PRIME MINISTER'S OFFICE
FINLAND

Government Report on the Future: well-being through sustainable growth

Prime Minister's Office Publications | 20/2013

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Publisher
PRIME MINISTER'S OFFICE

DESCRIPTION
30.10.2013

Authors
The preparation of the report was led by a ministerial working group chaired by Jan Vapaavuori, Minister of Economic Affairs. Pekka Lindroos acted as the General Secretary of the project, with Mari Hjelt acting as lead author.

Type of publication
Publication

Commissioned by
Prime Minister's Office

Name of publication
Government Report on the Future: well-being through sustainable growth

Language
English

Abstract
Prime Minister Jyrki Katainen's Government Report on the Future explores Finland's long-term future challenges and opportunities, as well as outlines the Government's common vision of the future we are seeking to build. The report homes in on the keys to sustainable growth that will secure well-being in the period up to 2030. It also focuses on the leading edge of new activities which require attention now and in the future. The Government Report on the Future focusing on well-being based on sustainable growth includes decisions in principle, based on which concrete steps can be taken in various areas of society.

Preparation of the report began with a foresight phase, whose results were published in February 2013 at tulevaisuus.2030.fi. This phase also provided the material for the creation of a new Finnish foresight model. In addition to foresight work, the report is based on recent research and the many policies and strategies already implemented by the Government. Use was also made of the preliminary results of the 'Sustainable Growth Model', an independent international research project that was carried out concurrently.

Chapter 2 of the report lays out the Government's vision: "In 2030, Finland will be a good place in which to live a meaningful and valued life. Finnish expertise and economic growth will have created the basis for well-being. Finland will have succeeded in building sustainable growth based on the country's unique success factors, while bearing its responsibilities both in Finland and globally. Such growth will have promoted well-being within the environment's carrying capacity. This will be the responsibility of the whole of society and all communities and individuals."

Chapter 3 assembles key descriptions of future development directions. Chapter 4 discusses Finland's prerequisites for and strengths in implementing sustainable growth, while the subsequent chapters describe key requirements for sustainable growth. Such requirements include the business operating environment and the diversity of entrepreneurial activities (Chapter 5); work, learning and entrepreneurship (Chapter 6); education, communality and participation (Chapter 7); and public sector activities in support of sustainable growth (Chapter 8). Chapter 9 includes a summary of the Government's targets and policy guidelines.

Keywords
Sustainable growth, well-being, future, long term, private sector activities, learning, communality, public sector, foresight

Number of pages
86

Name of series and number of publication
Prime Minister's Office Publications 20/2013

Publisher
Prime Minister's Office

ISBN print	ISBN PDF	ISSN print	ISSN PDF
978-952-287-069-8	978-952-287-070-4	0782-6028	1799-7828

Distribution
Publication as a PDF: www.vnk.fi/english
Further information: julkaisut@vnk.fi

Printed by
Edita Prima, Helsinki, 2013

CONTENTS

FOREWORD

The Government Report on the Future seeks to draw attention to key issues in terms of Finland's long-term future, which would otherwise be overlooked or receive only occasional consideration. From the perspective of 2030, sustainable growth is clearly a challenge of this type. Finland has drifted into a situation where the growth that financially underpins its citizens' and inhabitants' well-being cannot be generated without special measures. Indeed, the EU as a whole faces major challenges. The report focuses on outlining the basis for creating the sustainable growth that will safeguard well-being in the future.

As a commitment involving preparations over the next decades, the theme of sustainable development is covered in all of its aspects. The National Energy and Climate Strategy updated by the Government sets a number of key requirements with respect to achieving sustainable growth over the next few decades. Policies already set form the basis for the Report on the Future. Finland could be a forerunner in implementing the principles of sustainable development. It could also be the best beneficiary of the opportunities afforded by this great transition, for example in the global markets for clean technology and within the digital economy.

The Government cannot promise a detailed glimpse of the future. The Government Report on the Future process has not lit precisely upon the most promising growth areas, even if such insight is demanded. The aim has been to come up with decisions in principle, on the basis of which it is possible to build concrete reforms. The report itself is not an action plan. The Government's structural reform package sets the framework for the public economy, from the perpsective of the development of the sustainability gap. Identifying and seizing upon growth and employment opportunities is the task of enterprises, local authorities and even NGOs. In this, the Government's key role lies in supporting the enhancement of the competence base and operating environment, so as to make Finland one of the best countries in the world in creating and applying new information.

Before the Government Report on the Future was written, independent representatives of research institutes, business life and NGOs drew up a foresight report, which was published in February 2013. The Finnish Innovation Fund Sitra, the Academy of Finland, and Tekes, the Finnish Funding Agency for Technology and Innovation, took an active part in the preparation of the analysis report, which identified promising opportunities for Finland. The Foresight Report Future 2030 and foresight work have been widely discussed on the www.2030.fi website.

The foresight phase also created a basis for developing a new foresight model. An open-minded culture engaged in analysis of the future and its opportunities will be a significant factor in Finland's future success. In order to meet the related challenges boldly, the public administration requires reform. This report therefore proposes the reinforcement of open-minded experimental activities.

Finland needs a bold interpretation of its own future opportunities. However, it should be borne in mind that we are part of a deepening process of international interaction, an interdependence which will be emphasised as the digital economy develops. Finland will also feel the impact of global crises and undesired black swans, probably at an accelerated pace. Its ability to recover from such crises and seize new opportunities will therefore be the cornerstones of its success. It is equally crucial that demand and sufficient manpower for global, top professions and other roles are found, and that everyone in Finland is presented with fulfilling opportunities to participate in working life.

In addition to the report, an international group of researchers led by Pekka Himanen and Manuel Castells has created a set of future visions, related to the intellectual culture and to the new challenges facing the information society in particular. In this report, use has been made of their views and of the draft texts of the publication to appear in early November 2013.

The report will be submitted for consideration by Parliament. Projects launched and reports published by the Parliamentary Committee for the Future have already raised a number of issues that are significant to the report.

We hope that the perspectives created by the Government Report on the Future initiate a debate that reinforces Finland's ability to build a future of the kind we are seeking. The Government will continue its dialogue with civic society, while engaging in the practical implementation of the report's key policies. However, the primary aim of the report is to provide the next Governments with usable paths towards the attainment of the envisaged future. The ministries will carry out foresight work by gathering and preparing for the actions and alternatives that will build a more sustainable future in terms of growth and citizens' well-being. By 2030, in addition to the challenges posed by an ageing population, globalisation and the digital transformation, Finland will have faced a host of unexpected situations in which expertise and the ability to move from planning to rapid action are the indispensable basis of its success.

The ministerial working group steering foresight preparation

1 GOVERNMENT REPORT ON THE FUTURE FOCUSING ON WELL-BEING BASED ON SUSTAINABLE GROWTH

Prepared by the Government for Parliament once during each parliamentary term, the Government Report on the Future is a document that lays out Finland's future challenges and opportunities. This report, on well-being through sustainable growth, focuses on the keys to sustainable growth if we are to guarantee well-being in the future, based on a time-frame extending to 2030. It also draws attention to the leading edge of new activities, which require attention now and in the long term. Preparation of the report was led by a Government-appointed ministerial working group representing all parties in Government.

In the future, multiple changes will have impacts that radiate rapidly outwards in all directions. Global interdependencies will strengthen. In future holistic management of issues affecting society will become more difficult, but at the same time the government will require a more extensive understanding of complex wholes and dependencies between various policy measures. The government has sought to resolve this issue through diverse strategy work at multiple levels. Nevertheless, globalisation in particular is making the prioritisation of strategic plans, and their practical implementation, citizens' inclusion, planning co-ordination and harmonisation, increasingly difficult. New modes of international co-operation and different kind of leadership are also required.

The task of the Government Report on the Future focusing on well-being based on sustainable growth is to identify issues that will require future attention across terms of government. Many of these issues have already been identified as critical; they will remain so long into the future, even if they have not been confronted on a sufficiently broad basis. On the other hand, the Government Report on the Future is tasked with highlighting issues to which less attention has been paid, or which rest at the interfaces between various matters.

The Government Report on the Future focusing on well-being based on sustainable growth centres on the prerequisites for creating sustainable growth that will safeguard well-being in the future. In other words, the report is not an extensive explanatory model of sustainable growth and well-being and does not cover the full panoply of challenges to sustainable development. A national strategy for sustainable development, aimed at creating a social

contract strongly binding the various actors in society to common sustainable development goals with a view to 2050, was concurrently prepared.

The Government Report on the Future outlines the Government's common vision of the future we are seeking to build. It is not an action plan on which the solution of individual problems might be based. Rather, the report seeks to highlight factors and development paths that will facilitate sustainable growth in the future. To create this future, we need faster action and learning through doing, rather than more planning. Finland cannot copy the required solutions from elsewhere, but must find novel, original solutions that provide us with the keys to a successful future.

For the first time, a separate foresight phase formed part of the government report's preparation. The purpose of this phase was to seek a novel approach to finding new directions for Finland. The foresight phase was implemented in collaboration between the Prime Minister's Office, the Finnish Innovation Fund Sitra, the Academy of Finland, and Tekes, the Finnish Funding Agency for Technology and Innovation, alongside a host of independent specialists and experts from research institutions, enterprises and NGOs. In addition, discussions were held on the website of the Government Report on the Future at www.2030.fi and at seven locations in Finland in the autumn of 2012. In these, citizens were urged to come forward with ideas, and to discuss and ponder Finland's future and the possibilities that lie ahead. Completed in February 2013, the report on the foresight phase assembles views on the direction Finland might take, based on discussions between experts at different forums and events[1].

The foresight was divided into the themes identified, during the preparatory stage, as essential to sustainable growth and well-being. The following themes were selected for the foresight phase: public administration as an enabler, business regeneration, working life in the future, opportunities in the midst of scarcity, citizens' well-being and inclusion, and a new geography for the North. In addition, the following cross-cutting themes were examined: competences and capabilities, changes brought about by the digital economy, globalisation and flexibility, and resilience in the face of crisis. An abundance of other foresight material is available. The Government Report on the Future presents those viewpoints considered significant in terms of the content it sets out to cover, rather than describing all of the foresight material on hand, or reprising the entire Foresight Report Future 2030.

1 Online foresight report on sustainable growth and well-being of citizens: tulevaisuus.2030.fi (Prime Minister's Office et al., 2013)

In addition to the foresight work, the report is based on recent research and the many policies and strategies already implemented by the Government. Use was also made of the results of the 'Sustainable Growth Model', an independent international research project that was implemented concurrently. Key policies and studies used in the report's preparation are presented in its list of sources. Management structures and the implementation of the report's preparation are described in the appendices.

The report focuses on the identified key prerequisites for future success. Chapter 2 describes the vision for the desired situation in 2030, and gives a specific definition of sustainable growth. Chapter 3 provides key descriptions of future development directions, setting the scene for the chapters that follow. Chapter 4 discusses Finland's prerequisites and strengths for implementing sustainable growth, while the subsequent chapters describe key requirements for sustainable growth that require future attention. These constitute overarching themes as follows: the business operating environment and the diversity of entrepreneurial activities (Chapter 5); work, learning and entrepreneurship (Chapter 6); education, community spirit and participation (Chapter 7); and public sector activities in support of sustainable growth (Chapter 8). The final chapter, Chapter 9, includes a summary of the Government's targets and policy guidelines.

2 A VISION FOR 2030 AND THE CASE FOR SUSTAINABLE GROWTH

The Government's vision: In 2030, Finland will be a good place to live a meaningful and valued life. Finnish expertise and economic growth will have created the basis for well-being. Finland will have succeeded in building sustainable growth based on the country's unique success factors, while bearing its responsibilities both in Finland and globally. Growth will have promoted citizens' well-being within the limits of the planetary boundaries. This is the responsibility of the whole of society, and all communities and individuals.

Citizens' well-being is the ultimate goal. In Finland, well-being has largely been built on services produced using public funds; sufficiency of public funds is therefore a prerequisite for future service production. The current promise that the same services will be provided for future generations cannot be fulfilled without economic growth. Economic growth will not be achieved without continuous reform running through the whole of society.

Future growth must rely on sustainable development. This means development that meets the needs of current generations, without diminishing future generation's opportunities to meet their own needs. Building our well-being has had global effects and been achived at a high price. As the global population has grown and unsustainable consumption has proliferated, the planetary boundaries have been met. The world's population will continue to grow and climate change will transform our living conditions. In addition, global wealth and well-being are unequally distributed. Short-sighted pursuit of future growth, with no regard to its limits, would undermine the basis of future generations' well-being.

