is an obvious need for a document clarifying the objectives of growth and consolidating the various elements of growth.

“Economic growth is a tool, not a goal.”

The agenda also sets out areas for development that can still be emphasised during the remaining term of the current Government and, in particular, when formulating the next Government's programme. Economic growth is a long-term challenge. Sustainable funding of the Nordic welfare model will require economic growth for many generations to come. The Ministry's futures review puts forward five themes to consider by those forming the next Government, and these themes are also related to the objectives presented in this publication.

The aim is to continue deploying the growth policy as outlined here. This document does not provide ready-made answers for everything, but it does provide common guidelines for progress. We will update the priorities when objectives are reached and new challenges and ideas arise. The Agenda for Sustainable Growth will be updated next spring to correspond with the next Government Programme. A version 3.0 will be needed to safeguard a far-reaching growth policy.

Jari Gustafsson
Kansliapäällikkö

Summary

Sustainable growth is a requirement for wellbeing in Finland and one for which the Ministry of Economic Affairs and Employment creates opportunities.

Finland wants to remain a Nordic welfare state – prepared for even major reorganisation of its structures where necessary. We aim for good employment and productivity growth. It is in pursuit of this aim that we at the Ministry of Economic Affairs and Employment want to outline and channel policy measures supporting growth together with our partners and stakeholders.

“Growth is generated by entrepreneurship and work done.”

Growth is generated by entrepreneurship and work done. An employer will only recruit someone if the expected return from job creation exceeds the risks and costs of employing them, while the employee’s access to employment is also affected by a group of incentives. There are, however, limited opportunities to increase labour input, so the most important source of growth is productivity growth. Productivity growth is determined within enterprises, but policy measures can influence not only short-term cost levels but also long-term market- and innovation-driven structural change. These are needed to restore Finland’s competitiveness to the level of reference countries.

An operating environment supporting growth must be dynamic and attractive. Macroeconomic stability, competitive taxation, well-functioning institutions, good infrastructure, a high level of education and continuous willingness to learn new things, good

and high-quality healthcare and social welfare and so on are vital enablers of sustainable growth. These objectives are shared by the entire Government and other levels of administration. This calls for cooperation. The Ministry of Economic Affairs and Employment Group, too, has a large number of necessary basic duties ensuring the functioning of the operating environment. In addition, there are numerous policy measures supporting growth efforts that have already been initiated and are on their baseline. These include competition and energy policy.

The basic functions cited as examples above are vital conditions for growth. They were also covered in Agenda for Growth version 1.0. However, the present document raises operational focus areas that are topical and need attention as spearheads of action. These are intended as pointers for the next Government Programme. However, the Ministry of Economic Affairs and Employment will begin to prepare them immediately as appropriate. The focus areas also direct the cooperation between the departments of the reformed Ministry of Economic Affairs and Employment towards increased coherence.

Globalisation, technological advances and many other development trends are changing the starting points of enterprise activity and work. The current structures, institutions and ways of doing things evolved in a historically different situation and need updating. Economic growth is about generating economic value. To be able to pay employees well and invest in the future, industries and enterprises must undergo renewal. It is important to identify growth opportunities and be able to tap into them. At the same time, gradual progress takes place in the transformation of work. For these reasons, we are preparing an operating model for industrial policy that takes change trends into account. The aim is for us to be able to renew and consider differing and at times even conflicting policy objectives. Likewise, we will clarify our Ministry's labour market outlook. The objective is to better coordinate labour and industrial

policies. We want to turn the progressing transformation of work into an opportunity. We want to upgrade our stakeholder cooperation.

Our growth story has been based on responding to challenges arising from changes in the global market. Economic renewal is based on inherent as well as acquired strengths. Finland has many strengths that match global demand trends. We are at the global cutting edge in terms of our experience and competencies particularly in the bioeconomy and minerals economy, machinery and metal industry, chemical industry, electrical and electronics industry, transport equipment manufacture and now also in digital service economy sectors. We are not starting from scratch, but we need more global enterprises that are successful in their respective ecosystems.

“Finland has many strengths that match global demand trends.”

To renew Finland’s key industries and diversify our economy, we will update our innovation system. We will upgrade our partnership models and make national strategic choices. We will seek to pursue an innovation policy extending across administrative branch borders. To strengthen public funding and its effectiveness, we will increase incentives and risk sharing.

In particular, we will draw on our exceptionally good and diverse technological capacities for the digitalisation transformation. At the same time, we will strive for the improved business capabilities required by the digital age. Springboarding from our role focusing on the production of investment goods, we recognise the enormous opportunities provided by global consumer business accelerated by digitalisation.

When skilfully executed, the opening up of the public services market to competition delivers productivity benefits and presents new business opportunities while at the same time improving citizens' services. In particular, we recognise the opportunities involved in Finland's health and social services reform, developing health technologies, exploitation of health data, and transport.

We will support regional growth. Following the realisation of the regional government reform, we will introduce an operating model supporting growth in Finland's regions. We will promote the creation of the growth services market and outline the role of urban areas as engines of growth. We will also formulate and implement a cross-administrative entrepreneurship strategy.

We will also commercially utilise the opportunities provided by the energy transition by focusing on Finnish strengths.

As a small open economy, we are dependent on free world trade. The EU has become a key market area, important channel of influence and substantive source of norms for Finland. Finland's Presidency of the EU starting in autumn 2019 offers a special opportunity to influence the development of the EU in a manner supporting sustainable growth. We will pay particular attention to the internal market and digitalisation and the development of the EU's role in trade policy, but also to topics including the circular economy, which provides opportunities for Finland and helps to address global challenges.

Growth, employment and wellbeing can only be built on continuously evolving and renewing enterprise activities as well as work and competencies. Growth must be sustainable, stemming from Finland's regions and responding to global demand, including grabbing the opportunities provided by the energy transition. The Ministry of Economic Affairs and Employment Group is committed to systematically supporting the creation of conditions for growth.

We will pursue sustainable growth

We want to understand the mechanisms of growth and position the role of administration and policy correctly.



Finland needs new kinds of growth approaches and growth ambition. Growth is a tool for the promotion of citizens' wellbeing and national stability. Sustainable growth is based on socially, ethically and ecologically justified solutions. The amount of labour input and productivity growth play a key role in the realisation of economic growth. Growth is generated by entrepreneurship and work done.

“Sustainable growth is based on socially, ethically and ecologically justified solutions.”

Economic growth comes from value creation

To sell their goods and services, enterprises must be able to create value for their customers for which customers are willing to pay. The price is determined in competition taking place in the market. The higher the value perceived by the customer, the more they are willing to pay. Profitability is a measure of enterprise success. The success of a company enables it to pay its employees higher wages and salaries, and to retain more profit for the development of its business and for distribution to owners. At the national economy level, profitability growth is reflected in growth in value added, or productivity, and in economic growth.

Market competition takes place at many levels – in workplaces, locally, at country level and in the global market. Success in the global market is the objective of an advanced open economy like Finland's. Reaching the forefront of global growth calls for the utilisation of opportunities and innovations that transform the market or create entirely new markets. We do not need to invent everything by ourselves; the main thing is to capitalise on the opportunities that present themselves.

The mechanisms of value creation are changing. It can be argued that value creation is increasingly based more directly on human

activities and interactions and decreasingly on the production and consumption of goods. There is a greater focus on various intangible factors such as user experience and experiential aspects. Utilising and managing systems for the protection of intellectual property must be one of the basic competencies of enterprises.

“Digital platforms contain special potential to support the scaling up of business functions.”

The deregulation of the global economy has deepened the international division of labour. Today, enterprises can apply global decentralisation down to the level of individual tasks – something that was not possible a few decades ago. The ones succeeding the best in global business value chains are those able to orchestrate (= control, regulate, etc.) the functioning of value chains and repatriate for themselves a significant share of the value created for the end customer. Digital platforms contain special potential to support the scaling up of business functions. Digital platforms can be created through public-private partnerships or be global platforms of individual enterprises or business platforms serving the common needs of several enterprises.

The more enterprises capable of the above there are operating in the national economy, the better it is for the economy’s growth efforts. And the quicker and more flexibly labour and other production factors migrate to higher-productivity roles through job switching, business acquisitions and other developments, the better. For example, the utilisation of Finland’s unique information resources (including health, transport, open science, energy) requires new collaboration models built on digital information. The more we in Finland are able to develop business models built on big data, the more securely the ecosystems created this way will take root in our country.

What is the role of administration and policy in creating growth?

We perceive two main tasks for policy supporting growth. It must create an attractive and competitive operating environment for enterprises to grow and provide employment. On the other hand, policy can also help assume a more active role in the pursuit of growth. The labour force, enterprises and national economy can be assisted, incentivised and supported in many ways in the pursuit of growth. Competency entails an ability to tap into market opportunities. Figure 1 lays out the topics to which attention is paid in growth policy.

Macroeconomic stability, competitive taxation, well-functioning institutions, good infrastructure, general education level, good, high-quality healthcare and social welfare and so on are vital enablers of sustainable growth. In many contexts, the Ministry of Economic Affairs and Employment does not have any competence in these matters. Policy cooperation is called for. The functionality of the operating environment also requires a sufficiently broad and robust foundation. This calls for factors including such key functions under the responsibility of the Ministry of Economic Affairs and Employment and other administrative branches that ensure the basic conditions for Finnish and other enterprise activity. These include in particular:

- a well-functioning and enabling regulatory environment that creates conditions for launching enterprise activity and incentives for risk-taking and innovation;
- continuous and target-driven legislative maintenance where the starting points are lowering the regulatory costs of enterprises and conducting continuous critical assessment of the need for regulation and the regulatory solutions adopted;

- a dynamic and flexible labour market, which aligns supply and demand and which promotes the channelling of competent labour for uses that are optimal from the perspective of the national economy;
- an operating model for the development of the education system and of competencies to maintain the competitiveness of Finnish work, particularly from the competency and innovation perspectives;
- a system for export financing that ensures the opportunities of Finnish export companies to compete equally with enterprises in key competitor countries;
- a regional and industrial policy based on the competitiveness of the national economy as a converging aspect;
- duties relating to security of supply, registration services, protection of intellectual property, product and other safety and security, etc.

“Reforming public services is also an important driver for the development of the economy.”

Therefore, Figure 1 particularly emphasises the role of the market as one of the two key pillars of policy. The changing market environment must be understood. International and domestic market regulation can be influenced. New markets can be opened up by means of regulation. Ensuring that markets are competitive is the best way to make sure production factors are put into effective use. The functioning of markets must be supervised so that the objectives set for their functioning are achieved.

Figure 1. Key elements of growth policy.

Global forces of change

Population ageing

Globalisation

Digitalisation

Urbanisation

Market opportunities of sustainable development and energy transition

Macroeconomic balance

General government financial balance

Inflation

Credit ratings

Markets

Product and service market

Labour market

Financial market

Energy

Creation of new markets

Market liberalisation

Addressing market failures

Competence

Higher education

Science and business collaboration

Prevalence of technology

R&D&I investments (private and public)

Ecosystem functioning

Innovations and their deployment

Creation of intangible value and development of value added

A competent workforce

Enabling infrastructure and other growth-enabling basic factors. Road, energy and digital networks; basic education and healthcare services; well-functioning institutions, including agencies operating under the Ministry of Economic Affairs and Employment (e.g. Finnish Competition and Consumer Authority, Finnish Safety and Chemicals Agency, Finnish Patent and Registration Office, National Emergency Supply Agency).

Reforming public services is also an important driver for the development of the economy. The role of central government, counties and municipalities will change increasingly from service provider to enabler of market functioning.

The other focus of growth policy is on active support for growth and renewal. Figure 1 particularly emphasises the importance of competency understood in the broad sense. Finland's competitive edges should be developed in relationship to international market development. In this, the focus is on competencies and innovations and their commercial utilisation.

“The development of the competency level of the entire labour force is a main key to growth.”

The spread of digitalisation, automation and artificial intelligence underlines the importance of digital skills and understanding of human-technology interactions. The readiness of enterprises to operate in the digital environment is decisive when adopting new business models and operating methods. There is always a shortage of top talent.

Policy measures can boost the accumulation and utilisation of competencies in enterprises. To support enterprises' innovation capabilities, improvements must be made in management and leadership, anticipation of competency needs, openness and information sharing, interaction and co-creation models and understanding of the significance of multiculturalism and international talents for innovation and growth. Alongside R&D investment, there will be investment in, for example, digitalised information, design, education, new business models and work process development. As the importance of intangible value creation grows, intellectual property rights (IPR) competencies will become more important.

At the same time, a large part of training is shifting to workplaces. The development of the competency level of the entire labour force is a main key to growth. Policy can also influence the amount of labour input. Pro-growth immigration can be targeted so as to develop the strengths of the national economy. For example, the recruitment of digital talents could strengthen the sector's Finnish competency matrix.

The operating environment for growth policy is changing

Political development has enabled the opening up of the global economy.



Finland has benefited from the deregulation trend in the global economy. The period of deregulation that has spanned over several decades has now come to a phase of at least some uncertainty, with speculation as to the course of the future. There is broad consensus on the benefits of world trade. The question is, on whose terms and under what kind of supervision this takes place. It has become apparent to everyone that globalisation creates winners and losers. It is necessary to pay more attention to the political and social consequences of development – the sustainability of growth.

“It is necessary to pay more attention to the political and social consequences of development – the sustainability of growth.”

The EU internal market plays an important role

The EU as a whole forms a key operational framework for Finland and Finnish enterprises. The EU plays a key role in safeguarding the openness and functioning of markets and their further development within the Union (internal market) and in relation to third countries (trade policy). The EU also has an important role in the promotion of the competitiveness of Finland and Europe as a whole. Investments in competency factors at the Union level are necessary to ensure Europe’s capacity for renewal and to promote European value creation. Finland should strive for a deregulated and renewing Europe. Finland’s Presidency of the EU in autumn 2019 offers a special opportunity to influence not only the development of the EU but also more broadly (see Section 9).

The number of global economy participants is increasing

Competitive settings are changing. Rising competency levels in emerging markets are leading to a redistribution of market shares. The consuming middle class of the global economy is growing. The most labour-intensive industry segments are focusing on countries with low cost levels and tolerable risk levels. Technology and production capabilities remain the backbone of high value-added industrial production and also of high value-added service business. The role of knowledge-intensive services as sources of value added is increasing.

“Technological advances can be seen, above all, in the business-transforming power of digitalisation.”

Technological advances can be seen, above all, in the business-transforming power of digitalisation. Platform operators utilising digitalisation sell the lowering of transaction costs and each apply their own logic into how they cash in on this advantage. We have seen the creation of new revenue models that differ radically from previous ones. Long-term productivity waves in the economy have been based on the increased prevalence of applications enabled by new technology. Some experts say that fifth-generation communications solutions and, consequently, the Internet of Things (IoT), artificial intelligence (AI) applications, autonomous systems, robotics, and so on, point to the emergence of the next productivity wave.

According to the International Energy Agency (IEA), global energy trends allow us to talk about an energy transition. The United States is becoming a net exporter of energy. The costs of renewable energy sources (wind, solar power) will fall considerably. China is planning an “energy revolution” aiming to switch from carbon-based energy production to production forms that are clean from the climate perspective. Decarbonisation will take place gradually, with gas used as a substitute during the transition period while at the same time increasing the share of renewables and nuclear power. As regards Finland, significant energy production based on biomass use is to be seen as a bridge technology for the transitional period rather than as a permanent solution. Global energy use is projected to expand by 30% between today and 2040. Electrification is continuing apace.

“China is planning an “energy revolution” aiming to switch from carbon-based energy production to production forms that are clean from the climate perspective.”

Other important trends impacting the economy include urbanisation, global migration and population ageing, particularly in Europe.

The Finnish economy is a success story

Labour input and productivity issues
continue to challenge Finland's
long-term economic growth.



The Finnish economy has traditionally adapted to transformations. The development seen in the past ten years, however, shows that it has been difficult and slow for the economy to adapt back onto a growth trajectory. In real terms, we are now only reaching the 2008 level. Figure 2 shows the growth trend in the past ten years.

Productivity growth has slowed in Finland as the share of high-productivity industry has shrunk (Figure 7). The Nokia shock was a major one and no new success stories have appeared to replace the success of the mobile phone business to an extent compensating for the value added lost. Value added generated by the electronics industry exceeded EUR 9 billion in 2008, whereas today's level is around EUR 3.5 billion. The Nokia example illustrated how important it is that productivity development is broad-based. New jobs have been created in the service sector, but so far only a small proportion of these are in high-productivity services.

“The Finnish economy has traditionally adapted to transformations.”

Why has ten years not been enough to make up for the Nokia shock? Reasons suggested for this include the fact that processes of creative destruction and renewal may take up to 10–15 years (Mika Maliranta). On the other hand, Finland's Nokia success was so splendid that it is still to some extent difficult to understand (Jyrki Ali-Yrkkö). We became complacent with our success and forgot about the importance of broader renewal of enterprise and other structures.

However, the slowing of productivity growth is not exclusively a Finnish problem. Instead, it is a longer-term phenomenon affecting developed countries that has several underlying factors. For one reason or another, the dissemination of practices boosting productivity has slowed. Productivity growth is strong at the forefront of

productivity, but productivity gaps between enterprises are becoming bigger and bigger.

Attention should be focused on competitiveness issues, regulation and competencies. At the same time, digitalisation development has also created structures akin to monopolies in the world. The challenge is international, not national.

The poor performance in labour productivity may also be explained by the dearth of investment. Low investment may mean that there has been underinvestment in new technologies and competencies increasing productivity. Fortunately, productive investment has recently shown clear growth and a slight recovery can also be seen in R&D&I investment – although the rate is not nearly high enough. The policy conclusion is that the focus of business subsidies should be shifted strongly towards R&D&I subsidies promoting renewal.

Over the long term, economic growth is almost solely about productivity growth. However, access to labour – above all, access to competent labour – is an important factor when an enterprise decides where it operates. In Finland, the strong change in age structure highlights the role of the supply of labour and the employment rate (Figure 3). The significance of a flexible and dynamic labour market cannot be overemphasised.

Increasing the efficiency of the domestic market

Our domestic market has several structural features which, if developed, would open up opportunities for growth. Inefficiencies in the domestic market are also reflected in the export sector as cost burdens.

The level of maturity of the capital market reflects the general level of economic development, but the development could perhaps be accelerated through policy measures. Having a direct link to

Figure 2. Annual change in GDP volume, % (figure adjusted in March 2018).

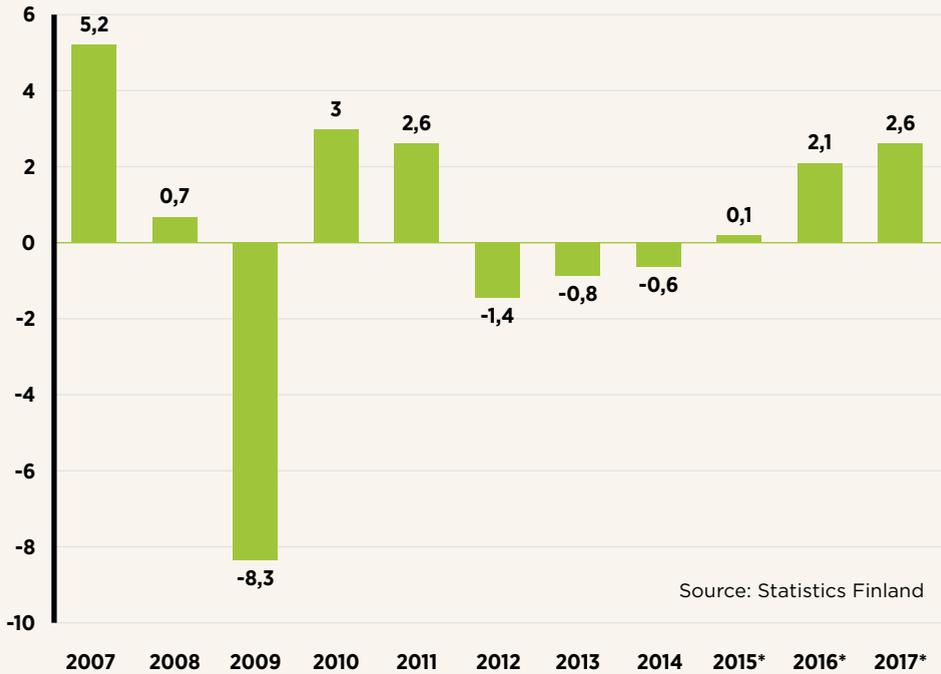
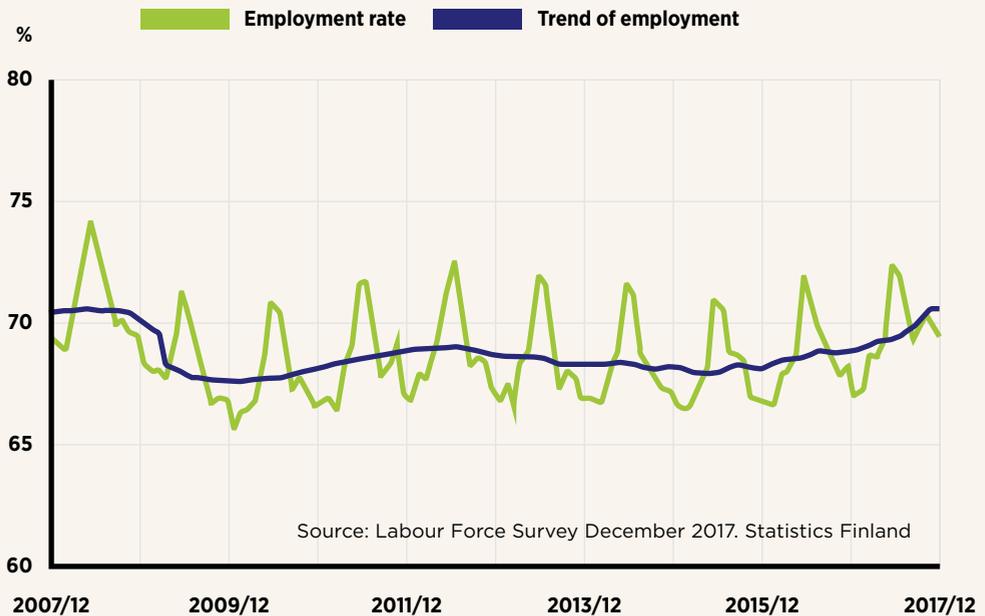


Figure 3. Employment rate and trend of employment rate December 2007 to December 2017, persons aged 15-64.



the international capital market results in increased competition and market efficiency. At the same time, capital adequacy plays an increasing role in the mutual competition of multinational enterprises that operate according to the logic of platform economy – global success often requires “shockingly” large investments. The owners of the company and their national economy ultimately collect the profits.