Finland must build the prerequisites and model for its own success, based on its own strengths and characteristic advantages, as well as its ability to regenerate itself. Finland must take responsibility for its own future and citizens. Poor management of issues at home will diminish Finland's opportunities to act in a globally responsible manner.

A range of well-being indicators in international comparisons suggest that Finland is currently doing well. However, room for improvement remains. Increasing inequality and social exclusion are a particular cause for concern. On the other hand, well-being is not an unambiguous concept, but consists of many sub-areas and complex causal relationships (Box 2.2). Work,

communality, health and our relationship with nature are significant sources of individual well-being.

An important challenge for Finland's future lies in its ability to create and sustain sufficient economic wealth to maintain the positive situation described above. As the population ages, care costs will increase and the dependency ratio will become less favourable. Promises have been made to future generations on services whose implementation is economically unsustainable based on the current structures. Our public sector finances are currently characterised by a sustainability gap, estimated at 4.7% of GDP[2] (see Box 2.1).

Box 2.1 Finland's sustainability gap (Source: Ministry of Finance)

Finland's public finances are on an unsustainable path. Tax income continues to fall short, while economic growth remains low. Growth is hampered by our contracting working-age population and slow growth in the economy's production potential. Meanwhile, age-related expenditure within the public economy continues to grow as the number of older people increases.

The working-age population is forecast to fall by around 100,000 by 2030. At the same time, the number of people over 64 years of age will grow by 500,000. In 2008, there were four working-age people per senior citizen, but by 2030 there will be around two. Age-related expenditure (pensions, health care, long-term care, unemployment security and education) within the public economy (government, local authorities, social security funds) currently amount to almost 30% of GDP. It is estimated that age-related expenditure will grow by more than 3 percentage points in relation to GDP by 2030. This growth is particularly due to pension expenditure, which is expected to grow by 1.8 percentage points in relation to GDP by 2030.

Driven by the ageing of the population, age-related expenditure is pushing public-sector funding onto an unsustainable path in the long term. The long-term sustainability gap in the public economy is estimated at 4.7% of GPD. The sustainability gap indicates the extent to which the public economy must be adjusted by 2017, in order to prevent an unsustainable level of public borrowing.

[2] Finland's Stability Programme 2013 (MF, 2013).

By nature, the sustainability calculation is a pressure calculation, including much uncertainty due to the assumptions involved. Reducing the assumed level of interest on investments by 0.5 percentage points would increase the sustainability gap by 0.5 percentage points. On the other hand, reducing the assumed interest paid on the national debt by 0.5 percentage points would reduce the sustainability gap by 0.2 percentage points. Increasing the public services' productivity assumption by 0.25 percentage points per annum would reduce the sustainability gap by 0.7 percentage points. On the other hand, growth in general economic productivity by 0.25 percentage points would reduce the sustainability gap by only 0.3 percentage points, since the increase in productivity would raise wages and thereby the cost of public services. A reduction in the structural unemployment rate of 0.5 percentage points would reduce the sustainability gap by 0.15 percentage points, if the fall in the unemployment rate was fully reflected as an improvement in the employment rate[3].

Despite the uncertainty involved in this calculation, the sustainability gap estimate indicates the trend the public economy would take if no measures were taken to balance it. Postponing adjustment measures will further increase costs, in the form of higher indebtedness and interest expenses. Prioritising long-term balancing of the public economy's revenue and expenditure is also essential to fulfilling the service promise made to citizens, without significantly compromising fairness between the generations.

Simultaneously, changes in the global division of labour have weakened the short-term outlook for Finland's economic growth. The number of jobs is contracting and new, substitutive businesses are not arising to the required extent. Meanwhile, in many respects, the growth and competitiveness logic of enterprises and the nature of work are being reshaped. Many workplaces that have vanished will not return in the same form. The key to filling the sustainability gap lies in creating the preconditions for future economic growth with the aid of structural changes. The public authorities could create the preconditions and incentives for diverse, competitive and growth-oriented businesses, which would generate more private-sector jobs. Similarly, productivity growth could

[3] The international research project and other studies include many similar reflections on to what extent it is possible to patch up the sustainability gap in finance by focusing on removing and preventing the problems that pose a threat to the well-being of society. The international research project gave particular emphasis on the potential of transferring to a future digital economy (informational society) to improve productivity in society and the impacts of alleviating social problems (mental health, well-being at work).

be supported and encouraged in all sectors through government decisions, which would also have an impact on the labour supply. Through its own posts, the public sector in particular can influence the productivity and content of work, and work practices and well-being.

It should be noted that inability to realise successful sustainable growth is a possible future development path. In such a situation, revenue would not suffice for producing all current public services, necessitating tough decisions on what public services can be provided. Our chances of reversing the development trend in social exclusion would also be diminished. Whether or not such a scenario will eventually transpire, we need to prepare for it by engaging in a common and open debate on the grounds for our future choices.

Growth resting on sustainable development means economic sustainability that provides the economic resources needed to safeguard the well-being of future generations. Ecological sustainability, on the other hand, requires that natural resources be consumed only in step with renewability and that the environment is not burdened beyond its bearing capacity. We need social sustainability and global responsibility. Growth must not be achieved at the expense of others' well-being. Finland is committed to complying with common international agreements on sustainable development, which define common goals for solving global challenges[4].

The future will be characterised by an increasing need to examine sustainable development and growth as a broader socio-ecological-economic whole. No one aspect of sustainable development can be examined in isolation – each aspect involves a number of goals that are also mutually conflicting. The different aspects are connected to one another in many ways. For example, problems related to social well-being, such as social exclusion, a decline in citizens' health or environmental damage, would erode the preconditions for future economic growth. Different aspects also require close dialogue and co-operation between various bodies, such as citizens, enterprises, researchers and the government. Integrating the different aspects of sustainability into the decision-making of various bodies at different levels is a transformation that will require a great deal of work in the forthcoming years.

To realise sustainable growth, we will have to choose how we use various resources in the short term, while also investing in the preconditions for future

[4] http://www.ym.fi/fi-FI/Ymparisto/Kestava_kehitys: 'Sustainable development is promoted through international policies in which commitments obliging the states are agreed on. Finland's national sustainable development work implements the policies of the UN, European Union, the Arctic Council and the Nordic Council of Ministers. The conclusions of Rio+20, the 20th anniversary conference of the UN sustainable development, in particular, are used as a key framework for Finland's national sustainable development work.'

well-being by focusing on sustainable development. By investing, in citizens' health and the prevention of health problems and social exclusion, we are creating the basis for a good life and future economic growth. Economic growth increases the burden on the environment, but the preconditions of future growth can be ensured by investing in minimising this burden. Attaining sustainable growth requires a systemic understanding of various societal wholes, as well as preparedness to introduce novel operating models and the adoption of structural reforms. This means that citizens and enterprises will create and introduce new solutions in increasingly closer co-operation with the public sector.

Box 2.2 How are we doing in terms of well-being?

Societies need information on their own well-being and the related country comparisons. There are many ways of defining and measuring social well-being, and innumerable international comparison materials and well-being and development indices exist. Decision makers traditionally refer to gross domestic product (GDP) as a key indicator of social development and national prosperity. Describing economic activity, GDP has never been intended as an indicator of well-being. For example, GDP does not describe the various environmental impacts of economic development or income distribution, or take sufficient account of issues such as the impacts of immaterial investments. In recent years, mounting criticism has been directed at the use of GDP as a key individual indicator. Several processes are underway at international level for the development and introduction of supplementary indicators. For example, the outcome document of the UN Rio+20 includes a decision to develop new indicators for sustainable development, to complement GDP[5].

Sustainable development and well-being cannot be defined unambiguously. Instead of finding an all-encompassing index, the focus has shifted to defining a suitable set of key indicators. In Finland, this work is represented by the Findicator collection (www.findikaattori.fi) which, in addition to sustainable development and well-being indicators, covers other indicators and provides up-to-date information on society. Research is also required on the development of indicators. Revised concepts and monitoring are required for

[5] United Nations (2012). The Future We Want. http://sustainabledevelopment.un.org/futurewewant.html

intangible growth and the progress of the digital economy in relation to the economy and well-being, in particular.

Are we a well-being society? In terms of economic sustainability, the situation is clear – we are living beyond our means, and our current finances are deeply in deficit. On the other hand, compared to many other countries we are in an enviable situation. Our competitiveness has been excellent and factors such as our people's educational achievements and high expertise create a basis for the future. Social stability and functionality are at a good level. However, it is precisely in these terms that the situation will not necessarily remain positive without reform and investment. Our universities are not competitive in international comparisons. Other causes for concern are growing divergences between the learning results of schools, pupils' dissatisfaction with school life and growing youth unemployment. Maintaining the physical infrastructure will require heavy investment. In international comparisons, the state of our environment is rated as good. On the other hand, we are living beyond our own ecological footprint, while much room for improvement remains in many areas of environmental well-being.

In terms of citizens' well-being and its transgenerational sustainability, the situation is not easy to describe, since this involves issues such as perceived well-being and satisfaction with life. In international terms, we are still representative of the Nordic welfare states. According to many indicators, our well-being is high and has unquestionably improved over recent decades. Negative developments have occurred, particularly in the growth of socio-economic differences. Growing health differences, differences between schools and education, residential segregation, economic inequality and social exclusion pose a threat to well-being. Finnish citizens find that inequality significantly reduces well-being and they want Governments to focus on its eradication. Poverty and social disadvantage also persist from one generation to the next, and must be addressed in order to build transgenerational well-being.

Box 2.3 What if economic growth eludes us?

Finland's targeted economic growth is set at 3% of GDP per annum. The long-term forecast underlying the Ministry of Finance's stability programme assumes a growth rate of 1.6% in GDP (2013) and 1.5% in productivity.

However, what if economic growth simply fails to transpire and we systematically seek well-being without it? History provides no examples of well-being's retention in the face of a flatlining economy. The EU countries currently facing difficulties tell us how well-being will fare when the public economy and growth stall.

In economic development, the concept of decoupling means economic growth without negative impacts on the environment and people. History furnishes many positive examples of this, i.e. of the replacement of many, more harmful, solutions, through the development and introduction of new, more sustainable and growth-generating competitive technologies. Digital and immaterial value creation and technological development in general serve to reinforce our confidence in the possibility of decoupling.

The problem is that global consumption grows in pace with and faster than technological and productivity development is able to create more sustainable practices. It has also been observed that the efficiency potential of energy- and resource-efficient solutions is not always implemented in full (the so-called rebound phenomenon). Steering consumption in a sustainable direction has not been successful, either.

As an answer, it has been suggested that we should abandon our endeavour for economic growth and reduce consumption (so-called degrowth thinking). However, from the viewpoint of the public authorities and national economy, degrowth is problematic in a number of ways. First of all, the means of reducing consumption are limited. What ethically and socially acceptable means do we have of steering citizens' consumption habits in a way that achieves real change? Economic growth is also necessary in order to produce public services. To what extent would we accept a deterioration in our well-being?

3 KEY FUTURE CHANGES IN TERMS OF SUSTAINABLE GROWTH

The foresight phase of the Government Report on the Future produced various future scenarios for Finland in 2030. We will not reiterate all of the preparation stage's outcomes here. Besides, a wealth of material describing the future is available. This chapter gives a brief description of the key change factors which will have to be taken into account in terms of the opportunities for, and challenges facing, sustainable growth. The possibilities of sustainable growth and the key prerequisites for growth in Finland are described in subsequent chapters.

Finland's economic growth depends on the development of the global economy. The development of the Asian countries, especially China, and South America will impact heavily on long-term changes in the global economy. Moreover, the future development of the EU and Russia is extremely important to Finland. While we cannot say anything certain about these development trends, we can expect unexpected developments and shifts in the focus of the global economy to have an increasingly rapid and significant impact on Finland's economic development (see Box 3.1).

The world's population is expected to grow until 2030. Due to a rise in living standards and a fall in the birth rate, the population structure will level off in most countries, leading to relatively more working-age and older people than before. Population growth, longer life expectancy and economic growth constitute a formula that will result in significant problems in the forthcoming decades. In many sectors, the planetary boundaries have already been exceeded[6]. If the economic growth of developing countries continues at its current pace, with no revolutionary, unexpected technological leaps in the short term, the Earth will no longer be able to support all of us in a sustainable manner. Increasing shortages of cheap energy, materials, clean water and food are in prospect. In turn, this will have a major impact on global raw material flows and markets.