It would also be important to eliminate obstacles to the entry of private Finnish and foreign capital into Finland, particularly into private equity funds. Foundations and public-benefit entities have expressed their intent to invest in Finnish high-growth enterprises via private equity funds if the current taxation disadvantage is eliminated.

The goods market suffers from the small size and territorial fragmentation of the domestic market. In conurbations, markets are typically more efficient than in remote areas. Efforts to increase the efficiency of the fragmented domestic market would benefit from innovation activity seeking productivity benefits by scaling up service production and developing tradable services. Structural changes can be sought by increasing competitiveness.

The energy market has traditionally been developed with an emphasis on the objectives of security of supply and cost effectiveness. Environmental issues have had to be adapted to these structures. Development trajectories in the energy market have a long horizon. The current market structure does not serve the innovative introduction of new technology in the best possible manner. Large energy companies are major players. Municipally owned companies have an important role and are linked to municipalities’ financial management. For now, the electricity and other energy markets operate unidirectionally from producer to consumer. As regards electricity, production and the distribution network have been unbundled. Finland’s connection to the Nordic energy market could offer a globally significant experimental environment.

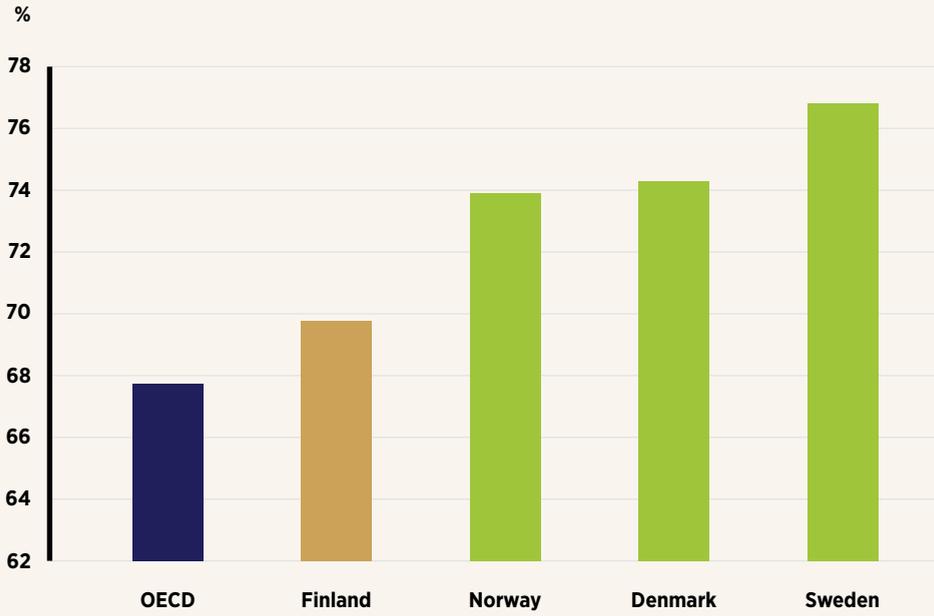
Fragmentation also affects opportunities to pursue economies of scale in public service provision. Currently dominated by public authorities, service provision structures are being opened up, particularly in the context of the health and social services reform. Market changes are taking place in transport. Market development also in sectors such as waste management could create new markets conducive to the circular economy.

Employment and labour market require special attention

In Finland, the strong change in age structure highlights the role of the supply of labour and the employment rate. The employment rate is 3 percentage points above the OECD average but 4 percentage points below the Nordic level. It is necessary to achieve a significant increase in the employment rate to enable us to solve the problems relating to the sustainability gap. Estimates indicate that a rise of 1 percentage point in the employment rate would cut central government expenditure by EUR 2 billion while at the same time generating growth in the economy (Research Institute of the Finnish Economy, ETLA). Finland has a lot of catching up to do in relation to the other Nordic countries (Figures 4 and 5).

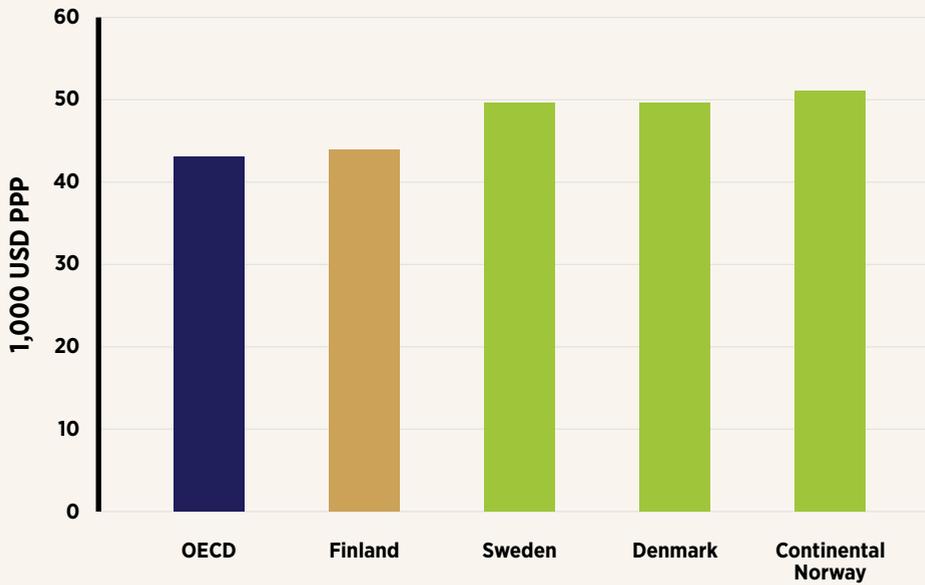
From the aspect of long-term growth, Finland's major labour market challenge is structural unemployment, which threatens to become an obstacle to growth and hamper efforts to increase the employment rate. Structural unemployment is a key factor indicating the poor functioning of the labour market. Structural unemployment also means deterioration in human capital, making access to competent labour more difficult among enterprises. This has been pointed out by, for example, the Economic Policy Council. In addition, the costs of unemployment and, in particular, prolonged unemployment may restrict investment in future growth and well-being.

Figure 4. Employment rate, aged 15–64 (2017Q3).



Source: OECD Labour Force Statistics Database.

Figure 5. GDP per capita (2016Q4).



Lähde: OECD Economic Outlook.

Access to competent labour is already becoming an obstacle to growth. Labour immigration can contribute towards filling the competency gap. For example, increasing the amount of digital talent requires changes in the structures of the economy.

The objective has to be a labour market featuring positive transitions supporting growth, increased productivity and dissemination of ideas. From the perspective of labour market structures and flexibility, it is important to develop the labour market institutions. Key issues include protection against unjustified dismissal and termination in various types of contractual employment relationship, the structure of the negotiations system, determination of working hours, unemployment security and other social benefits. Important issues for the functioning of the labour market also include housing and transport policy and the education system – in particular flexible adult education and training.

The transformation of work caused by new technology increases the diversity of contractual employment relationships and changes the concept of work. This challenges us to increase flexibility and individuality in contexts including labour legislation and social and pension security.

Finland's success rests on the shoulders of few

Finland's economic fabric is concentrated. Our export concentration does not, however, differ much from the level seen in countries such as Sweden. Denmark is an exception among the Nordic countries and its enterprise structure is more broadly based. There is, however, strong demand for economic diversification. The Finnish economy is in the knowledge-intensive development phase where growth is based, above all, on capacity for innovation creating new customer value. Quality, branding and business competencies are the sources of growth. Finland needs more different and new types of enterprise but, first and foremost, high-growth entrepreneur-

ship. The participation of women, immigrants and the ageing in enterprise activity must also be strengthened.

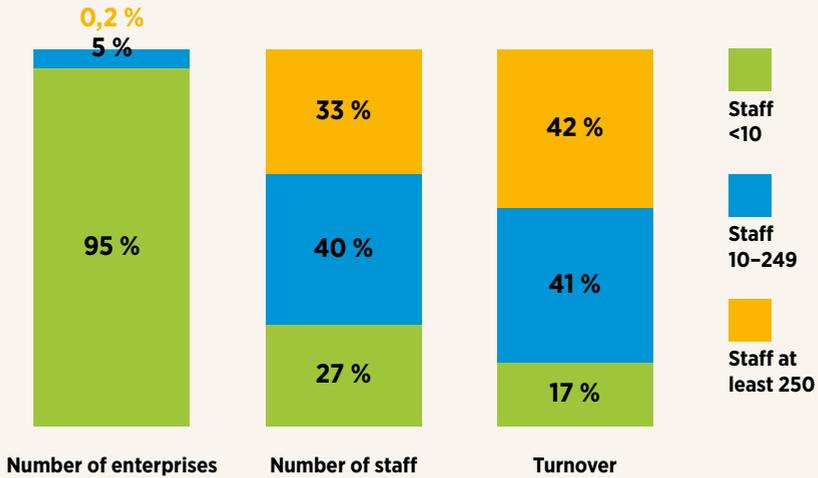
Around 0.2% of enterprises (around 600) have more than 250 employees, 5% (around 15,000) have 10–250 employees and the remainder (around 285,000) have a headcount of fewer than 10 employees (Figure 6). Among the last-mentioned group, the average number of personnel is 1.1. This means Finland has an exceptionally high rate of monoentrepreneurs and there is a clear threshold to hiring the first employee. Large enterprises account for 33%, medium-sized ones for 40 % and small enterprises for 27% of the headcount total. In terms of turnover, large enterprises produce 42%, medium-sized ones 41% and small ones 17% of the total. The ten largest companies generate 7.6% of the total of value added (ETLA).

“Quality, branding and business competencies are the sources of growth.”

There are 8 Finnish Forbes 2000 companies, which is a reasonable figure in international comparison and per capita. Large companies have the highest productivity per person. Large multinationals also typically have negotiating power in contexts such as patent and copyright disputes and are also this way important for the national economy. The renewal of large key enterprises and central industrial structures is vital for growth. Appendix 1 describes the renewal prospects of our most important industries.

From the innovation policy and innovation system perspectives, Finland’s development dynamics in recent years appear to have in many respects involved a weakening in cooperation at the national level. Organisations’ understanding of their own strengths has also weakened. Appendix 2 describes the state of innovation activity in Finland.

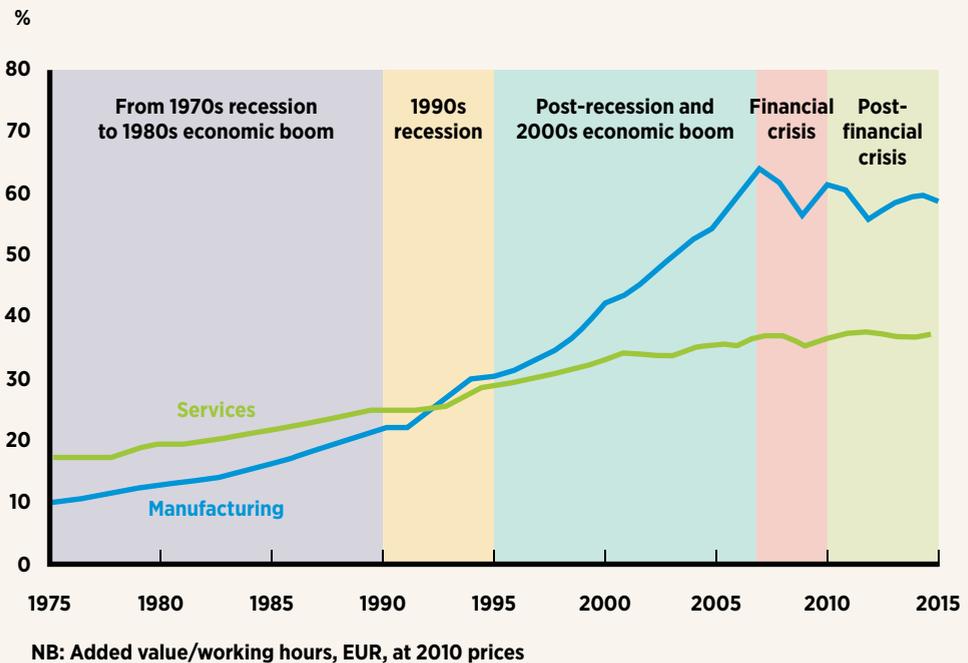
Figure 6. Enterprises by size in 2015.



Source: Statistics Finland, Structural business and financial statement statistics.

Figure source: ETLA, Policy Implications on Company Growth – A Review. No 79/2017.

Figure 7. Productivity in manufacturing and services.



Source: ETLA, Policy Implications on Company Growth – A Review. No 79/2017.

Vision and effectiveness

Economic growth vision must be inspiring and policy effective.



The interlinking of the target state, an understanding of the mechanisms of value added creation and the role of policy and the combining of these with knowledge of the operating environment and our own economy creates a vision for economic growth. We summarise it as follows.

Finland wants to remain a Nordic welfare state – prepared for even major reorganisation of its structures where necessary. Taxation and social security must provide incentives for entrepreneurship and work. It must be possible to build competencies in response to changing requirements and opportunities. Structures of working life must change to reflect changes in industrial structures, supporting people’s everyday lives. Developments in the dependency ratio and support ratio (ratio of those employed in the privately financed sector to total population) as well as the sustainability of the funding base require more people working in the privately funded sector.

“Finland wants to remain a Nordic welfare state – prepared for even major reorganisation of its structures where necessary.”

Finland pursues growth utilising the changes in the global market. We will participate actively in the development of regulatory global economy but, where necessary, will advocate our interests through bilateral cooperation. In the domestic market, an emphasis on the pro-market principle will result in the critical evaluation of the protected structures of the economy in which national interests are taken into account.

As a small developed open economy, we use our existing strengths as our springboard. We aim for world-class business success and cutting-edge competencies in our areas of strength. Examples of future research investments in Finland include the first flagship research projects funded by the Academy of Finland for the devel-

opment of the competence base of businesses: the 6G-Enabled Wireless Smart Society and Ecosystem competence cluster of the University of Oulu and CERES – the Competence Centre for the Materials Bioeconomy: Flagship for Our Sustainable Future of Aalto University and VTT Technical Research Centre of Finland. Public authorities bear the risk related to a major (radical) renewal of business life. In innovation activity, this calls for the capability of setting target levels that the private sector itself would not aim for.

“In data exploitation, artificial intelligence and programming skills are up-and-coming civic competencies.”

Finland’s natural mineral and forest raw material resources create a sustainable basis (resilience) and competitive advantage for our economy. We have strengths and a critical mass in the bioeconomy and minerals economy, machinery and metal industry, chemical industry, electrical and electronics industry, transport equipment manufacture (such as the maritime cluster) and now also in digital service economy sectors. Entirely new industries and structures supporting business activities (business ecosystems) may be created around these strengths and stemming from their competencies. As regards driver enterprises and key export sectors, there are renewal pursuits in sectors including the bioeconomy (CLIC) and digitalisation of the machinery and metal industry (DIMECC). Public-private partnerships (PPP) are developed in a programmatic manner.

Finland has exceptionally good technological starting points for success in its digitalisation transformation. Strengths in fields such as radio technology, network functions, sensor technologies and signal processing are the exact building blocks from which the future will be made. In data exploitation, artificial intelligence and programming skills are up-and-coming civic competencies. When old indus-

tries are disrupted and replaced by new ways of doing things, we must be able to create Finnish global solutions.

The energy vision for Finland is defined ambitiously so that Finland will, on the basis of its own strengths, lead the way, offering solutions to global environmental and energy sector challenges, particularly action against climate change, by utilising digitalisation, new services, citizens' participation and opportunities provided by the latest research. This calls for interconnections between areas including energy, innovation and foreign trade policy.

Foreign investment helps increase competitiveness, higher value-added production, and labour productivity. The Finnish reference market, diverse and competent workforce, attractive ecosystems and experimental platforms offering international networks as well as predictable, long-term policies increase interest in Finland among foreign investors and international talents.

When skilfully executed, the opening up of public services to market competition can deliver productivity benefits and present new business opportunities while at the same time improving citizens' services. It must, however, be ensured in that context that there will be no abuse of monopoly power or asymmetric market information. A strong aspect in the vision for growth is the opportunities relating to health and social services, developing health technologies, exploitation of health data, and digitalisation.

Long-term policy is needed

Coordinated, coherent policy to bring the various actors together is needed. It is particularly necessary as regards the cross-cutting themes. Things can be made easier to understand by connecting joint effort with concrete action. By examining issues such as digitalisation through, for example, the health sector growth strategy

for research and innovation activities, we can promote growth in enterprise activity in the sector, participate in the debate and norm formation concerning data usage (MyData), promote market development nationally and internationally and so on.

Growth policy should be effective and public appropriation allocations in particular should be targeted in a manner supporting growth. Support policy (capital investment, innovation subsidies) best works together with the private sector and even then is best driven by the private sector. When pursuing positive externalities, policy instruments will be developed correspondingly.

The priorities of EU and international influencing should be linked to the growth policy objectives and vision. Influencing within the EU should be examined together with national and other international influencing.

“Support policy best works together with the private sector and even then is best driven by the private sector.”

The core of the expertise of the Ministry of Economic Affairs and Employment Group is in the agencies, bodies and companies steered by the Ministry. Particular attention must be paid to better utilising this expertise. A tangible method for this is to better utilise joint visioning and reporting paying attention to the accuracy of the situation picture, analysing the connections between the objectives and the means employed, but also to success in implementation.

Government growth policy should at the same time be far-reaching. For example, investment and other decisions made in energy policy have impacts spanning over several decades. The stability and predictability of the operating environment are crucial for enterprises.

Policy coherence also means that the Ministry of Economic Affairs and Employment Group takes account of sustainable development in its policy measures. The Group implements sustainable development in accordance with the Government's objectives under the 2030 Agenda for Sustainable Development.

This means actions such as switching to a carbon-neutral economy, facilitating competencies and equality in working life and marketing sustainability solutions around the world together with other administrative branches. The Ministry of Economic Affairs and Employment Group promotes the signing of commitments under Society's Commitment to Sustainable Development (see Appendix 3).

“The Ministry of Economic Affairs and Employment Group takes account of sustainable development in its policy measures.”

Sections 5 to 9 provide more detailed descriptions of the operational spearheads to now be on the Agenda for Sustainable Growth of the Ministry of Economic Affairs and Employment. The division is in line with the Ministry's new department division, but with actions transcending departmental boundaries also included in the presentation. Many themes also require cooperation between ministries. The level of deployment varies, reflecting the situation and preparedness from which matters will now be taken forward. Where necessary, the agenda will be updated. The intention is, however, to concentrate on and emphasise the themes presented. It should therefore be noted that something not being mentioned in the following does not mean any disregard for its importance. The spearheads are also in line with the priorities of the futures review of the administrative branch of the Ministry of Economic Affairs and Employment.

An operating environment supporting growth

We are building an operating environment supporting growth. Its most important elements will be an operating model for industrial policy and a clearer labour market outlook.



Growth policy implementation calls for improved harmonisation of industrial and labour policy. For this purpose, the Ministry of Economic Affairs and Employment will make the general operating model for industrial policy clearer and clarify the labour market outlook. Developing stakeholder cooperation and the model of interaction are also essential elements of both of these. The above-mentioned measures will also take into account matters including those covered in the paragraph below.

“Competent workforce is the most important competitive factor for Finland.”

Ensuring market functioning and competitiveness, monitoring and influencing market development, opening up of markets and addressing any malfunctions are key factors when building a competitive operating environment. Knowledge of our own economy and consolidation of market understanding are also useful when developing Finnish strengths. The development of innovation capabilities in tandem with increased market understanding helps deepen our visionary insight in the growth policy context. Markets have changed due to issues including the free movement of persons and goods and the development of trading practices. Hanging onto previous success should be avoided.

Finnish competitiveness must be comprehensively examined and developed. In this context, cooperation particularly between the Ministry of Economic Affairs and Employment and the Ministry of Finance should increase.

A competitive operating environment consists of many components, and a structure suitable specifically for the Finnish operating environment must be honed. Spearheads important for the policy responsibilities of the Ministry of Economic Affairs and Employment include market performance and competitiveness in the economy as well as the harmonisation of labour and industrial

policy. These will help to increase growth based on competencies and productivity, the quality of working life and high employment.

The operating environment of Finnish enterprises is crucially affected by the work carried out to deepen the EU's internal market, which aims to create an efficiently functioning EU-wide market. The development objectives set for the internal market are consistent with our national objectives, that is, promoting growth and employment.

Sustainable growth requires an operating environment that supports innovation and a culture of experimentation. Legislation must enable innovation activity but at the same time ensure employee, consumer and environmental safety. Regulation prepared by the Ministry of Economic Affairs and Employment will be enabling and innovation friendly and therefore support the growth policy. In its own activities, the Ministry will ensure the coherence of its various policy measures in order to implement the Agenda for Sustainable Growth.

“Finland has scored reasonably high positions in competitiveness rankings in recent years.”

Competent workforce is the most important competitive factor for Finland. Ensuring access to competent employees also in the future calls for flexibility, working life-orientation and capacity for renewal in the education and training system and the capability of enterprises, higher education institutions and innovation actors to attract international talents. To be leaders in their sector, the various actors need to be able to attract the best or most potential talents in the world and know how to better draw on the expertise and networks of international talents already in Finland.

The current foresight system is fragmented and does not support speedy decision-making. In the comprehensive capture of knowl-

edge, the Ministry of Economic Affairs and Employment utilises the opportunities and artificial intelligence solutions provided by digitalisation. Responsibilities relating to competency development (society – business life – individuals) also need to be revisited. The Ministry will launch such a review concerning its own operating area.

New forms of employment as regards regulation of contractual relationships, taxation and social security must be aligned with the more traditional forms of work. Labour market institutions must support market capacity for flexible transitions between various labour market positions that are either consecutive or overlapping.

“Growth policy implementation calls for improved harmonisation of industrial and labour policy.”

Costs incurred by enterprises as a result of regulation restrict their ability to concentrate on their core business and reduce competitiveness, growth and employment.

Finland has scored reasonably high positions in competitiveness rankings in recent years in terms of the overall ranking as well as the regulatory burden. It should, however, be noted that our competitor countries have continuous programmes to reduce the regulatory burden and Finland’s situation may deteriorate in the absence of sufficient action. Finnish SMEs also consider that the amount of enterprise regulation has increased over the past five years. The current Government’s measures to reduce the regulatory burden cannot be regarded as sufficient.