[6] A lot of research is carried out in order to understand the limits of the global ecological bearing capacity. One of the most significant international efforts is the joint international study on so-called planetary boundaries. The study has identified nine basic variables that are essential in terms of the regeneration capacity of ecosystems and determined for these variables the boundary values that are critical for the globe, also establishing the current situation. Climate change, biodiversity loss and the functioning of the nitrogen cycle have already been found to have crossed the critical boundary in terms of regeneration capacity. Every one of these factors has direct impacts on, for example, food production. The available knowledge indicates that we must act in order to reduce the burden on the environment. Increasing knowledge creates a basis for making wise choices in the future.

Climate change is inevitable and its resulting impacts will be diverse. Crucially, the scale of climate change will depend on how quickly we can reduce global emissions. However, due to the emissions already generated, the climate will continue warming to a certain extent, leading to significant harmful impacts on people and the environment. Although conditions in Finland will remain viable, global changes will also have an impact on us (see Box 3.1). Climate change is linked to well-being in many ways. Climate change and the scarcity of many natural resources will also result in increased activity in the Northern regions. The natural resources of the Arctic Region will be exploited, with considerable increases in traffic on Northern sea routes.

Relatively accurate predictions can be made about Finland's population structure in the near future. Migration to and from Finland is a significant uncertainty factor affecting such forecasts[7]. However, forecasts expect immigration to continue at a very moderate pace, although we will need immigration in order to prevent labour shortages as the working-age population diminishes. In addition to immigration, a longer life expectancy will also bring uncertainty to population forecasts. Life expectancy has increased at a faster rate than predicted. In any case, we are certain to be among the first countries in the world to face the challenges of an ageing population. Managing these challenges will be closely connected to our urban structure and the location of our population. It has been estimated that the next few decades will see further migration to urban areas, with several regions losing population.

Box 3.1 Examples of the alternative directions and risks associated with key global trends

By 2030, we will have faced many changes that we cannot currently predict or that involve significant uncertainties. A time span of seventeen years is short on the one hand and long on the other. For example, in terms of the transport and construction infrastructure and energy production, we are now making decisions whose projected impacts have a considerably longer time span. On the other hand, it is almost impossible for enterprises operating in the digital economy and, say, in the financial market's operating environment, to see more than a few years ahead. In terms of identified trends, we must outline alternative paths that will also have an impact on Finland[8].

[7] Factors of uncertainty concerning immigration and mobility have been dealt in, for example, in The Future of Migration 2020 strategy (MI, 2013).

Asia, particularly China and India, and South America are almost axiomatically viewed as areas where industry and trade will flourish and economic growth is strong. However, unexpected developments can occur anywhere. For example, in many African countries, development has been rapid over the last few years. Positive developments represent a major opportunity for Finland, no matter where they occur.

Globalisation will probably progress and deepen, but also involves uncertainties which, together with the development of the global economy, will also determine Finland's opportunities. A permanent slowdown in global economic growth is also possible. As part of global economic growth, developments within the financial sector and among multinational companies involve many uncertainties, which might impact on Finland rapidly. Rapid leaps ahead can be seen in various technological sectors, which will change production structures and procedures (see Box 3.2).

Alternative development trends in the EU will have a great impact on Finland's future. It is estimated that the EU's share of the global economy will fall in the future in relation to the rest of the world. As key challenges, the economic crisis, the debt crisis engulfing several member states, and rising unemployment have also pushed member states in different directions. In extreme terms, the EU's development paths could be viewed as leading to a federal superstate, or alternatively to the union's break-up. Both of these paths would have considerable impacts on Finland's future and sustainable growth.

Basic factors predict developments in Russia involve the alternative potential paths taken by energy and raw material exports, and societal developments. The essential issue is the development of the Russian business environment. Alternative paths include a centralised, authoritarian, large-scale enterprise-oriented Russia, or a

8 The contents of the scenarios in the study Huoltovarmuuden skenaariot 2025 (Scenarios for security of supply 2025) (National Emergency Supply Agency, 2013) have been utilised in the box. Moreover, for example, Lahtinen et al. (2012) in the report 'Globaalitalouden haasteet Suomelle vuoteen 2030' (Challenges of the global economy to Finland until 2030) and the summary of the changes in the operating environment, compiled by the Ministry of Employment and the Economy (Honkanen et al., 2013) deal in further detail several of the key future development paths presented in this box. There are also several other sources. For example, the Ministry for Foreign Affairs publishes the annual Maailman markkinat (global market) publication, describing especially changes in the markets that are essential for enterprises. The examples utilise the threats identified in the Security Strategy for Society (Ministry of Defence, 2011) and, e.g. examples in the IIASA study (2012) 7 shocks for Finland.

Russian enterprise environment that becomes more modern, diverse and mosaic[9].

The indirect impacts of climate change and other changes in the natural ecosystem will be huge. Many of these changes may also come to a head rapidly once the ecosystem's bearing capacity falters. An economic breakdown in Southern European agriculture due to climate change is an example of a major upheaval that would have an enormous direct effect on Finland.

Sufficiency of natural resources and the energy supply involve many uncertainties, all of which will be extensively affected by international and national environmental and energy policies. Oil prices are likely to continue rising in the near future, as price fluctuations related to oil and other raw materials become more dramatic. This will further accelerate the speed of change. A revolutionary energy technology solution could, on the other hand, transform the global situation while developments such as the utilisation of shale gas reserves could transform the global energy market field.

Several exercises describing future alternative paths foresee possible growth in national protectionism, due to developments such as a shortage of natural resources and raw materials, and repeated crises in the global financial markets. As uncertainty grows, trade barriers will increase and national interests will be strongly emphasised. China closing itself off from the rest of the world or lurching into recession would have a range of consequential impacts on the global economy.

As interdependencies grow, even minor crises could have widespread consequences. The Security Strategy for Society[10] defines threats and disruptions affecting the security environment, which would pose at least a momentary or localised risk to society's security or ability to function, or to living conditions.

Naturally, terrorism and other crime posing a risk to social order, serious disturbances in border security, and political, economic or

[9] The Committee for the Future has drawn up a study in 2020 entitled 'Sopimusten Venäjä 2030' (Russia 2030 Based on Agreements), describing alternative future scenarios for Russia (Kuusi, Smith ja Tiihonen, 2010).

[10] Yhteiskunnan turvallisuusstrategia, (Security Strategy for Society), Ministry of Defence (2010), www.yett.fi

military pressure and the use of military force, are major unexpected events in terms of their global impacts and points of discontinuity that concern everyone, as are major accidents.

Societies are increasingly dependent on the undisrupted supply of electricity. As the digital economy progresses and data communication links become more significant, we will become progressively more dependent on the functioning of these systems. Diminished reliability or technical breakdown of the internet would have a widespread impact on societies. Maintaining backup systems is becoming more and more expensive and difficult. In addition to electronic connections, Finnish society is fully dependent on physical connections and the functioning of international transport.

A major transition, essential in terms of sustainable growth over the next decades and of which we can already see the signs, is the transformation of the digital economy as a basis for global activity (see the definition of digital economy in Box 3.2)[11]. Until now, the information technology revolution has mainly concerned hardware, but we are now experiencing a breakthrough in digital services and content. For example, the automation of expert services and their transition into digital services will represent a major economic change over the next few decades. The digital economy harbours huge potential for growth and its transformation will fundamentally change work and the way in which enterprises operate. The key economic changes currently foreseen are as follows:

- In a digital economy, an increasing proportion of value creation will be immaterial. In the last few decades, various transaction and co-ordination costs have accounted for the lion's share of added value, a trend which specialisation will reinforce. One example of this is automation, which, by making operations more effective, increases productivity and reduces the labour costs of the industrial production stage. An increasing proportion of value creation lies in the organisation of production and distribution, being derived from the design of equipment, products and production, and from maintenance, branding and marketing activities.

[11] Elinkeino- ja teollisuuspoliittinen linjaus – Suomen talouskasvun eväitä 2010-luvulla (Industrial Competitive Approach. Means to guarantee economic growth in Finland in the 2010s.) (Ministry of Employment and the Economy, 2013); Palvelut ja tiedot käytössä - Ehdotus julkisen hallinnon ICT:n hyödyntämisen strategiaksi 2012 – 2020 (Using Services and Information. A proposal for the first common strategy to address challenges in public sector ICT utilisation 2012-2020). (Ministry of Finance, 2012)

- Utilisation of the internet will increase exponentially, creating substantial preconditions for economic growth. In particular, cloud services and their development will be engines of growth in the digital economy. Cloud services can be used, by both companies and the public administration, to cost-effectively, flexibly and innovatively develop and produce services.

- Use of services and knowledge will play a growing role in all value creation. In industrial production and products, services will also be increasingly closely integrated and form an inseparable part of value creation.

- Many tasks in the digital economy will be easily transferrable to anywhere. This will lead to a change in the division of labour in global value networks, with value networks broken down into smaller sections.

- Local clusters will rapidly lose their position to changing virtual networks. Companies that snap up control of value networks will be best positioned to obtain the largest share of value creation.

- We may face technological leaps and discontinuities, which will rapidly and comprehensively change the logic of productive activity. While forecasting these changes is challenging, the rapid seizing of opportunities will be a precondition for success.

- Within the global economy, the financial market already plays a major role in determining and directing the operations of companies. A functioning financial market will be a prerequisite for growth and risk taking.

- The ability to act quickly and risk taking will be key factors in the competitiveness of future companies and society.

- The most competitive companies will operate in a responsible and sustainable manner. Products and services will be produced as resource-efficiently as possible, both in terms of energy consumption and use of materials.

- From everyone, the digital economy will require solid basic skills, special expertise and the potential to develop one’s own skills in line with the principle of lifelong learning.

The logic of future economic growth will be different from that during the industrial era of past decades. Industrial operating methods and competitiveness, which are particularly important to Finland, will change rapidly. Old methods of enhancing operating conditions will no longer necessarily work and will need to be updated for the digital economy. These changes, and the prerequisites for maintaining competitiveness, are specified in Chapter 5.

Box 3.2 Definition of the digital economy

In the Government Report on the Future, 'digital economy' and 'digital transformation' are deployed as a single term describing a complex and extensive change, which is constantly developing and for which there is no established terminology. The technological advances of the ICT industry (equipment, components, software, systems) lie at the core of this transformation, enabling the efficient digitalisation, transmission and utilisation of information. The development focus is now moving from hardware to services produced using information. Because the internet is a key platform for future services, the term 'internet economy' is also frequently used. Information in digital form and its online transmission have resulted in the use of 'electronic' ('e') to describe new forms of digital operation.

As the costs of distributing and using information plummet, information of all kinds is being assembled and used more often and on a more automated basis. Artificial intelligence, automation and robotics are becoming more embedded in activities across the board. We are living in a 'smart' society that uses various smart solutions. With so much information now in use, multiple opportunities are arising to leverage the developments in 'open data' and 'big data'. Opening up 'big data' resources will allow multiple parties to further refine such information.

While not all technology is ICT, all technologies and applications will make use of and connect to the digital world in some way. It should be noted that major future changes can also be tracked by examining leaps ahead and sudden breakthroughs in other areas of technology. These include biotechnologies and gene technology, nanotechnologies and, more extensively, various material technologies (also enabling ICT development or, for example, a breakthrough in solar technologies) and rapid manufacturing (3D manufacturing, which could radically

change production and logistics, based on development of the digital/ internet economy)[12]. With technological development lying in the background of many changes, government documents often make general reference to technological change.

The digital economy is based on high expertise and use of information. From a broader perspective, several alternative umbrella terms could be applied to the leveraging of expertise and information. Instead of 'information society', we are now talking more often about a 'skills society' and a 'knowledge society'. Even then, the transformation continues, from a knowledge society to a 'society of meaning' and a 'passion economy'. In an international research project conducted at the same time as the preparation of the Government Report on the Future, the preferred umbrella term is 'informational development'.

The digital transformation is also having a profound effect on citizens' everyday lives and well-being in Finland and elsewhere[13]. Work and everyday lives are being transformed. In the working life of the future, we will be able to make new use of the opportunities offered by technology[14]. The digital world will also increasingly become our living room, a source of learning and many other unforeseen benefits. We will create new social innovations and change the ways in which we behave. This transformation is underway; those born in the 1980s and now in their thirties are the first generation to have led their entire lives in the world of the internet and mobile devices.