A variety of methods can be employed in legislative drafting to control the regulatory burden. One of these is the One-In, One-Out principle which means that direct enterprise costs arising from regulation have to be compensated for by a corresponding reduction of

regulatory costs in some other context. The Ministry of Economic Affairs and Employment applies this principle to government proposals drafted by the Ministry.

In accordance with the One-In, One-Out principle, the Ministry reviews any needs to amend financial statements and accounting legislation. The review is motivated by issues such as the importance of digitalisation and the sharing and platform economy enabled by it to new forms of entrepreneurship. The aim is to determine guidelines for the 2019–2022 parliamentary term.

“We must support market capacity for flexible transitions.”

Standards play an important role supporting legislation in several product sectors. The role of standardisation is also increasing as regards services. Together with business life, we will make sure that the national standardisation system is effective. We will identify the spearheads of standardisation work and seek to include all relevant actors, including the consumer perspective and the authorities, in standardisation.

As the importance of service exports grows, standardisation, IPR competencies and so on will be increasingly important for value channelling, so the national strategy will be developed together with businesses. When correctly utilised, IPR systems are a key way of achieving the above-mentioned objective. High-quality private and public IPR services need to be available to support enterprises. Product servitisation as well as product digitisation will increase the significance of brands. Because service innovations cannot usually be patented, business protection is more and more commonly based on combinations of trade secrets, copyrights and trademark protection.

The maintenance of basic functions enabling growth will be better connected for support to growth policy – utilising the knowledge base of the Finnish Patent and Registration Office and the Finnish Safety and Chemicals Agency (Tukes) and the competencies of the Ministry of Economic Affairs and Employment Group.

Competence, innovation and renewal

A general objective for the policy spearhead is responding to societal challenges through innovation and industrial policy.



We will implement an innovation and industrial policy reform reaching beyond the next government term. It will determine the key structural, operational and financing reforms. The following section describes the general objective for the policy spearhead and the three thematic development entities of the programme. The policy spearhead is mainly based on the OECD Review of Finland's Innovation Policy.

“Diversification of the economic fabric, strengthening of the knowledge base and internationalisation of enterprises are necessary.”

Diversification of the economic fabric, strengthening of the knowledge base and internationalisation of enterprises are necessary for the promotion of growth, productivity and wellbeing. Innovation and industrial policy will improve our capability to succeed in the global market and increase productivity in a manner safeguarding citizens' wellbeing and sustainable economic development. It is paramount for the enterprise sector to be able to build competitive advantages based on high competencies, R&D and innovation. In this respect, the situation in Finland is in part challenging (Appendix 2).

Economic globalisation, technological transitions and transformation of value creation logics pose a challenge to enterprises' innovation activities and innovation policy tools (Section 1). Global competition makes it a necessity for enterprises to invest in new kinds of skills, better digital capabilities and an improved understanding of the market and customer needs.

There is a growing global market for solutions relating to societal challenges, and innovative Finnish enterprises have to be encouraged to respond to this demand. This calls for an upgrading of innovation and industrial policy tools: current measures do not provide

sufficient incentives for the development of new, even radical, products and services. Policy measures will help enterprises to reach the forefront of international development so that they can better utilise global value networks and the growth opportunities that they offer. The public sector will also encourage enterprises for R&D&I activities through regulation and procurement.

“The aim is to bring public and private actors together to look for solutions.”

An advanced financial market is a key component of growth dynamics. Public financing primarily supports the renewal of businesses and the knowledge base and specialisation in strengths, improves the functioning of the financial and venture capital investment markets and promotes the implementation of extensive cooperation initiatives. Central government plays an important role as an enabler of development measures, builder of strategic cooperation and developer of markets (such as health and social services, transport, energy and construction).

Strengthening of the effectiveness of policy measures requires closer interaction with key partner policies within the Ministry of Economic Affairs and Employment (energy, labour and regional policies and market functioning) and in other administrative branches (education, science, social, health, development, defence, transport and communications as well as environmental policies). The implementation of development entities extending across the boundaries of administrative branches and multilateral interaction challenge current management and operating models, structures and competencies.

We will upgrade our partnership models

Turning societal challenges into business opportunities requires strategic choices and solution-driven policies where the best

resources are allocated to the strengthening of the most promising sectors as regards growth. Solution-driven partnership activities aim to bring public and private actors together to look for solutions to societal challenges through research and innovation. Challenge-driven R&D&I activity is multidisciplinary by nature, increasing the need for strategic partnerships. Their creation calls for new policy tools and cooperation platforms, which the Ministry of Economic Affairs and Employment will create in cooperation with organisations within its administrative branch and with other ministries.

“We need new policy tools and cooperation platforms.”

Together with its partner ministries and with Business Finland (BF) and the Academy of Finland, the Ministry of Economic Affairs and Employment will introduce new operating practices and policy instruments (including funding instruments) to strengthen strategic long-term cooperation between actors from various sectors. More broadly, this will involve creating a variety of competence clusters and growth ecosystems. Ecosystems are entities built on partnerships and interplay between enterprises, education, training and research organisations, the third sector and administration attached to the regions in various ways. Ecosystem strengthening calls for coordinated measures in the various administrative branches and levels nationally and regionally and influence on the EU’s regulatory environment and funding programmes.

To identify growth sectors, the Ministry of Economic Affairs and Employment is preparing a multilateral operating model to be used to identify such growth opportunities where societal challenges, technology transitions, the global market and national strengths come together. At the same time, an overall picture will be created of Finland’s strengths and growth opportunities based on the views of businesses and foresight work carried out by various actors. The challenges related to making strategic choices cannot be solved

by taking just one measure. Long-term mechanisms, achieving the commitment of public and private actors, are needed for (sufficiently focused) choices such as those made at the Government level. Choices and priorities also need to be supported by a knowledge base supporting decision-making, stronger policy planning at the ministries and policy learning through experiments.

Business life will participate intensively in all development of partnerships and growth ecosystems. This development entity consists of the following policy measures with a duration of several years:

- identifying future growth opportunities and strategic choices (responsible actor: Ministry of Economic Affairs and Employment)
- tools for promoting innovation partnerships and ecosystems, including engines of growth, flagships, United Nations Technology Innovation Lab (UNTIL) (Ministry of Economic Affairs and Employment, Business Finland, Ministry of Education and Culture, Academy of Finland, Ministry of Agriculture and Forestry, Ministry of Transport and Communications, Ministry of the Environment)
- sustainable, innovative procurement (Competence Centre for Sustainable and Innovative Public Procurement, KEINO) and development innovation-friendly regulation (Ministry of the Environment, Ministry of Economic Affairs and Employment, Ministry of Agriculture and Forestry, Ministry of Justice, Ministry of Education and Culture, Ministry of Transport and Communications)
- development environments for innovations and new solutions (Ministry of Economic Affairs and Employment, Business Finland, Ministry of Education and Culture, Academy of Finland, other ministries)

- Innovation arenas as cooperation forums for public administration and business and industry: network of innovation policy-makers (Ministry of Economic Affairs and Employment, Business Finland);

Cities are key actors in innovation policy. Their investments in the future, such as transport, energy and construction projects, must be utilised more extensively as development platforms and experimental environments for innovations. To strengthen the growth ecosystems of the largest urban regions, enterprises, higher education institutions and research institutions will be encouraged through public measures to engage in systematic research and innovation collaboration. Regional and national strategies and development measures and resources committed to them will be brought together under the leadership of the Ministry of Economic Affairs and Employment and in cooperation with Business Finland and cities to form programmatic entities. This instrument will link key cities with national R&D&I policy measures (see also Section 7).

The key principles of the development of partnerships, growth ecosystems and, more broadly, cooperation are: a) strengthening effectiveness through resource pooling and partnerships; b) a programmatic approach that serves strategicality, learning, incentive effect and implementation of national objectives; c) competitiveness, which means support will only be provided for the highest-quality measures; d) long-term approach of activities and strengthening of multilateral partnerships (institutional status) and confidence.

The creation of large-scale competency-based growth ecosystems and centres in Finland calls for significant public and private investment – including international capital and competencies. The development measures will aim for the creation of larger-scale growth ecosystems in Finland (for example, in the scale exceeding EUR 100 million in terms of export value or value added, with intangible investments at an annual total of tens of millions of euros).

The strategic role of Business Finland (BF) will be strengthened as a promoter of innovation activity, ecosystem development and internationalisation of the various administrative branches. BF will cooperate more closely with private and regional actors as well as with Finnvera and the Ministry for Foreign Affairs to develop a service entity supporting R&D&I activities and foreign trade.

“The strategic role of Business Finland (BF) will be strengthened.”

BF’s new more strategic role in investment promotion will increase understanding of the needs of foreign investment clients and help obtain synergies from international talents. Cooperation with regions in investment mobilisation will play a key role.

The Team Finland network and service models will support internationalisation, export growth and acquisition of foreign investments.

The efficiency of activities will be increased by integrating funding and services relating to innovation, exports and foreign investment mobilisation with each other in a client-oriented manner. In service model development, there will be a focus on solutions for sustainable growth and global development challenges (including clean energy, food and water supply, urbanisation, access to education, crisis management). There is a need for a more comprehensive foreign network for Team Finland that will open new connections, identify market opportunities and guide enterprises in the utilisation of international demand.

Increasing the effectiveness of industrial policy calls for a clear insight into the policy-sector entity within the Ministry of Economic Affairs and Employment. Industrial policy will be implemented as

an operational entity with objectives and development guidelines in line with the Ministry's departments and with a shared view of the key policy measures and their implementation.

“A shared objective is to support the development of renewable energy technologies.”

Cooperation between the Ministry's departments will be made close and the division of duties will be clarified as regards the use and development of renewable energy. A shared objective is to support the development of renewable energy technologies and the production of innovations responding to societal challenges.

Alongside R&D&I activities, attention will be paid to regulation and procurement as well as market and competition neutrality issues (including free competition and selection process between production models, ideas and technologies). The Ministry of Economic Affairs and Employment will promote the access of enterprises producing sustainable development solutions into emerging markets through international organisations and funding. Development measures in these issues will require closer cooperation between the Ministry's departments and with the Finnish Competition and Consumer Authority.

The departments will enter into close interaction and concrete cooperation so that policy measures relating to growth services and enterprise funding will better combine the strengthening of the knowledge base and innovation and economic development stemming from the regions' own strengths.

Innovation policy extending across administrative branch borders.

Research and innovation policy will be positioned at the core of the national growth strategy and as a key element of economic policy and broader societal development. The continuous and multilateral development of, for example, the knowledge base, partnerships and growth ecosystems needs to be supported by new forms of activity. The Government's whole-of-government approach and policy coordination will be strengthened by establishing a *Growth and Excellence Council* with national competence and resources enabling independence.

“Research and innovation policy will be positioned at the core of the national growth strategy.”

One of the key tasks is to formulate a strategy extending beyond the government term, with research and innovation activities at the core of the strategy for development of the economy and well-being. This would be the cross-cutting Government-level angle on socio-political development.

The Growth and Excellence Council will provide the conditions for the management of cross-administrative development entities and promote openness, confidence, mutual mindset and broad commitment as a foundation for measures. Close interaction between the Growth and Excellence Council and the Economic Council will be essential.

Promoting innovation activity is a duty of all administrative branches. For some ministries, R&D&I activities are a key policy area while for others they play a smaller role. It is, however, essential that all key ministries are involved in the Growth and Excellence

Council. This enables the broad-based outlining of innovation policy directions, building of partnerships and development of ways to lower boundaries between administrative branches.