Change is also attended by problems and risks, which we must understand. The digital economy is rendering society more vulnerable and dependent on critical IT infrastructure[15]. Information and data security and privacy protection face new challenges. Crime will take on new forms in the digital world, and companies and societies will have to agree on new ground rules and codes of conduct.

[12] Linturi, Kuusi and Ahlqvist (2013) have in their report collated a list of radical technological solutions of the future and developed a methodology for identifying them.

[13] According to the conclusions of the international research project, there is a close connection between digital transformation, i.e. informational development, and human development, supporting each other (Castells & Himanen, 2013).

[14] Työelämän kehittämisstrategia vuoteen 2020 (National Working Life Development Strategy to 2020) (MEE, 2013)

[15] Finland's cyber security strategy. Government Resolution. Secretariat of the Security Committee (MD, 2013)

Strengthening the digital economy and increasing globalisation will accelerate the pace of economic change. We can expect accelerating economic cycles and the rapid accumulation of aftershocks from various disruptive factors throughout the world. The effects of minor disruptions will be amplified, while major threats could undermine stability. Predicting and preparing for change, and engaging in risk management, will become more demanding and sometimes impossible.

In such a future, an operating environment that is safe and stable but still able to seize opportunities quickly will provide a clear competitive advantage. The changing role of nation states within global governance will become a major issue. In a digital economy, companies will clearly find it easier to operate anywhere, regardless of location, but also citizens and communities will increasingly form part of global networks. Communities will more often operate in a virtual environment. Competition between operating environments, enabling continuous renewal, will accelerate, laying the emphasis on speed in creating and applying new expertise.

It should be possible for more and more issues to be agreed internationally, but joint agreement is making slow progress. Inter-state agreements will diminish in importance, while the relative significance of non-state networks and public-private sector partnerships will correspondingly increase. In any case, it is particularly important to Finland to be proactive and closely involved in EU joint decision-making that impacts on issues we find important[16]. Finland has much to give to the EU and could benefit much more from the EU home market than at present. However, account must also be taken of the many uncertainties involved in future development trends in the EU (see Box 3.1).

Although Finland has traditionally placed strong confidence in consensus, this will not necessarily continue. Many factors are tending towards greater diversity and fragmentation in society. In a mosaic-like society, finding a consensus will be more difficult and commonly agreed plans will lose their significance. More common effort will therefore be required, in order to maintain and strengthen an atmosphere of confidence and consensus. In future decision-making, the ability to act swiftly, multiplying successes and rectifying errors, will be key. We should leverage new forms of citizen participation and consultation and greater social diversity, in order to enhance our reactive capabilities and to maintain confidence among citizens.

[16] Government report on EU policy 2013 (Prime Minister's Office, 2013)

4 FINLAND'S PREREQUISITES FOR SUSTAINABLE GROWTH

Common global environmental challenges and the transformation of the digital economy will create countless opportunities for material and immaterial sustainable growth. Finland has excellent starting points for creating new sustainable growth in the future. We only need to seize these opportunities.

Sustainable growth cannot be willed into existence, nor will it appear by itself. Finland has rapidly lost ground against the global competition, but is not alone in this challenging situation. Many other countries are also at a turning point, struggling with the same challenges of sustainable growth. The development of other countries will increasingly affect us too. Our future is particularly linked to the future development of the EU.

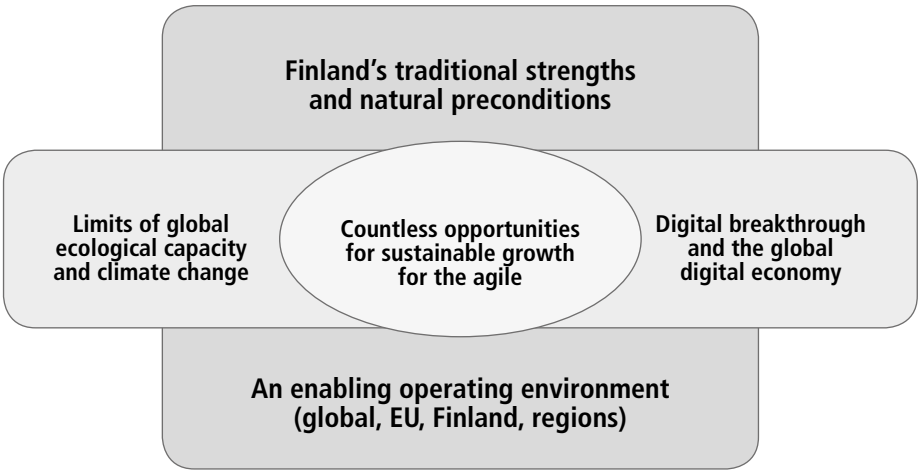
Global environmental challenges and the transformation of the digital economy will create countless opportunities for material and immaterial sustainable growth (Graph 4.1). Therefore, utilisation of digital development in solving global problems will therefore present a major opportunity in terms of sustainable growth. Digitality enables immaterial value creation. This can at least be partly turned into a reduction in material consumption. Both in Finland and globally, new technologies and digitalisation will enable significant improvement in energy and material efficiency, across the range of activities within society. At the same time, the energy efficiency of ICT and digital solutions will also improve ('green ICT).

For a country like Finland, it will become increasingly less justifiable for the government to 'pick winners' in terms of growth sectors. Finland must create the preconditions for growth and ensure its sustainability by building an enabling operating environment and culture, as well as creating ground rules. Until now, our operating environment has fared well in international competitiveness comparisons, largely due to our ability to develop and apply technology created elsewhere. This has been based on Finland's high level of expertise.

A challenge lies in the fact that many traditional competitiveness factors are in transition, as the digital economy changes the preconditions for success. Finland has identified its weaknesses, one of which lies in the narrow base of our economic structure in terms of long-term preparedness for the future. In addition, our production is focused on industrial manufacture, for which many

difficult and uncertain changes lie ahead. Finland's most successful industries will be highly specialised manufacturing industries and sectors in which it has favourable natural starting points, such as its forests and other natural resources. Our domestic market will remain small and the challenges posed by our logistical location will continue. The winners will be those industries that are able to rapidly transform themselves as global markets change and which can operate efficiently on a global scale. Above all, the government must identify these sectors and maintain an operating environment that enables growth within them.

Graph 4.1 Major transformations in the future will create sustainable growth opportunities



Despite these challenges, Finland has excellent starting points for creating new, sustainable growth. Our welfare model's support networks, and our strong basis of mutual confidence compared to other countries, provide a good platform for regeneration. Finns' high level of expertise will be a significant competitive advantage. In particular, we should remember the ICT expertise accrued during recent decades. It is crucial that we maintain this and rapidly turn it into a diverse basis for future sustainable growth[17].

[17] See e.g. Suomi osaamispohjaiseen nousuun – Tutkimus- ja innovaatiopolitiikan toimintaohjelma (Growth through expertise – Action plan for the research and innovation policy) (MEC and MEE, 2012), Elinkeino- ja teollisuuspoliittinen linjaus – Suomen talouskasvun eväitä 2010-luvulla (Industrial competitive approach. Means to guarantee economic growth in Finland in the 2010s) (MEE, 2013), 21 polkua kitkattomaan Suomeen (21 paths to a frictionless Finland) (MEE, 2013) (www.ict2015.fi)

The transformation of traditionally strong industries already operating globally will create the basis for new sustainable growth. Finland's northern location has provided it with an expertise base in northern living and housing. Leveraging this expertise represents a particular opportunity. Activity is increasing in the Arctic region and Finnish expertise is in demand[18].

> ***Foresight Report Future 2030**: 'Northern Finland and the corresponding regions in Sweden and Norway are already positively differentiated among the Arctic regions, due to their sound infrastructure, high educational standards and permanent habitation. We have the possibility to make Finland into a forerunner in the sustainable development of the Arctic and into a globally special living environment. This will require a stronger knowledge base and efficient use of research data in decision-making. Finland must skilfully package and sell the world its unique combination of Arctic expertise.'*

Finland has natural prerequisites, which offer new opportunities that will not disappear. In particular, renewable natural resources and their sustainable utilisation will be a significant competitive factor also in the future[19]. Clean nature is a strength of which we must make better use, including as a source of new sustainable growth. Appreciation and utilisation of natural products and other natural ecosystem services must be at a high level in the future. These opportunities, which fall under the heading of 'green growth', are described in further detail in Box 4.1.

> ***Foresight Report Future 2030**: 'In 2030, we will be able to make sustainable use of the abundant natural resources of Northern Finland, such as minerals and forests. The wilderness landscape will be one of Finland's key natural resources, and modern planning will have taken its preservation into account. In the future, the mining industry will operate on a regulated basis, using and developing environment-friendly technologies. Wood resources will be processed into bio-oil and other new products. Water resources will also be utilised, and wind power will be produced on a centralised, carefully considered basis. The needs of industry and tourism will be reconciled in land use, developing various livelihoods side by side.'*

[18] See e.g. Arktinen Suomi -strategia (Finland's Strategy for the Arctic Region) (Prime Minister's Office, 2013)

[19] Biotalousstrategia (Bioeconomy strategy) (under preparation, MEE, MAF and ME, 2013)

Box 4.1 Green growth opportunities for Finland

Green growth has been defined in many ways. In its report on green growth, the Finnish natural resource and environmental research consortium (LYNET) has specified 'green growth as low-carbon, resource-efficient economic growth based on safeguarding the functional capacity of ecosystems and promoting well-being and social justice.' Although green growth complying with this definition is sustainable growth, not all sustainable growth is, strictly speaking, green in the sense that it would primarily have a low-carbon and resource-efficient basis. On the other hand, definitions evolve and the lack of a precise definition is a hindrance to the more accurate compilation of statistics. However, future driving forces will steer economic growth in the direction of green growth.

In politics, green growth is subject to high expectations. Green growth is also based on international joint agreements that create markets. Energy- and resource-efficiency and green technologies are key elements in sustainable growth in the EU 2020 strategy[20]. On a national scale, many countries have set targets for green growth, bio-economy and clean technologies (Cleantech)[21]. The driving forces for this are common global problems and growing markets, and the target of decoupling economic growth from the burden on the environment.

Finland, too, has set carbon neutrality as one of its long-term targets[22], has outlined significant growth targets in its bioeconomy strategy[23], defined several targets for the development of the forest industry under the strategic programme for the forest sector[24], and set a target under the strategic programme for Cleantech, in order to create at least 40,000 new Cleantech jobs and to more than double the combined turnover of Finnish Cleantech companies from

[20] Eurooppa 2020 -strategia – Suomen kansallinen ohjelma (Europe 2020 strategy – Finland's national programme) (MF, 2012)

[21] LYNET (2013) includes the Netherlands, Brazil, Sweden and Germany as examples

[22] Pääministeri Jyrki Kataisen hallituksen ohjelma (Programme of Prime Minister Jyrki Katainen's Government) (Prime Minister's Office, 2011), Kansallinen energia- ja ilmastostrategia (National energy and climate strategy) (MEE, 2013)

[23] Biotalousstrategia (Bioeconomy strategy) (under preparation, MEE, MAF and ME, 2013)

[24] Metsäalan strateginen ohjelma – väliraportti ja toimenpideohjelma (Strategic programme for the forest sector – Interim report and action plan) (MEE, 2012)

the present EUR 20 billion to EUR 50 billion by 2020[25]. Significant investments have been made in green growth innovation activities[26]. Finland has also ranked high in international comparisons[27]. In the future, sustainable utilisation of Finland's own natural resources will provide a key basis for our green growth. Countless opportunities are being presented; we only need the determination to proceed in some sectors more rapidly and more visibly than in others, in order to gain a competitive advantage.

A large part of green growth, seeking entry to the global market in particular, is based on expectations of success in Cleantech related to high technology and innovative services. Most operations will aim to be 'greener' in the future, i.e. blurring the boundaries between 'clean' and other technology. In the future, there will be guaranteed global demand for all competitive technologies that help to solve common challenges.