We will increase incentives and risk-sharing

Long-term, predictable funding development (including criteria for allocation of funding) is crucial for aspects including high-quality R&D&I activities, deeper public-private partnerships and the creation of internationally attractive growth ecosystems and competence clusters. The focus of enterprise funding will switch to subsidies accelerating renewal. A well-functioning financial market and access to funding play a key role in enterprise development and growth during the various stages of the enterprise life cycle.

R&D funding

Alongside input volume and steering, in R&D funding attention must be paid to effectiveness. The Ministry of Economic Affairs and Employment and Business Finland will, together with the Ministry of Education and Culture, the Academy of Finland and key sectoral research ministries, promote the putting into practice and commercialisation of R&D outputs. The creation of new strengths and competitive advantages calls for the utilisation of R&D outputs of higher education institutions and research institutions more intensively in the economy and society. In higher education and research institutions, incentives serving this (steering, funding, IPR) will be established and well-functioning mechanisms for the transfer of knowledge and competencies will be created.

Additional funding will be allocated to address the needs of applied research and development. The funding of the Strategic Research Council will be reformed to enable the funding to respond directly to business and societal needs.

New funding models will be introduced. These will be targeted at cooperation, quality and effectiveness of activities and generally on the intensive utilisation of information in manners including opening new business opportunities and supporting citizens' wellbeing.

“The target for 2023 is for the public R&D funding to GDP ratio to be 1.0%.”

In the context of central government funding for R&D, a commitment should be made to a funding programme for growth, excellence and R&D extending until the end of the next government programme. The target for 2023 is for the public R&D funding to GDP ratio to be 1.0% (currently 0.8%) and Finland's R&D intensity to be 3.3% (currently 2.7%). In central government budget funding, this means an increase of around EUR 180 million per year. The funding programme and its justifications are in line with the recommendations of the OECD Review of Finland's Innovation Policy (2017) and Vision 2030 of the Research and Innovation Council. The impacts of the programme will be assessed and further reviews of funding up until 2030 will take place in 2023.

Enterprise funding

In enterprise funding, the central government's role is to supplement the market and patch any market deficiencies. Public funding is justified particularly for start-up and growth-seeking enterprises as well as projects that are risky yet eligible for funding. In addition, a public funding system is needed for export funding. The Ministry of Economic Affairs and Employment makes sure the public export funding system for the promotion of exports and growth is internationally competitive.

In addition to the positive economic impacts relating to the activities of export companies, Finland also receives value added and

growth via subcontracting networks. There must be sufficient budget authorities for export funding and buffer funds for activities. The Ministry of Economic Affairs and Employment will look into how current finance sourcing and protection can be made more efficient. The roles and capabilities for risk-sharing of the European Investment Bank (EIB) Group and other providers of finance in export financing arrangements will be reviewed. The Ministry of Economic Affairs and Employment will check the functioning and suitability of export financing instruments also for SME needs.

The Ministry will influence international regulation in order to narrow the differences between national systems and bring market conditions as regards, for example, interest rate determination, close to those of the private financial sector. The Ministry will monitor developments in new financial technology and assess their impacts on the financial market and the operations of state-owned specialised financing companies.

“The amount of public risk money in venture funds is relatively large in Finland.”

The amount of public risk money in venture funds is relatively large in Finland. The aim is to increase the amount of private capital and actors in the Finnish venture capital investment market. This requires the diversification and internationalisation of the funds field and investor base as well as an increase in the size of funds and investment rounds with private capital. Where permitted by the market situation, there must be preparedness to narrow the central government investor role. The Ministry of Economic Affairs and Employment will determine the role, focus and means of central government capital investment activities, taking into account the current situation and development of the market. The Ministry will dismantle barriers to the channelling of private capital into the venture capital investment market.

Investment in private equity funds by foundations and public benefit entities contribute to stronger Finnish ownership. Alongside the stock exchange, the First North marketplace and private equity funds, business angels also are an important group of owners. The Ministry of Economic Affairs and Employment will examine in cooperation with the Ministry of Finance whether it would be justifiable for Finland to introduce tax incentives to increase private capital in the market as has been done in several advanced venture capital markets instead of basing the policy on central government investment activity.

“European and international financial instruments will need to be utilised more efficiently.”

European and international financial instruments will need to be utilised more efficiently. The Ministry of Economic Affairs and Employment will promote the supply of enterprise funding via intermediary banks or funds alongside state-owned specialised financing companies offering funding directly to enterprises. The Ministry will promote the development of the market for new and alternative financial instruments and awareness of these as well as the supply of domestic and foreign private capital and financing. The Ministry will examine the creation of a financing advice service for enterprises based on a digital artificial intelligence solution.

Improving the effectiveness of business subsidies

The Ministry of Economic Affairs and Employment is tasked with developing the national business subsidy system towards support for growth and promotion of societal goals such as the energy and climate strategy, security of supply and prevention of increased disparity. Subsidy policy must evolve in response to changes in the

operating environment. For example, tax subsidies and subsidies for agriculture and forestry contain hardly any elements providing incentives for renewal. In its 2018 Country Report for Finland, the European Commission also pointed out that Finland's subsidies policy should be redirected towards a greater focus on renewal. To improve the effectiveness of subsidies, evaluations based on experimental designs will be launched.

We will support regional growth

We will introduce a pro-growth operating model in the regions.



The general objective for the policy spearhead is to support the implementation of growth policy objectives in the regions by introducing, in conjunction with the regional government reform, an operating model supporting sustainable growth and vibrancy of the regions and by clarifying central government's growth-policy role in the regions. Key policy areas also include a regional development and cohesion policy.

“The central government will retain its role of ensuring fairness and levelling out differences in wellbeing.”

The regional government reform will considerably change the steering relations of the regions and central government. It will result in the duties of the regional councils and the majority of the duties of the centres for economic development, transport and the environment and of the employment and economic development offices being transferred at the beginning of 2021 under the organising responsibility of the counties. The central government will retain its role of ensuring fairness and levelling out differences in wellbeing. Looking ahead, the central government will also determine the broad outlines of regional development and land use, provide the framework for activities and oversee compliance with legislation. The national regional development priorities are growth through renewal, vitality through regional networks, and wellbeing through partnerships.

Regional development entails broad-based activities at multiple levels based on interaction between ministries, counties, municipalities and other actors aiming to promote wellbeing in the various regions of the country. The objectives and measures of the various administrative branches and counties will be examined as a whole from both the national and regional perspectives. The new regional development system will be based on trust and dialogue between counties and ministries. The preparation of annual regional devel-

opment discussions between central government and counties, the regional development situation picture for each county, and the development proposals made on the basis of the discussions will be based on dialogue aiming to reach a shared understanding of the measures required and ensure the uniformity of national and county-specific objectives and their implementation.

The steering of the services of the administrative branch of the Ministry of Economic Affairs and Employment in the regions will change from the performance guidance model of central government agencies to management by knowledge, steering with money and being based on agreement – in addition to legislative steering. The Ministry’s role will transform increasingly from steering regional policy actions to building networks and facilitating international connections and market opportunities.

“The new regional development system will be based on trust and dialogue between counties and ministries.”

County-specific and national regional development objectives will also be implemented under the EU’s Structural Funds. There is a focus on promoting sustainable development in implementation during the current 2014–2020 programme period and in the subsequent 2021–2027 period. Programme preparation will take place in cooperation with the counties and other partners in 2019–2020.

Growth services

Services provided by centres for economic development, transport and the environment and the employment and economic development offices for employees, employers and enterprises will be transferred as growth services to the new counties at the beginning of 2021. The counties will have a lot of discretionary powers as

regards the types of service structures and provision methods they will apply. Counties will use growth services to promote the creation of new enterprise activities, enterprise growth, renewal and internationalisation and respond to labour market needs, particularly to ensure access to competent labour.

Growth services will be organised and provided nationally and county-specifically. The national growth service organisers and providers within the Ministry of Economic Affairs and Employment administration will be Business Finland, Finnvera and Finnish Industry Investment Ltd. The counties will organise the growth services within their areas. In growth services, organisation and provision duties will be separated from each other. The counties will attend to their authority duties and duties relating to matters including service availability, quality and effectiveness as well as solution relating to service funding and provision methods. Provision duties relate to actual service and customer work. The Ministry's duties include an emphasis on the supervision of competition neutrality and promotion of competitive markets as well as on the steering of service provision and providers and ensuring the quality of the activities. It is also important to ensure the transparency of the efficiency and cost-effectiveness of public and private provision.

“The Ministry’s role will transform towards building networks and facilitating international connections and market opportunities.”

The efficient matching of enterprise needs, jobs and competent labour is at the core of the reform. Securing access to competent labour, competency development and lifelong learning is vital for enterprise growth and competitiveness and regional vibrancy. Good interaction between measures taken by the education administra-

tion and the counties' growth services will be particularly important. Enterprise-oriented education and training measures supporting access to competent labour particularly in the ICT sector and other fields with a shortage of talent, retraining and upgrading of qualifications as well as further and continuing education in vocational education and training are ways of speedy response to problems with access to competent labour. Trying out and using the Social Impact Bond (SIB) model, qualification channels for immigrants and measures promoting the regional mobility of labour are also components of the solution to the matching problem. In addition, efforts to attract international talent to Finland will be stepped up as part of the Government's general Talent Boost programme and Invest In activities. This is also a key factor in generating growth in the regions. Increasing flexibility in service provision, for example, providing service providers with funding for the sourcing of diverse services required by customers, could be a good approach to be piloted in Finland too.

Growth service alliance

A growth service alliance is an agreement-based collaboration model that can be employed in the provision of growth services in the counties. According to the rationale of the government proposal concerning the act on regional development and growth services, counties and municipalities could agree on the extent to which a county's own growth service provision and municipalities' own vibrancy service provisions would be organised under the alliance. Parties to an alliance project would be the county, municipalities and private and third-sector service providers that would plan and implement the project together.

An alliance is one way of managing this coordination at the county level. Before the regional government reform, the Ministry of Economic Affairs and Employment can support the creation of alliance collaboration between counties and municipalities by steer-

ing current regional actors towards alliance partnerships by looking for areas and sectors where the projectisation of implementation could be piloted. After the regional government reform has taken place, it is the Ministry's duty to ensure legislation does not cause any unnecessary discord in the use of the model.

Development of regional ecosystems

Regional and local ecosystems are created on the basis of regional networking and cooperation needs and, when expanded, may form growth channels across regional borders, but decentralised and global ecosystems are also possible. The duty of central government in ecosystem development is to act as an enabler, motivator and cooperation partner.

“The service market and intangible value creation will be strengthened in the ecosystems of the future.”

The Ministry of Economic Affairs and Employment is tasked with promoting and facilitating in particular enterprises joining global ecosystems. The strategic choices and strengths of counties have an impact on which phenomenon-based ecosystems will be supported by the central government in the regions. Actors in the Team Finland network of national growth services will facilitate enterprise access to global ecosystems. This will entail continuous dialogue between central government, counties, cities and enterprises. The Ministry of Economic Affairs and Employment administration is currently implementing ecosystem projects in the fields of the bioeconomy, cleantech, circular economy, wellbeing and health, tourism and digitalisation through programmes and operating models agreed with the largest cities and the regions. The service market and other intangible value creation will be strengthened in the ecosystems of the future.