Not all green growth is based on high technology. Nature values and natural ecosystem services create a basis for growth and are also related to growth opportunities. Ecosystem services mean material and immaterial benefits for people based on the functioning of natural ecosystems. These include material benefits, such as clean water, fuels and food, but also services for maintaining and regulating production, such as photosynthesis and nutrient cycles. Key ecosystem services include recreational opportunities and aesthetic values. In addition to our natural resources, nature is our strength. Finland offers tranquillity, space, cleanliness and a cool climate, which represents an opportunity for tourism, for example, as well as presenting our urban environments with a significant competitive factor. Investment in environmental protection is investment in the future. In the future, it will be increasingly important to ensure the coexistence of environmental protection and sustainable utilisation of natural resources.

25 Suomesta Cleantechin edelläkävijä – Cleantechin strategisen ohjelman sisältö ja toimenpiteet (Finland to be a Cleantech forerunner – Contents and actions of the Cleantech strategic programme) (MEE, 2013)

26 For example, Tekes has had dozens of ongoing programmes focusing on green growth innovation activities. Programmes in the past few years have included the Green Growth and Biorefine programmes.

27 See e.g. WWF Global Cleantech Innovation index (Knowles, 2012)

Finland's strengths lie in its well-functioning society, stability and safety. It also has a well-functioning and reliable infrastructure[28]. This situation must be maintained and will require considerable investment. Attractive, functioning and intellectually vibrant urban environments are sources of well-being and platforms for innovative activity in sustainable growth. A precondition for growth and well-being lies in the extent to which the environments in which individual citizens, communities or enterprises reside or operate are well-functioning and inspiring, and how well connected they are to virtual environments[29]. The preconditions for maintaining the vitality of rural and sparsely populated areas will improve as virtual interaction increases as part of work, study and everyday life. Smart and sustainable communities of the future could be attractive combinations of residences, entrepreneurship and tourism.

> ***Foresight Report Future 2030****: 'In 2030, Finland will have intelligent communities – villages or neighbourhoods. These will form a promising environment for engaging in local or global work, independent of location. Good network and transport connections will ensure fluent connections with the world. Local production of food and energy, environmental management work and numerous local services will provide a basis for national trade and industry and pleasant living.'*

> ***Foresight Report Future 2030****: 'When digital administration is combined with a Finnish welfare society that is the envy of the world, an engaging brand will be created. This will make Finland an attractive country in which to live and do business.'*

There are a huge number of opportunities for sustainable growth. Our domestic market is small, and our well-being relies on exports and imports. This basic fact will continue to hold true in the future. Operating on the global market is a precondition for value creation and growth. Both the EU internal market and the Russian market are critical to Finland and will continue to represent a great opportunity for it in the future. In a digital economy, operating on the global

[28] Kilpailukykyä ja hvyinvointia vastuullisella liikenteellä – Valtioneuvoston liikennepoliittinen selonteko eduskunnalle (Competitiveness and well-being through responsible transport. Government report on transport policy submitted to the Parliament of Finland) (MTC, 2012)

[29] Palvelut ja tiedot käytössä – Ehdotus julkisen hallinnon ICT:n hyödyntämisen strategiaksi 2012 – 2020 (Using services and information. A proposal for the first common strategy to address challenges in public sector ICT utilisation 2012-2010) (MF, 2012), ICT 2015 programme (www.ict2015.fi)

market will also take on new dimensions, as many of the limitations imposed by physical distance lose their meaning – it will be easy for everyone to operate anywhere digitally and value networks will become fragmented. Companies must be able to connect to global value networks; government action is also needed on this. Merely having an impact on the operating environment of companies in your own country will no longer be enough.

Finland can offer a safe, encouraging and attractive operating environment for enterprises and people. This will require paying attention to the attractiveness and incentives of the operating environment, especially that for globally oriented and growth-seeking enterprises (Chapter 5). Working life and learning will create a basis for enthusiastic action, which is a source of well-being and a prerequisite for sustainable growth (Chapter 6). Perseverance, education and integrity are future success factors, which must be invested in now in order to guarantee a desired situation in the future (Chapter 7). The public sector must be transformed to meet future challenges (Chapter 8).

5 FINLAND IS AN ATTRACTIVE OPERATING ENVIRONMENT FOR ALL KINDS OF ENTERPRISES

In a digital economy, it is increasingly easy for a growing number of businesses to transfer their operations anywhere in the world. Competition between providers of the best locations is stepping up. Finland can become the most attractive operating environment of the digital age for responsible businesses of all kinds, if it acts now.

An increasing number of individuals and enterprises are finding it easy to operate anywhere in the world, while more work is being done and added value is being produced digitally, independent of location. This means that all kinds of expertise and its utilisation are subject to tougher competition on the global market. Within this competition, Finland must offer an attractive operating environment for individuals and enterprises. The prerequisite for sustainable growth is intellectual closeness to the rest of the world. Intellectual closeness manifests itself as common international conduct, whose international aspect no longer seems to require separate emphasis. We are already closely involved members of global value networks.

> ***Foresight Report Future 2030:*** *'In the future, fast-reacting and flexible companies will succeed in the face of intensifying competition. New, networked companies will purchase the expert services and manufacturing they need, and find the right partners for the rapid capture of markets, on a global basis. Governments will compete in enabling the best business environments and ecosystems. In the future, Finland can succeed in professionally managing selected value networks. The key factor in this is to find the best applications. Enterprises will need new competencies: the ability to combine, learn new things and lead people in the midst of change.'*

In a functioning and competitive economy, enterprises take care of the majority of innovation. The preconditions for growth are created through high-quality education and basic research, together with a stable and incentivising economic policy. Research and innovation activities will still play a crucial role[30].

[30] Tutkimus- ja innovaatiopoliittinen linjaus 2011 – 2015 (Research and innovation policy guidelines 2011 – 2015) (Research and Innovation Council 2010), Suomi osaamispohjaiseen nousuun – Tutkimus- ja innovaatio-politiikan toimintaohjelma (Growth through expertise – Action plan for the research and innovation policy) (MEC and MEE, 2012)

The structures of Finland's innovation system have developed and funding has grown significantly over the past decades. It is now time to pay attention to the functioning of the whole entity as a foundation for a diverse competence base. In some branches of science, it is necessary that research be internationally attractive and top quality. This will require increasingly stronger international co-operation. The government must continue its goal-oriented investment in research, even if investments and experts within a small country become even more mobile in the future. If we are sufficiently attractive, we will also benefit more rapidly. Universities, universities of applied sciences and research institutes play an important role, not only as creators of attractive research, work and innovation environments, but also as builders of an international intellectual atmosphere.

The significance of innovation activities, as a basis for rapid and diverse entrepreneurship, will not be diminished. On the contrary, the most innovative individuals and enterprises will do well in the digital economy. However, innovation activities are transforming – service innovations, user-oriented and experimental innovation activity and social, strategic and procedural innovations lie at the heart of this change. This change means that, in addition to enterprises, other organisations and users are also involved more actively than before in innovation activities. Future innovation activity requires individual enthusiasm and functioning work communities. Innovation activities also always mean risk-taking. Society and work communities must support entrepreneurial risk-taking of individuals and groups. To encourage innovative and growth-oriented companies, the preconditions for entrepreneurial risk-taking must be improved. This requires development of the corporate financing market, particularly for small and medium-sized enterprises.

For growth-seeking companies and companies capable of growth, Finland should provide an attractive environment in which to operate and locate operations. Such attractiveness must be alluring to both individuals and companies, whether they are of Finnish or foreign origin. An international intellectual atmosphere and an open, enthusiastic attitude would make Finland an attractive operating environment for everyone. Our internationality must be strengthened in several ways.

> ***Foresight Report Future 2030****: 'This country will be outstandingly successful in the face of worldwide competition for skilled people, thanks to its active immigration programme, safe living environment and good basic services. We will also have mutually beneficial educational co-operation with various countries.'*

Digital operating platforms will increasingly form the elements of an attractive operating environment. More digital operations will be located in Finland, while the work itself is performed everywhere. Finland must set an example as a country in the digital age, emphasising the functional capacity, reliability and safety of its digital infrastructure[31]. The state could contribute to the creation of marketplaces within the digital economy, attracting knowledge-intensive industries to invest in Finland. The public sector also has significant potential for improving the productivity and quality of its own operations, by making full use of the opportunities afforded by the digital economy[32]. This opportunity should be grasped with determination.

In addition to the digital infrastructure, physical environments and transport links will still play a major role in attracting enterprises and individuals. Attractive urban environments will grow in significance in the competition for global market position. Attractiveness means pleasant and safe communities that function efficiently in everyday life, as well as a vibrant and enthusiastic atmosphere. Our urban environments could become far more significant platforms for experimentation and co-operation between the public and private sectors[33]. Our towns and cities have performed well in international competitions to identify the best places in the world to work and live. This trend should be reinforced and paid increasing attention. One requirement for this would consist of strengthening internationality and engaging in close network co-operation, particularly between learning city environments within the EU. Our internationality concerns more than the promotion of exports – it is increasingly about attracting investment and creating a positive country image in order to bring the world to Finland[34].

Finland must offer an inspiring, attractive, stable and safe operating environment to businesses of all kinds. We must foster and reinforce the enthusiastic atmosphere which has arisen over the last few years around our growth-oriented companies. We need companies that are growth-oriented or have growth potential, in order to diversify our innovation activities and economic structure. Launching and growing a business in Finland should be made easy. Society and the corporate culture should encourage ambition, create an

31 Cyber Security Strategy (PM, 2013)

32 Palvelut ja tiedot käytössä – Julkisen hallinnon ICT:n hyödyntämisen strategia 2012-2020 (VM, 2013) (Using Services and Information. A proposal for the first common strategy to address challenges in public sector ICT utilisation 2012 – 2020.) (MF, 2013)

33 See e.g. Finland's Regional Development Strategy 2020 (MEE, 2010)

34 Team Finland strategia 2014 (VNK, 2013) (Team Finland Strategy 2014) (Prime Minister's Office 2013), taloudellisten ulkosuhteiden toimintaohjelma (VNK, 2012) (Action plan on external economic relations) (Prime Minister's Office, 2012)

atmosphere that accepts failure and offer security for individuals if they do fail. Regulation should be clear and appropriate, so that it avoids burdening start-up companies, in particular, with delays, unreasonable expenses or too high a threshold to getting started. A challenge nevertheless lies in the fact that startups face a long road before becoming major employers. In addition, in the future companies will find it easier to offshore their operations as they grow.

Finland does not have enough growth enterprises. In terms of diversifying the economic structure, medium-sized enterprises with good preconditions for international growth are crucial to the economy. Over the coming decades, these companies face waves of generational transfers, which also provide the potential for a leap in growth. Finland cannot afford to lose the potential afforded by these companies.

Although small companies and micro-companies are important employers, many have no wish to grow, or are unable to. Forms of entrepreneurial activity will diversify in the future. Growth will be enabled, for example, by networks of small enterprises. Fragmentation of tasks in the digital economy will contribute to network-like operations. Account must be taken of the growing significance of networks, especially for smaller companies, in state aid. Forms of entrepreneurial activity and entrepreneurship will become more diverse in general, requiring new thinking and a consensus on the ground rules. For example, room must be made for social enterprises in the corporate sector. Entrepreneurial risk-taking must be made attractive and incentives must be in place for all forms of entrepreneurship. Making the transition between entrepreneurial and other work should be possible and flexible throughout various life stages. It must also be noted that not everyone is willing or able to become an entrepreneur. Everyone should also be offered other, alternative ways of entering work and becoming involved in society.

> ***Foresight Report Future 2030:*** *'Finland needs to be capable of building a diverse mosaic in terms of its economic structure, since investing in special areas of expertise would represent too bold a gamble. Enterprises with a lower degree of differentiation form the basis of a solid economy. They also serve neighbouring markets and act as buffers against sudden movements in the global economy and changes in demand.'*

Large multinational companies have been the cornerstone of Finland's economy, but are undergoing continuous operational regeneration, in reaction to changes in the global market situation. These companies will find it easiest to fragment and transfer their operations anywhere, while managing their value networks. In Finland, determined efforts must be made to grasp opportunities for retaining production operations that increase added value and generate new development. In this, sustainable utilisation of our own natural resources will represent a particular growth opportunity.

Large multinational companies capable of seizing control of global value networks will be the success stories of the future. The prerequisites for this must be monitored and strengthened. An obvious prerequisite is a high level of competence that meets the needs of enterprises, as well as a sufficient labour supply. With only a small domestic market, Finland must provide major companies with attractions other than large numbers of customers. The domestic market could function as a basis for experimentation and piloting, with growing significance in future innovation activities. In such a case, the distributed urban structure of a geographically large country could be turned into an advantage. We live in a test laboratory for future distributed solutions.

Responsible companies will be successful in the future. Good corporate citizenship means fulfilling one's ecological, social, societal and global responsibilities in business operations. Global drivers and regulatory development will force competitive enterprises to act in an energy and resource-efficient manner. Markets and consumers' requirements are driving enterprises to become globally responsible for their operations in various countries. In addition, enterprises should attend to their social responsibilities at home. To demand this through public sector means will become more challenging as business operations and cash flows move increasingly more freely on a global basis. In many cases, multinational companies do not have interests in common with individual nations. In the long term, demanding that companies act responsibly will create the basis for an operating environment that supports sustainable growth. This will be achieved through international co-operation and joint international trade agreements. Free movement of goods and services must not result in unhealthy working conditions, compromises on wages and social security benefits, or neglect of environmental obligations.

6 A NEW ALLIANCE OF WORK, LEARNING AND ENTREPRENEURSHIP

Finland has every chance of creating new jobs and increasing demand for labour in the future. Supply of labour must be increased, covering all stages of a career – not only its beginning or end, but especially also the middle. More flexibility will be required than now, in order to interweave work and learning phases across the various stages of life. Working and entrepreneurship should always be worthwhile for society and individuals alike. Well-being at work and maintaining working capacity are essential to ensuring that no one exits the labour market prematurely and that everyone can contribute towards the common good.

Global redistribution of work will have a major effect on the future. As a result, jobs will be created in different stages of the value chain than before, particularly in industrial production (also see Chapter 3). In production value chains, the significance of the manufacturing stage will diminish and manufacturing will move to lower-cost countries. Here, we can also see a reverse trend where productive work at the manufacturing stage returns to higher-cost countries, due to the high expertise and quality required by automation. In value creation, there will be an increase in services in support of manufacture and requiring high expertise, with such tasks relocating to where the necessary expertise can be found. In addition to these service tasks in industrial production, jobs involving other kinds of service tasks will be created, even if an increasing number of such tasks can be replaced with technological solutions. Many expert tasks requiring human input will be replaced by automation. However, much work will still require people and be done locally.

Working life will change in many respects[35]. In addition to, and partly as a result of, changes in the digital economy, the working culture will change. The freedom of individual employees to plan and perform their work will grow, while their responsibility for the results increases. Communal and network-like activities will increase as part of all work. An increasing number of people are working in a global environment, with the requirements for internationality growing. A global environment means a multicultural and international work community and tasks, even if the work is done physically in the home country. Innovation activities are changing shape and are increasingly intrinsic to all

[35] Työelämän kehittämisstrategia vuoteen 2020 (National Working Life Development Strategy to 2020) (MEE, 2013)

work. Work and personal life will become more intertwined: for many, the pace of working life will accelerate.

Diverse technological development and a broad-based digital economy will change the tools used at work; the digital economy will create completely new professions, while the nature of some current ones changes fundamentally. In preparing oneself for the future, the essential issue is adapting to rapid changes in the way people and work communities operate, while increasing well-being at work. In the future, work and the operating environment will require new kinds of leadership and co-operation skills. Leadership and management must be reformed to meet the requirements of future work and employees. Sustainability means fostering human resources in working life. Thriving working communities are productive and innovative and create new work[36].

> ***Foresight Report Future 2030****: 'In the future, employees will offer their skills and employers provide their work in a global labour market. Work takes many forms. The structures of working life must correspond to the new way of working, with employees having several careers. Employers must invest in working conditions and a good reputation, among other factors, in order to attract employees whose skills are in special demand. Individual careers, and the feeling of being in control of one's work and life, create well-being. The possibility of customising work in accordance with one's personal situation in life, and one's health, will raise the employment rate.'*

The prerequisite for future global success is that the mindset in Finland enables us to identify ourselves as part of the world. Along with the digital economy, global and local work will increasingly be performed alongside and close to others. In intellectual terms too, Finland must be internationally attractive and interact with the rest of the world. Finland is part of the EU, and this is a future strength[37]. Finland needs the input of immigrants, new innovations and international networks. Immigration supports the development of a diverse and pluralistic society. In addition to immigration, we must also pay attention to and encourage the international mobility of the Finnish people[38].

[36] Työelämän kehittämisstrategia vuoteen 2020 (National Working Life Development Strategy to 2020) (MEE, 2013)

[37] Valtioneuvoston selonteko EU-politiikasta (Government report on EU policy)(Prime Minister's Office, 2013)

[38] Maahanmuuton tulevaisuus 2020 -strategia (The Future of Migration 2020 strategy) (MI, 2013)

People are able to work till later in life – we must turn this to our advantage. We must make use of the expertise and innovative ability of people with longstanding experience. Good health and functional ability are key requirements for older people to take part in working life and to carry on being active citizens. It is worth investing in maintaining sound mental and physical health and preventing health problems. Longer lives will also enable us to ease the burden on the child-rearing years, with life stages redistributed to balancing the workload more evenly across people's lives. Interaction between generations plays a key role in well-being within society. Young people are the employees of the future. We will need each and everyone's contribution, bearing in mind that young people are the basis of our future success. It is of the utmost importance that we continue our goal-oriented efforts to eradicate youth unemployment and prevent social exclusion among young people. Many European countries are now home to a growing cadre of young unemployed people. Long-term unemployment among these people will pose a threat to our future prospects. Finland must employ every means it can to avoid the emergence of so-called NEETS (a young person who is "Not in Education, Employment, or Training"). While the youth guarantee is an important initiative that must be made to work, it will not suffice in itself. Preventative measures and early and extensive intervention will also be needed.

Working and learning must be intertwined and alternate much more flexibly and efficiently throughout the life cycle and various life stages. A better basis must be created for flexible reconciliation of work, learning, entrepreneurship and personal life, such as family and other close relationships, in order to make full use of work contributions and increase well-being. Solutions supporting flexibility must be developed and more widely adopted. Flexibility includes a phased transfer to and from working life, part-time work and partial capability for work, as well as combining work, study and entrepreneurship. Labour market flexibility of this kind will also support the employment of youths and young adults. Social security must be built in such a way that it is better to earn even part of one's income through work than completely relying on social security. We must be able to combine family and working life more flexibly than now. Increasing flexibility requires public-sector decisions but, above all, flexibility needs new common rules and a new attitude towards working life. These must be created through co-operation by everyone.

***Foresight Report Future 2030**: 'People experience well-being when able to capitalise on personal strengths. An individual must be able to move from one competence and job to another, according to changing conditions and personal wishes. More possibilities and incentives must be provided for self-employment. Although the Finnish educational system has succeeded well in global comparisons, it needs partial reform. We must be able to train multi-skilled, active individuals able to adapt to different roles, instead of experts specialising in narrow niche areas. Continuous renewal calls for closer co-operation between working life and education and training.'*

***Foresight Report Future 2030**: 'In 2030, Finland will be a country of many skills, with a multi-skilled people. The competencies of everyone, from children to older people, will be utilised in a meaningful way. Everyone will make a personal contribution to society. Upon graduating from comprehensive school, people will be aware of their personal strengths and wish to learn more. No-one will be content with only a basic education. Skills will be smoothly complemented throughout working life. Educational paths will be available for learners of all kinds, with even short training periods supplementing overall learning. The educational system and working life will interact flexibly, with no-one being excluded. A flexible learning system will also facilitate effective use of foreign workforce.'*

We should create a bold culture of entrepreneurship in Finland, encouraging entrepreneurial activity of all kinds and responsibility. Transfers between entrepreneurial and other types of work will increase, and these transitions should be seamless and clear. The social security of a citizen taking an entrepreneurial risk should not differ in an unjustifiable manner from that of other citizens. This point is only emphasised by the fact that, in the future, entrepreneurship will be highly diverse. Distribution of entrepreneurial responsibility within a group, acting as an entrepreneur in addition to paid work, co-operative activities, and civic and social entrepreneurship are examples of different forms of entrepreneurship and entrepreneurial activities. In any case, the critical issue demanding attention will be the ability and skills of entrepreneurs of different kinds in aiming for growth and the employment of other people. Not everyone can be an entrepreneur and a large proportion of companies are not seeking growth. We must pay particular attention to

increasing the expertise of managers of small companies that have potential for international growth.

Our base of expertise and level of education are absolutely critical to our regenerative capacity. Skills needed in the future will be different from the demands of the past. Skills that are more important than before include grasping the whole picture, implementation competence, creative problem solving, emotional, co-operation and communication skills, and preparedness to continuously adopt new ways of thinking and communication tools. Everyone must learn to learn and be inspired by learning. An alarming development trend at the moment is the decline in pupil satisfaction and the inequality of schools. Acquiring future skills and abilities also requires reform of the education system and of its ability to adapt to change.

***Foresight Report Future 2030**: 'Competence requirements are changing at an accelerating pace. The problems we face are increasingly complex and multidisciplinary. Learning between cultures and generations requires that people can flexibly exploit each other's intellectual and cultural resources. Although Finland's school system is of international top quality, we are not immune to change. The requirements of working life are also changing and developing. On a global scale, the talking points are future skills and competences (21st Century Skills), including creative problem-solving, emotional, co-operative and communication skills, and the ability to continuously deploy new tools for thinking and communication.'*

***Foresight Report Future 2030**: 'Researchers have discovered that young people born after the 1980s can no longer conceive of a world without the internet and mobile devices: these are integral to their daily social and intellectual practices. People of this generation are known as digital natives. According to OECD surveys, in 2010, 95 per cent of Finnish children used digital technology in their free time, mainly for entertainment purposes. Only 35 per cent used it at school to assist in their studies. This reveals the huge gap that has emerged between young people's information practices and those of schools. In fact, it has been found that Finnish pupils have problems with motivation at school in particular.'*

Box 6.1 Future challenges in terms of education and skills

Finland's high-quality educational system is a key element of the Finnish identity and the country's reputation abroad. International research has rated the educational attainment of Finnish youths as being among the world's best. In addition, the reading, numerical and IT-related problem-solving skills of Finnish adults are rated as excellent in international comparisons. In the Programme for the International Assessment of Adult Competencies (PIAAC), Finland came second in all sub-areas studied in the country comparison[39]. Finland's unusually rapid rise to the forefront in terms of productivity and technology would not have been possible without long-term investment in human capital and competencies at all levels of society. Maintaining this position will require further major efforts.

The latest studies have identified causes for concern. Several indicators now show that the positive trend in learning outcomes during the early years of the new millennium has taken a downward turn. There are major differences between age groups. The 20–39 year-old age group in particular has excellent skills. However, those of the older age groups taper off at a level pace, while younger people have slightly weaker skills. In addition, a range of studies and comparisons reveal that we cannot be considered a top country at using ICT in support of teaching and learning. Variations between municipalities and learning institutions have increased in terms of using digital services.

Moreover, the academic success of children is strongly influenced by the educational attainment and socio-economic status of their parents. Differences in well-being and attitudes towards education have an impact on the learning and competencies of young people. Most differences in learning outcomes between schools can be explained by unemployment black spots, lower-than-average educational levels in such neigbourhoods and large numbers of residents with a foreign language as their mother tongue. For this reason, school caption areas subject to these factors will require special attention. Educational inequality must be reduced, to ensure that all children and young people begin life on a fair and equal basis.

[39] Malin, sulkunen and Laine (2013)

7 THE BASIS FOR SUCCESS AND WELL-BEING IS EDUCATION, COMMUNITY SPIRIT AND PARTICIPATION

The basis for sustainable growth and citizens' well-being consists of education, community spirit and participation. Community spirit guarantees that we care about and trust each another. To maintain community spirit, we must reverse the rise in inequality. Education helps us to value and understand diversity. Appreciating diversity and converting it into inspiration is a precondition for sustainable growth.

The bases for communality and education will change in future decades. Diversity and pluralism will increase in society. Making sense of one's surrounding society and understanding the changes taking place within it are becoming increasingly difficult. Communality and networks in the digital age will bring a new dimension to the activities of society. Civic society is moving over to the internet. There are many positive aspects to this change. People will have more opportunities to participate, and the costs of participation will be small. Different forms of crowdsourcing will open up many opportunities for a new, open way of acting and implementing democracy. However, participation and societies will be much more diverse than now. Virtual communities and people's interaction in the virtual world also have negative aspects. Genuine relationships cannot be replaced by interaction in the virtual world, and there is a danger of increasing loneliness, for example.