We will promote the creation of the growth service market

Creating a competitive, sustainable market is a critical success factor for the health, social services and regional government reform. The new service structure based on competition-based provision and customers' freedom of choice will improve service effectiveness, create new service innovations and strengthen the service market. Market development will take years and also depend on the decisions made by counties in the context of market guidance. The public sector will be unable to manage alone all the changes brought about by globalisation and the new challenges relating to competencies. The development of service market value creation networks in particular is significant for the entire enterprise sector. The export market is crucial for economic growth, but a well-functioning domestic market is also required to be able to develop the welfare society and build new things. In this, a key role is played by the elimination of unnecessary regulation and other competition barriers, and it is the Ministry's duty to influence EU legislation (see Section 5 above). In the future, the counties will promote market creation through their respective and joint measures. The means to be employed to this end include experiments and regular dialogue with service organisers and providers and with regions and stakeholders.

The service market of growth services is so far quite thin – with the number of potential growth service providers in our country estimated to be around 10,000¹. Switching to a competition-based provision model will require updated information about the service market. In a study launched in spring 2018, the Ministry of Economic Affairs and Employment will assess the situation of the Finnish service market from the perspective of future growth services and the opportunities of service providers to offer novel ser-

1. Owl Group (2017): Markkinavuoropuhelu kasvupalvelujen tueksi. (Market dialogue to support growth services.) Ministry of Economic Affairs and Employment.

vice concepts. Particular attention will be paid to issues including safeguarding the operating conditions of microenterprises and SMEs in future growth services.

“The public authorities will retain their responsibility as regards the achievement of societal objectives.”

The creation of the growth service market will be piloted before the start of the regional government reform. Competition-based growth service projects will be prepared for launches to take place in 2018 and 2019. These projects will be adapted to regional needs. They may contain measures relating to outsourced services, personnel entrepreneurship or corporatisation of current duties of the administration.

In the public services reform, stronger utilisation of the market will be a key driver in the future. The role of the public authorities – central government, counties and municipalities – will have to change increasingly from service provider to stewardship of market functioning. The public authorities will retain their responsibility as regards the achievement of societal objectives. The market will be a key future partner in the context of implementing the objectives, and the market must be given space for the development of new solutions when responding to societal challenges. Services will be sourced increasingly in a performance and impact-based manner from private service providers or other partnership networks, with the aim being to offer customers service entities tailored to their needs in an organisation-independent manner. Service quality will be measured from the viewpoint of outcome, such as a jobseeker finding employment or the commercial success of an enterprise, not on the basis of the number of individual service performance units. Technology and data will enable both new business and market creation and efficient market guidance for the benefit of policy objectives and the national economy.

The needs and requirements of service users are also growing as regards the quality and more personalised content of public services. Service users themselves also increasingly want to participate in the provision of their services. Demands for a transition from sector-specific services to more holistic phenomenon-based service entities responding to customer needs are increasing. Digitalisation will enable new kinds of service solutions and service provider networks.

We will outline the role of urban areas as engines for growth

Regardless of the county-driven regional development system, the dialogue between the Ministry and cities will also need to be intensified. In practice, cities will be key implementers of the Agenda for Sustainable Growth. Their diverse innovation environments generate high value-added production and jobs, and many cities have a strong start-up culture generating innovations and economic renewal. On a broader scale, cities connect Finland to important international value networks (see Section 6 above).

Multicultural cities often provide a fertile ground for innovative and creative economic and other activities. In addition, immigrants bring new ways of doing things and international competency networks and capital and diversify Finland's language reserve.

The strategic role of cities – particularly the role of large cities – as part of the implementation of the national sustainable growth policy must be clarified. The target state of growth policy can be deployed under joint growth agreements. Growth agreements between central government and large urban regions will encourage cities to make strategic choices in urban development and strengthening of economic activities and to pool resources for the development of these selected spearheads. Looking ahead, the connections between national growth programmes and agreements

with the strengths and identified fields of specialisation of cities and counties must be ensured. An ecosystem approach and a partnership-based operating model must be implanted in activities.

A new urban policy programme for 2018–2022 is already being prepared and will summarise the objectives, plans and measures relating to partnership-based cooperation between central government and, in particular, the largest cities. Key issues to be solved include the model for partnership between central government and cities and the key content areas of urban policy, urban policy development funding, operating procedure supporting cities' network cooperation and competency expansion, and the partnership policy of the metropolitan area and central government. For cities' research and innovation cooperation with the Ministry and Business Finland see also Section 6 above.

Diverse regional and urban policy means taking different types of regions into account in regional policy. Identifying the strengths of different regions allows making the best possible use of their potential and opportunities for cooperation. Well-founded investments and infrastructure projects promote growth. A comprehensive investment strategy specifically from the economic growth perspective is yet to be formulated in Finland. For example, the Helsinki-Tallinn tunnel and the Arctic rail link have been publicly mentioned as such major projects. The importance of cooperation in the Northern, Arctic regions has grown due to the global geopolitical changes.

When the growth of the counties' economy is based increasingly on the operating of various ecosystems in the future, the Ministry must find new ways of engaging in dialogue with regional actors – including citizens. Finland's largest cities have also seen the naissance and expansion of urban activism, the so-called fourth sector. According to researchers, it is not enough for the administration of the current societal transformation to merely serve citizens in a user-oriented

manner and include them democratically in the administration's activities. Instead, on the contrary, the administration must also participate constructively in the activities of the citizens' networks created. Public administration must learn together with civil society to solve major sustainable economic development problems and develop society. What kind of a role will the public authorities have when citizens are capable of acting collectively and being quicker at adopting trends flowing in from the world? Advances made in new technologies have also brought up the need for ethical discussion.

We will implement a cross-administrative entrepreneurship strategy

We will strengthen the target orientation of entrepreneurship promotion by formulating a cross-administrative entrepreneurship strategy promoting wellbeing and economic growth and extending beyond government terms to 2028. The strategy will be completed in late 2018. We will link the strategy more broadly to overall industrial policy and labour market outlook. We will set clear, ambitious, effective and measurable objectives for the strategy.

The strategy will take into account in particular new forms of work and entrepreneurship, the necessity of structural changes, encouragement of risk-taking, improved regulation and strengthening of competencies supporting entrepreneurship-like activities. We will focus on effective implementation and a cross-administrative approach extending beyond government terms.

Opportunities of the energy transition

Our goal is to harness the commercial
opportunities provided by the
energy transition.



Underlying the energy transition is the need to reduce greenhouse gas emissions to curb climate change. Emission cuts require reductions in the use of fossil fuels and increases in the share of renewable and emission-free energy.

“The energy transition involves opportunities for growth, particularly through developing energy technology and new operating models.”

The energy transition involves opportunities for growth, particularly through developing energy technology and new operating models. To generate growth, measures are required for the utilisation of national strengths, development of funding and promotion of internationalisation.

Finland’s special competencies

Energy and low-carbon technologies mean clean energy technologies and, in particular, emissions-reducing technologies related to energy production and use, including energy systems.

It is justifiable, from the perspective of international business activities, to focus primarily on those areas in which Finland has special competencies or potential for development.

Finland is a forerunner in the development of a smart electricity system. This concerns aligning fluctuations in production and consumption in a cost-efficient manner. Smart electricity networks feature smart control of electricity consumption to maintain capacity balance. Smart metering enables the automated control of electricity consumption.

Finland is on a global scale the leading country in combined heat and power (CHP) production and CHP technology use. The majority of Finland's district heat generation is based on CHP, which is highly energy efficient and suitable for Finnish conditions.

“Finland is a forerunner in the development of a smart electricity system.”

As regards biofuels, Finns are forerunners as producers and developers of advanced transport fuels.

In the nuclear power sector, Finnish competencies have been developed in the fields of nuclear safety and nuclear waste management. Over the longer term, there will be potential demand in several countries around the world for nuclear waste management expertise, for example.

Practical promotion measures

Sustained energy and climate policies are Finland's strengths. A coherent national policy safeguards the security of energy supply and conditions for economic growth. The Finnish energy system is based on a competitive market. The energy and climate policy covers emissions reduction measures, increases in the use of renewable energy and energy-efficiency measures. The starting point is the cost-efficiency and technology-neutrality of emissions reduction measures.

To develop the domestic reference market and cooperation platforms, a sustained and coherent energy and climate policy is needed. An operating environment like this will also increase interest in channelling international investments to Finland.

The promotion of energy and low-carbon technologies calls for systematic investments in the internationalisation of enterprises

in the sector. The key is to determine priorities for technologies as well as export markets. In this, we must take into account the development of global supply of and demand for technologies and the dynamic impact of energy and emissions reduction policies. Having a planned approach includes the systematic development and utilisation of relevant ecosystem. Strategy work will be led by the Ministry of Economic Affairs and Employment together with the Ministry of Economic Affairs and Employment Group, enterprises and research institutions and other central government administration.

“It is important for the success of Finnish enterprises to safeguard diverse funding opportunities.”

It is important for the success of Finnish enterprises to safeguard diverse funding opportunities. Investment subsidies (energy subsidies and key project funds granted by the Ministry of Economic Affairs and Employment) will enable investments in new energy technologies as regards renewable energy and energy efficiency alike. They also enable the promotion of projects involving technology risks. The innovation funding applied via Business Finland for R&D&I projects enables the development of aspects including ecosystems and test platforms. During the new spending limits period 2019–2022, support for new technology and innovation will play a key role.

Securing funding for R&D enables, for example, research into energy systems of the future at institutions such as VTT Technical Research Centre of Finland and strong involvement also in international research cooperation.

International markets will in part be opened by various cooperation frameworks. Memorandums of understanding covering arrangements of a technical nature and possibly also approaches

and practices but not containing legally binding obligations are arrangements that function very well for the promotion of international cooperation in the energy sector. Necessary central government measures often also include the authoritative services offered by ministries. Alongside the Ministry of Economic Affairs and Employment, Business Finland also takes part in bilateral cooperation. Finland's missions abroad are needed to create contacts in areas including the growing markets of Asia.

“Finland takes part in the Clean Energy Ministerial (CEM) partnership and the Mission Innovation (MI) created alongside it.”

The public and private sectors are brought together by certain intergovernmental forums. These forums therefore create opportunities for Finnish enterprises, too. Finland takes part in the Clean Energy Ministerial (CEM) partnership and the Mission Innovation (MI) created alongside it. Practically all G20 countries and the four Nordic countries are involved in these forums. There are several CEM cooperation initiatives open for all in the field of clean energy. The countries that have joined MI have undertaken to double their public clean energy R&D investment over the next few years. The MI Challenges (MIC) cover innovation cooperation in seven areas, including smart grids, sustainable biofuels and affordable heating and cooling of buildings. Finland is actively involved in the initiatives that are particularly relevant to Finland. Practical work is coordinated at the Ministry of Economic Affairs and Employment and at Business Finland.

Influencing and utilising EU legislation and policies is important in the promotion and internationalisation of Finnish energy and low-carbon technologies. Many legal instruments of the EU

involve a direct or indirect technology interest. The EU also has a Technology Plan and research programmes with aspects relating to energy and low-carbon technologies. Business Finland is involved in this work in addition to the Ministry. EU research programmes are utilised by organisations including VTT Technical Research Centre of Finland and the Geological Survey of Finland.

Finland's forthcoming Presidency of the EU

During Finland's Presidency of the EU, we will focus on issues including the functioning of the internal market and the EU's external economic relations.