> ***Foresight Report Future 2030**: 'In terms of social stability, it is important to children that they learn from an early age how to take account of another person's perspective and see issues from different viewpoints. This will enhance broad-mindedness and tolerance. It is integral to future skills that we understand our need for people of very different kinds. Mutual respect is a prerequisite for efficient team work. Seeing issues from new perspectives and an enthusiastic attitude to differences will also form the basis for the creation of an innovation economy.'*

The state's role in the digital economy will change. In the lives of most individuals, virtual and physical, global and local life will seamlessly blend together. Civic identity and social responsibility will not remain self-evident. For example, most citizens will be able to manage many of their affairs using international services across state borders, bypassing public sector services. In the EU internal market, it is possible to acquire an increasing number of services and products from any country. Citizens are also doing business in different countries. In the digital economy, more citizens than at present will want and be able to take on greater responsibility for managing their own affairs and making use of the available information. Community spirit and participation will be progressively more based on digital services. The public sector can then focus on acting as an enabler. The digital economy will also enable better allocation of the results of the public sector's productivity growth and resources.

It is a strength of Finnish society that it cares for its citizens. Long-term monitoring indicates that citizens are highly concerned, in the long-term, about inequality and social exclusion. In addition, prevention of inequality must be prioritised, because turning the situation around will only become more difficult in the future. Poverty and social disadvantage, social setbacks and loneliness are important issues that must be prevented, if progress is to be made in citizens' functional ability and life management. Those who live on social security alone are at risk of social exclusion. Health differences are increasing and health problems are more common especially among population that is socially disadvantaged in different ways. Healthy lifestyles and maintaining one's health are essential requirements for well-being. Sedentary lifestyles are a particular concern in terms of the future. These lead to lower productivity and competitiveness, and are strongly associated with health and well-being differences between age groups and with the development of social exclusion. Promoting an active lifestyle must become part of national health and well-being policy. In addition to major targets, attention should focus on concrete steps, encouraging individuals to participate fully in society and working life as mentally and physically healthy citizens. A life of human dignity must be ensured under all circumstances.

Of particular concern are the social exclusion of young people, increasing inequality between children and between families with children, and inherited social exclusion. An estimated 30,000 young people are neither studying nor in work. Social exclusion at a young age should be regarded as a tragedy. However, even very modest early support can prevent the emergence of major problems. Society must provide the best possible support for the development of children and families, regardless of their starting point. International research

bears witness to the fact that prevention of problems affecting children and young people almost always pays off. Finland has over a million people under the age of 17. As the population ages, we must all take even better care of each young person and child. We need the builders of our future.

Action on a broad scale will be required in order to narrow the well-being and health gap, and to prevent social exclusion. Mere social and healthcare measures will not suffice. Various sectors must engage in close cooperation if early support and preventative work are to succeed. In preventing problems among children and young people, sufficient and high-quality basic services and taking account of the entire family are important. Services for families with children must be formed into a whole, each element of which seamlessly supports the others. Key means will consist of support for children's educational capabilities and for their education itself. Young people of today are called upon to make major life choices earlier than ever and must be provided with every possible support at various stages of transition: at school, when making career choices, during their later studies and when embarking on working life.

Box 7.1 Measures for the prevention of social exclusion children and young people

According to a report on the impact of policy measures, very little research and evaluation-based information exists on the effectiveness of measures and services aimed at preventing the social exclusion of children and young people. Systematic efforts should be made to increase such information. The recent report, "What do we know about the effectiveness of policy measures in reducing social exclusion and welfare differences among children and young people" [40], states that many municipalities cut back on services for children, young people and families in the 1990s. The result has been growth in the need for services to repair the damage done. Shifting the balance from acting after the fact to preventative work will require resource coordination and sufficient staffing of services for families, as well as regulatory changes. In the longer term, investments in basic services for children and families more than pay themselves back in the form of savings in child protection and special rehabilitative services. The report also stated that care and guidance for children of compulsory school age play a major role. Guidance that successfully shepherds

[40] Ristolainen, Varjonen and Vuori (2013)

young people through transitional phases helps them to choose realistic and motivational career paths and reduces drop-out rates in post-compulsory education. The youth guarantee and educational guarantee are key tools in this respect, but problems remain in extending these guarantees to those in the weakest position in particular. Modern apprenticeship training and workshops could be brought closer to working life. The key issue would be to focus on measures for increasing resources and successful experiences.

***Foresight Report Future 2030**: 'In 2030, citizens will find their lives meaningful and valuable. The Finnish welfare society will support individuals in coping by themselves, and in communal efforts. The Finnish lifestyle will be healthy from the viewpoint of the community and environment. People will receive comprehensive healthcare in terms of both their mental and physical health. Solutions that have proven functional in various sectors, including preventive healthcare, mental health and services for the ageing population, will be successful export products. These will be developed through smooth co-operation between the public and private sectors and organisations. The markets for welfare services and healthcare will grow in rapidly developing countries, with which Finland will be engaged in systematic co-operation.'*

To promote sustainable growth, greater internationality, pluralism and diversity in society are essential. We must also be able to value and leverage diversity. Accepting differences in others and respecting all people will help to strengthen social cohesion. Valuation and mutual respect are based on a high level of education, whose foundations are laid in early childhood education.

In the mosaic-like society of the future, it may be that forming social, international and inter-organisational contracts will become more complex. More viewpoints and parties will be involved and achieving long-term commitment will be difficult as change accelerates. On the other hand, a growing number of contracts can be envisaged, as efforts are made to control our increasingly complex world. Maintaining mutual social trust will, nevertheless, be the essential issue. Finland has had strong trust capital and must maintain a trust-based society in the future. We can further strengthen mutual trust by achieving things together.

***Foresight Report Future 2030**: 'Finland is a trust-based society that offers suitable services for everyone in a flexible way, based on efficient use of technological possibilities. People will learn to be tolerant and respect each other in everyday life, both at school and in working life. This country engages in fair international labour force co-operation, with the equal position of women in working life as a special competitive asset.'*

In the digital economy of the future, where citizens will be able to operate anywhere in the world, the division of labour and responsibilities between citizens and the public sector will need to be redefined. Citizens must be given the opportunity to have an influence and take responsibility for some of the tasks. Individuals should come together and bear joint responsibility for building a common future.

There will be more opportunities to have an influence and civic society will tend to operate more in virtual communities. On the other hand, the significance of various forms of neighbourhood democracy and local influence will be enhanced. In general, the third sector will grow in significance. Given the opportunity, the various modes of having an influence and participating will diversify and new modes will be adopted. Openness, transparency, interaction and an opportunity for everyone to take an active part will be essential criteria when defining future channels of influence[41].

For everyone to thrive in society, creating competence and abilities from early childhood education onwards will play a key role. Everyone's input is important and should be valued. Community spirit and respect for nature, alongside other sustainable values, are crucial to our future success. Together with our children, we are now building these values.

[41] Finland has been involved e.g. in the international Open Government Partnership (OGP) and is committed to the declaration of the programme (www.avoinhallinto.fi).

Box 7.2 Strengthening the intellectual culture (Source: Castells & Himanen, 2013)

Ultimately, the crucial link in the sustainable growth model is cultural. In the end, this will determine the success or failure of the reforms required by sustainable well-being and the sustainable economy, and their combination. The intellectual culture is the main pillar of a valued life. At cultural level, three factors will play a crucial role in the successful creation of a model for sustainable growth.

(1) Culture of creativity

At this point, we can also call this a 'culture of creative entrepreneurship', understanding the term 'entrepreneurship' on a broader basis as meaning any active fulfilment of one's personal potential.

In terms of Finland's future, some key challenges relate to the counterforces suppressing the country's culture of creativity. The cultural milieu strongly hampers rather than encourages entrepreneurship. This is related to two factors that are akin to the two sides of the same coin. Firstly, failure in entrepreneurship is viewed as a personal failure, in a cultural setting that could be described as 'a culture of shame'. This is diametrically opposed to the culture of Silicon Valley, where failure is even viewed as a merit: failures prove that you have tried, but have refused to give up despite them.

Secondly, this negative attitude is linked to the idea that no one should outstrip their peers, i.e. 'a culture of envy'. Based on responses to various value and attitude surveys, Finland's intellectual culture might be summed up as follows: in Finland, success is the only thing that is even more unacceptable than failure! Should such an intellectual posture towards the creativity culture persist – as a skewed interpretation of equality as a social value – it will considerably hinder the efforts of the country to creatively reform its economy and well-being and create the model of sustainable growth needed in order to succeed in the future.

(2) Culture of openness

Another crucially important cultural factor is the culture of openness. In the longer term, cultural identity is a key link in the creation of either 'a virtuous circle' or 'a vicious circle' of sustainable economy and well-being. In many ways, a strong collective identity can be a strength: it can offer a strong basis for linking economic development in an all-encompassing manner to the development of well-being – while also legitimating the overall development model.

A strong cultural collective identity could be a strength, especially if all inhabitants of Finland are viewed as 'Finnish' to the same degree, even if born elsewhere. In such a case, by combining a strong collective cultural identity with strong willingness to integrate by people from different backgrounds, Finland could provide itself with an uncommonly powerful asset.

(3) Culture of trust

Finally, the third culturally important factor is the culture of trust. In this respect, the situation in Finland is more positive. This culture of trust is one of the Finnish model's greatest strengths; in the past, it has even enabled difficult 'social contracts' which have brought parties together; our model for sustainable growth now requires such a culture.

If Finland is unable to transform these three cultural factors, it may decline rather than flourish. Ultimately, everything depends on the type of culture that Finland allows to prevail: will it be a culture of creativity, openness and trust – or of their opposites?

Box 7.3 International research project: The Finnish model's trump card is the 'virtuous circle' presiding over the development of information and human capital (Source: Castells & Himanen, 2013)

The Finnish model presents us with an exceptional opportunity: to form a competitive economy and self-reinforcing, all-encompassing 'virtuous circle' within welfare states. Under such a development model, the welfare state would provide the basis for the development of human capital, i.e. a highly skilled, thriving people which provides continuity in the country's economic success. Continuation of welfare funding would be enabled by informational development, combining the leveraging of information technology with a new management and work culture.

In order to be realised in Finland, such 'a virtuous circle' will require acceptance and trust-based willingness to participate in creating it. Low levels of trust and legitimacy are precisely what have led to problems in many of the other countries' development models analysed during the international research project.

In its strong culture of trust, Finland has an excellent opportunity, in global terms, to succeed in creating a national consensus on the need to reform the development model in this manner.

8 PUBLIC SECTOR IN SUPPORT OF SUSTAINABLE GROWTH

The public sector – central government, regional government and local authorities – plays a key role as an enabler of sustainable growth, proactively adopting and testing new ideas and operations and scaling up good practices for wider use[42]. Agility, openness and passion for joint experimentation must be encouraged without compromising the goals of good administration: the creation of a stable society characterised by legal protection and predictability. Together, high-quality, comprehensive well-being services and sound administration support sustainable growth and a one-nation society. On the other hand, political and administrative systems require systematic development on a continuous basis. To achieve this, we need to ensure that we make better use of knowledge in decision-making, implement decisions decisively and take careful stock of the effects.

Progress within the digital economy is enabling new kinds of activities that challenge old structures. Traditional administration will not provide satisfactory results in a world of strong interdependencies, which is characterised by a profound upheaval of information and communication channels[43]. The rapid social change challenges rigid systems to seek methods of managing entities and preparing for the future. We must embrace such change as soon as possible and accelerate the pace of work.

To create future prerequisites for activities, the government has a substantial role in investing in the common digital infrastructure and competencies, and in improving productivity through ICT[44]. For this, well-functioning co-operation and practical implementation will be required between public sector stakeholders, and with other actors in society. Particularly close co-operation

[42] According to the conclusions of the international research project, in order to create a welfare society of the future, the state must assume a bigger role as an enabler (also supporting the well-being innovations of other actors), adopter (adopting the best practices) and scaler of practices (scaling up of the best new ideas for the whole of society).

[43] The *Governments for the Future* project of the central government of five different countries, implemented at the initiative of the Ministry of Finance and the Prime Minister's Office, has raised the issue of Finland's current development challenges with an emphasis of the need for profound re-examination of the foundations of the systems.