Finland's Presidency of the EU starting in autumn 2019 offers a special opportunity to influence the development of the EU in a manner supporting the objectives of the Agenda for Sustainable Growth. Finland will assume the Presidency in autumn 2019 in a post-European Parliament elections setting where the new Commission is being formed. As the next Presidency holder, Finland will have the opportunity to influence programme formulation and, consequently, the contents of the entire economic agenda of the EU for the next five-year period, provided that we are able to offer an outlook on the factors affecting the EU's competitiveness and that we construct a story that strikes a chord across the EU.

“Success in the creation of a digital internal market will play a key role.”

As regards growth, it is important to pursue maximised free movement of goods, services, capital and persons in accordance with the Treaty on the Functioning of the European Union. Finland must operate actively to reform the internal market project. Obstacles to the functioning of the goods, service and capital markets must be removed. Particular attention must be paid in the internal market project on accelerating digitalisation. Success in the creation of a digital internal market will play a key role in the development of the European platform economy and e-commerce and Europe's global success. In the context of developing the digital internal market, Finland should advocate a selection of tools that will not prevent or slow enterprise activities in the digital market, which is characterised by exceptional dynamism and difficulty of anticipating changes. This is the only way to ensure that Europe will interest platform economy actors as a location for investment and an operating environment. This toolbox also includes increasing experimentation.

From the growth perspective, one of the aims of the development of the European internal market must also be to deepen the EU's

Energy Union and create a comprehensive, functional and integrated Capital Markets Union (CMU). The CMU would promote the more efficient allocation of capital required for growth financing and initiatives supporting market development (such as sustainable financing).

“Competitiveness and transparency go hand in hand in economic transactions.”

Attention must also be paid to the common trade policy. Despite the current challenges faced by world trade, the EU must continue its endeavours – including proactively – in the future to develop world trade on the basis of openness and a rules-based trading system. An open trading system enables, for example, enterprise participation in global value chains, which is vital for the success of an economy like Finland. The trading system must also support the objective of fields such as digital enterprise activities being able to be created and grow within the EU (rather than outside it). The EU must therefore develop as an active player in the deregulation of world trade. Solutions should be sought actively and open-mindedly specifically with large trading blocs (including the United States, China and India). At the same time, it is important to take into account genuine European (political) concerns from perspectives such as the securing of strategic interests and equal conditions of competition.

Competitiveness and openness go hand in hand in economic exchanges. Alongside market development and opening, the EU must focus on competency factors enabling capacity for renewal to make sure the EU economies will succeed in the global operating environment amidst the changes brought about by accelerating technological (digital, artificial intelligence, etc.) advances. At the same time, the environmental and social sustainability of activities must be ensured.

Leading the way in the utilisation of digitalisation and introduction of environmentally sustainable solutions requires not only an appropriate regulatory environment but also joint research and innovation efforts and ecosystem development. As regards utilising the opportunities provided by digitalisation, open, innovation-based, data-intensive and strategically managed platforms and ecosystems of various sectors with a critical mass are decisive. In measures at the European level, the focus must be on artificial intelligence, platform economy, data mobility and peoples' new knowledge and skills. On the other hand, to ensure environmental sustainability, there is a need for various reforms relating to the bioeconomy, circular economy and energy and climate policy, the impacts of which must be comprehensively examined. At their best, the reforms make the EU more competitive, spur growth and provide new opportunities for businesses. The principles of the circular economy, for example, will reform the traditional production methods and provide existing companies and operators the possibility to adjust their operations.

A key objective set is programmatic and foresighted influencing seeking to identify the critical measures with regard to the development of the EU's competitiveness. The EU's macroeconomic stability and the development of the Economic and Monetary Union (EMU) are key elements of the EU's economic policy. The focus in influencing relating to competitiveness will, however, be on structural policy issues.

In influencing, a policy-level answer should be found to what measures the EU will need over the medium term for the EU economies to succeed in the global operating environment amidst accelerating technological changes (digitalisation, advances in artificial intelligence, etc.) while ensuring the environmental sustainability of activities. The aim for the future should be to promote value creation comprehensively in Europe.

Appendix 1: Renewal outlook for key industries

The renewal of large key enterprises and central industrial structures is vital for growth. Important enterprise-driven consortiums aiming for renewal include Digital, Internet, Materials & Engineering Co-Creation (DIMECC) and CLIC Innovation Ltd. Renewal pursuits can also be seen in certain service sectors. Knowledge of renewal dynamics is needed to develop innovation policy instruments among other things. The following section briefly describes the renewal outlook and mindset. The situation picture concerning the industry outlooks should be amplified in the future.

- The forest industry is pursuing renewal by transforming its production facilities into more diverse bioproduct plants. CLIC is working actively to renew the industry. Public authorities can set ambitious next-generation renewal objectives to develop, for example, the digital bioeconomy sector.
- The multisectoral production structure of the machinery and metal industry is undergoing a multifaceted transition. The development involves major risks for the national economy but at the same time also great opportunities.
- The above is closely connected to the transport equipment industry (maritime industry, automotive industry, etc.).
- The electronics industry and Finnish network business are core technologies with regard to the IoT and 5G transition. DIMECC's activities will bring together the development activities of the three above-mentioned industries.
- The chemical industry's opportunities in the field of oil refining are linked with energy transition. It should be in the interests of the public authorities not only to safeguard energy supply but also to increase self-sufficiency and value added.
- In chemical industry, chemicals and pharmaceuticals development have been growth sectors. Cooperation between the chemical and forest industries will strengthen the bioeconomy.

- Active dialogue with health industries, such as the pharmaceutical and bioindustry and health technology and digital health actors, will continue in the implementation and renewal of the growth strategy of health sector research and innovation activity. Opportunities for exploitation of health data, digitalisation and artificial intelligence as well as public-private partnerships and co-creation contain major growth opportunities from the employment, export and investment perspectives. Finland has an opportunity to take a share beyond its size in research, innovation and testing activity in the sector by strengthening collaboration between enterprises, universities and healthcare.
- The total combined energy-sector competencies and enterprise activities of the machinery and metal, forest, chemical and electrical industries are significant, and these industries have also recognised the opportunities provided by the global energy transition.
- The ICT services industry will rise up after the Nokia shock in the electronics industry. Value added in the sector is increasing.
- Traditional industries will be transformed by the service business transition as digitalisation advances. Over the medium term, it is important to ensure global-level actors will emerge from Finland in the selected Finnish areas of strength.
- To diversify the economy, upgraded tools will be employed to support new growth ecosystems created around the strengths. Autonomous maritime transport is one example of this.

Appendix 2: State of renewal and innovation activity

Economic growth is largely based on productivity growth a key source of which is innovation activity. Finland's growth dynamics from the perspectives of innovation policy and the innovation system have been as follows over the past few years.

- *Collaboration* has weakened: National-level tools for the promotion of multilateral collaboration (business life – research organisations – third sector – administration; PPP basis) have essentially disappeared due to the partial dismantling of the Strategic Centres of Science, Technology and Innovation (SHOK) and the reductions in the government aid authority of Tekes – the Finnish Funding Agency for Innovation and in the government aid of VTT Technical Research Centre of Finland. In broad terms, both the amount of collaboration as well as the ability to collaborate have decreased in the 2010s. Finland's traditional strength has turned into a weakness.
- The understanding of *strengths* has weakened: A regionally structured overall view of strengths (competencies, technologies, themes), collaboration and the effectiveness of these has been lost following the termination of the Innovative Cities (INKA) Programme. No national-level tool or platform has replaced it.
- Shortcomings in renewal *funding* and funding *effectiveness*: Finland is an interesting partner thanks to the quality and progressiveness of our research and innovation. The innovation opportunities opened up by R&D and new technologies have been too commonly unutilised in business life.
- Enterprises have focused on the further development of existing business and product ranges. R&D expenditure has declined rapidly. Expenditure development would need to be returned to a growth trajectory that is predictable and takes the grounds for increases into account. There will have to be a weighty shift in business subsidies towards subsidies promoting renewal and creative destruction. The Ministry of Economic Affairs and Employment should encourage Business Finland to take braver steps in renewal actions. Many foreign sources must be tapped more intensively in funding.

- The image of Finland as an innovative economy with a high level of collaboration is partly an illusion. Finland's business life is not in any way exceptionally innovative (33 % of enterprises innovate; 12th highest rate among EU countries). The rate of enterprises placing new products on the market in Finland is considerably lower than in countries such as Belgium, Denmark, Germany and Switzerland. New innovations accounted for only 11% of the turnover of Finnish enterprises, which is slightly below the EU average.
- There is also room for intensification in interaction relating to innovation activity: Finnish enterprises relatively often want to innovate alone. A total of 38% of Finnish enterprises collaborate with another organisation during the innovation process. In European benchmarking, 14 countries had a rate of collaboration intensity at the same level as or higher than in Finland.
- The Finnish rate of SMEs in particular among enterprises launching new products is considerably lower than that of the leading European countries. SMEs also account for a significantly lower percentage of R&D expenditure than on average in OECD countries (22 % in 2013, OECD average 35%).
- As an abstract construction, the innovation system cannot be reformed as a single entity. It is equally unrealistic to think that any firm, centralised overall guidance or coordination of the system could be possible. This does not, however, mean it is not possible to take major steps forward in overall management issues – indeed, the opposite is the case.

Appendix 3: Agenda for Sustainable Growth and Agenda for Sustainable Development

The Ministry of Economic Affairs and Employment is a builder of an enabling environment and its aims are productivity, growth, employment and wellbeing. It implements sustainable development in accordance with the objectives of the 2030 Agenda for Sustainable Development. The Ministry promotes growth based on the continuously developing competitiveness of enterprises, the switch to a carbon-neutral economy, facilitation of competencies and equality in working life and the global market access of sustainability solutions. The Ministry will improve target orientation, policy coherence and management relating to sustainable development in cooperation with other administrative branches and stakeholders.

The Ministry of Economic Affairs and Employment will integrate sustainable development into its policy planning and management system. The Agenda for Sustainable Growth will steer the implementation of sustainable development in the Ministry of Economic Affairs and Employment Group and promote commitment to sustainable development in the administrative branch. The Agenda for Sustainable Growth is a new tool for policy planning. Its purpose is also to serve as a framework for doing things together with regard to other administrative branches and stakeholders.

The Ministry will invite other administrative branches, stakeholders and actors of the administrative branch² to join it in the promotion of the making of new commitments under the Society's Commitment to Sustainable Development initiative. The Agenda for Sustainable Growth will also ensure the realisation of sustainable development in administrative reforms (Business Finland, growth services).

2. The Ministry of Economic Affairs and Employment Group comprises seven central agencies, 15 centres for economic development, transport and the environment, 15 employment and economic development offices, six companies and three funds. The agencies of the administrative branch have around 8,000 employees. The agencies are the centres for economic development, transport and the environment, the employment and economic development offices, the Energy Authority, the Geological Survey of Finland, the National Emergency Supply Agency, Business Finland, the Finnish Competition and Consumer Authority, the Finnish Patent and Registration Office and the Finnish Safety and Chemicals Agency (Tukes). The companies are Baltic Connector Ltd, Finnvera Plc, Tesi, VTT Technical Research Centre of Finland Ltd, Terrafame Group Ltd. The funds are the National Emergency Supply Fund, the State Guarantee Fund and the Nuclear Waste Management Fund.

In brief

Sustainable growth is a requirement for wellbeing in Finland. The Ministry of Economic Affairs and Employment is committed to systematically supporting the creation of conditions for growth. The Agenda for Sustainable Growth sets the operational spearheads for Finland's growth policy.



Ministry of Economic Affairs
and Employment of Finland