[44] Palvelut ja tiedot käytössä - Ehdotus julkisen hallinnon ICT:n hyödyntämisen strategiaksi 2012 – 2020 (Using services and information. A proposal for the first common strategy to address challenges in public sector ICT utilisation in 2012 – 2020) (MF, 2012). Implementation of the action proposals of the ICT 2015 working group and follow-up of the implementations (www.ict2015.fi).

will be needed between national and local level. Although local authorities can adopt and try out new solutions, to secure the efficiency gains and widespread adoption of a co-operative approach, we need a common national intent while enabling action at local level. Practical activities will be performed in public sector workplaces, which will require the reform of the working culture, common rules and leadership.

In the digital economy of the future, the production, distribution and leveraging of information will be based on new prerequisites. The public sector must be highly active in the open distribution and utilisation of information[45]. The public sector must invest in implementation, commitment and the creation of a 'bottom up' operating culture. This will enable a new way of performing tasks, while creating the platforms on which citizens, enterprises and communities can innovate and participate. Finland has the possibility of becoming a renowned test laboratory, where successful businesses have been built on communal, open-data based services. Finland's trust-based society will form the foundation of this success.

> ***Foresight Report Future 2030**: 'In 2030, Finland's public administration will be lighter and digitised, and seamlessly connected to the country's civic society. In the future, citizens will support the welfare society and service production through their own observational capabilities and participation. Public services will be easily accessible online, or face-to-face for those who need personal contact. All information will be digitalised. In the future, Finland will have implemented a legal reform obliging enterprises and the public administration to provide users with their personal information in the form of raw data. Everyone will be able to manage and use their own personal information. ICT will lighten public administration and bring well-being to people's everyday lives. In the future, Finland will engage in continuous and challenging local democracy and participatory budgeting. Localism will replace 'big statism'. A beta-version of digital administration will be in use, on whose basis the ideas that are almost fully formed can be introduced for trial. Public servants will be able to tolerate continuously unfolding situations and to act in a digital reality. If necessary, they will also act as facilitators, i.e. they will support citizens and entrepreneurs in problem-solving, solution-finding activities.'*

[45] See e.g. . www.avoinhallinto.fi. An open information programme, with the target of accelerating the opening up and increasing the use of public administration data, is being launched. http://www.vm.fi/vm/fi/05_hankkeet/02381_avoin_tieto/index.jsp

When seizing opportunities for sustainable growth, the key issue is to engage in agile, open-minded activities, whether on digital platforms or in the practical, physical world, while experimenting with new ideas, or introducing and refining solutions reproduced from elsewhere. We must move from a culture of planning to a culture of doing. Applying international models may aid our search for functioning solutions.

The public sector will not be a lone experimenter: activities must be based on co-operation between the public, private and third sectors, while ensuring that individual citizens can participate. Experimentation does not mean stop-go activities, but controlled measures that allow us to learn from experience and disseminate what we have learned. We must be able to rapidly transfer and duplicate good solutions, refine them to create greater benefits, and be capable of rapidly abandoning less successful experiments. Experimentation must not jeopardise citizens' legal protection and fundamental rights, and experimental activities must not jeopardise social stability and the predictability of outcomes.

> ***Foresight Report Future 2030**: 'Transformation points in development paths – reduction of fossil fuel use, new technologies, and international competition – provide opportunities for new forms of collaboration, innovative experiments and growth. Solutions must be sought via a scientific multidisciplinary approach and collaboration between enterprises and universities. Education should also be reformed in order to support a multidisciplinary approach. Since experts in Finland have only a very minor impact individually, collaborative expertise is needed. Finland's strong levels of mutual trust offer an excellent basis for partnerships that provide competitive advantages.'*

Enterprises and research activities need platforms for experimentation and innovation activities. In the future, innovation activities will more often occur in networks in which various actors and users participate in multiple ways. Collaboration with public sector stakeholders will also enable enterprises to fulfil their social responsibilities. Enterprises need markets that encourage experimentation. The public sector can create these kinds of markets in various ways, through regulation and by steering public procurement towards innovation and sustainability[46]. The EU will continue to represent a key domestic

[46] Suomi osaamispohjaiseen nousuun – Tutkimus- ja innovaatiopolitiikan toimintaohjelma (Growth through expertise – Action plan for the research and innovation policy) (MEC and MEE, 2012)

market for Finland, which will therefore have to be more closely involved in its development, anticipating and helping to ensure that regulation is not too burdensome. Finland will also have to determinedly open its own domestic market to overseas competition.

Civic society will be an increasingly important co-operation partner in the future. In the digital age, the way in which civic society operates will transform rapidly: the public sector must keep pace with and make use of this change. We need a new kind of dialogue and approach to joint action. However, civic society cannot take responsibility for producing welfare services, without a clear definition of the related structures and procedures. Local authorities will continue to be a key organiser of welfare services and a centre of democracy. This will require a common consensus between the public sector, organisations and the private sector on responsibilities and roles, practical testing of new operating models, and the distribution of resources in new ways. Such changes must not jeopardise citizens' opportunities to access the necessary welfare services.

> ***Foresight Report Future 2030****: 'The new social contract must re-determine the terms of work and social security. A decision must be made on which social services will be organised on the basis of taxpayers' money, which via NGOs and which will be the responsibility of individuals themselves. Finland cannot finance identical services for everyone – an attempt must be made to secure the right services for everyone in need of them. Mutual trust between citizens must also be built on a new basis.'*

In the future, rapid action and experimentation will often occur at local level within municipalities. The state must enable more extensive experimentation than at present, in order to test new operating models and ideas as larger integrated wholes at local authority level, while taking particular, balanced account of the various aspects of sustainable development.[47] Individuals and local communities represent a major resource in experimental activities. Participation, the activeness of communities and local activities represent concrete positive steps towards sustainable growth. The public sector will have the task of enabling citizens' participation and will support the related activities.

[47] INKA - Innovatiiviset kaupungit -ohjelma 2014 – 2020 (INKA – The Innovative Cities Programme 2014 – 2020) (MEE, 2013)

We must learn to accept that, as part of active and agile experimentation, some experiments will fail. In the future, we must be able to tolerate uncertainty, learn rapidly from experience and exchange experiences, for example, between local authorities. To gather experiences and learn from them, we must become better at gathering and analysing information, while assessing the success and impacts of activities. This requires high-quality research. Good situational awareness will be essential to anticipating problems. In addition to current monitoring, monitoring of sustainable growth and citizens' well-being must be developed further. No single indicator can cover every dimension of sustainable development, but high awareness will be required of the various aspects of the current situation at any given time.

Future challenges will be multidimensional and interdependent. Balanced integration of the various dimensions of sustainable development should form the starting point of all decision-making. The problem has been the separation between economic and content-related decision-making. Compartmentalising the issues to be resolved by sector, administrative branch and policy sector will no longer work. The prerequisites for agile future activities that create sustainable growth include the removal of sectoral boundaries and the joint management of various phenomena from broader perspectives[48]. The ability to have strategic and phenomena-based policies is a success factor of a nation. In support of decision-making, we also need research and the ability to utilise research data. It must also be accepted that a shift in focus is required from planning to action, and to learn from action. Although we will need fewer strategies, the strategies we do draw up must be more significant, integrating various aspects of sustainability in order to initiate strategically justified, regenerative activities. We also need assertive implementation of political decisions. All this requires a reform in public sector administration and development of its operating culture, as well as restoration of trust in institutions.

We need diverse information on the operating environment's development, as the basis for our future choices. Finnish foresight community is strong, and it includes several parties acting in the capacity of information producers, disseminators and users in both the public and the private sector. The entity of foresight is under constant change and its activites are fragmented. Current problems include overlapping tasks, poor availability and usability of

[48] Finland is not alone in tackling these challenges. Challenges and similar solutions have also been identified in other countries. See Materials of the *Governments for the Future* project and, for example, OECD's *New Approaches to Economic Challenges* project. The measures are implemented in Finland, for example, in the Central Government reorganisation project (KEHU) and in the Effectiveness and productivity programme by the Central Government (VaTu).

information, discontinuity of activities, and the sidelining of significant future issues. In the future, we will need better information about major global trends and analysis of their reflection to Europe and Finland. In addition to slowly changing megatrends, we will need situation information about more rapid phenomena and the related opportunities and risks. We need expert information and citizens' assessments, and an open debate on the future. We must adopt an operating model where, in an open network, we organise, assess and distribute foresight data produced throughout the world and in Finland for utilisation in decision-making. When working well, a foresight process where common information is delivered and distributed will be a national competitive asset and an element in Finland's role as a pioneer.

9 SUMMARY OF THE GOVERNMENT'S TARGETS AND POLICY GUIDELINES

Well-being through sustainable growth

The Government's vision: In 2030, Finland will be a good place to live a meaningful and valued life. Finnish expertise and economic growth will have created the basis for well-being. Finland will have succeeded in building sustainable growth based on the country's unique success factors, bearing its responsibilities both in Finland and globally. Growth will have promoted the well-being of citizens within the limits of the ecology's carrying capacity. This is the responsibility of the whole of society, and all communities and individuals.

To safeguard growth, it is necessary to have considerably more workplaces in the private sector, a high employment rate and improved productivity in all sectors of society. Finland needs companies aiming for sustainable growth and able to seize opportunities as and when they arise. In order to safeguard the activities of just these kinds of companies, the state has an important task to perform in strengthening the basis on which society operates. The public economy must rest on a stable, healthy basis.

Economic growth will not be achieved without continuous reform running through the whole of society. To benefit from future opportunities, we need a broad-based, general and open debate on our future choices, taking account of economic, social and ecological sustainability. Different aspects of sustainable development must be integrated equitably at all levels of decision-making, taking broader account of the impacts of various decisions.

Finland is an attractive operating environment for all kinds of enterprises

Target for 2030: Finland is an inspiring, attractive and stable operating environment for all enterprises and experts. Its economic and corporate structure is more diverse, better equipping the country to withstand rapid economic changes. Companies that wish to and are able to undergo regeneration and grow globally will find it particularly easy to operate in Finland.

Finland needs more enterprises of different kinds, a larger proportion of which are growing. The growth preconditions of medium-sized enterprises, especially those engaged in generational transfer, must be secured. A new atmosphere, characterised by enthusiastic startup growth enterprises, must be nurtured and strengthened. Enthusiasm of this kind must be fostered throughout society. There must be appropriate incentives for all kinds of responsible businesses. Regulation that unnecessarily shackles business activities must be eliminated.

The digital economy will enable of all kinds of enterprises and organisations to operate in new ways. For Finland to become the best place in the world in which responsible enterprises can invest in their operations and operate globally, society must invest in digital and physical infrastructure, and security and stability. We need good transport links to Europe and elsewhere in the world. In the future, our urban environments must be internationally attractive innovation centres, in which businesses wish to establish their operations and experts want to live. Finland's worldwide reputation must be strengthened further.

A new alliance of work, learning and entrepreneurship

Target for 2030: Work will create the preconditions for well-being and sustainable growth. We will guarantee that all have meaningful work. To achieve this, we need solutions for working and learning that are more flexible than now. A bold, experimental entrepreneurial culture is a prerequisite for growth.

Throughout various life stages, different periods of working and learning must intermesh and alternate much more flexibly and efficiently than at present, in order to increase the availability of work. The boundaries between different aspects of life – work, study, entrepreneurship, family life and social life – will be lowered. The labour markets, education and social security systems must create a sound basis, on which everyone can make a socially sustainable contribution according to their personal abilities. Our young people are the builders of our future and success. We must therefore pay particular attention to preventing their social exclusion. In the future, we will need the contribution of each and every citizen.

Appropriate incentives for personal entrepreneurship and entrepreneurial risk taking must be ensured. Diversifying forms of entrepreneurial activities and entrepreneurship require new kinds of thinking and joint agreement on the ground rules.

Practical reforms to working life are required in the face of the changes occurring in, and the increasing diversity of, working life within a digital economy. In addition to new technical solutions, we sorely need to develop leadership and practices. In this respect, the public sector must set an example. Quality of working life must be improved, while taking account of different kinds of workers and communities.

Society must be rendered more international, in order to cope with global competition. Finland must increase work-related immigration, its number of overseas students and the international mobility of Finnish citizens.

The basis for success and well-being is education, community spirit and participation

Target for 2030: Internationality, pluralism and mutual respect, as well as the appreciation of all and communality, form the basis for Finland's future success. In Finland, everyone will have equal opportunities and the trend towards inequality will have begun to reverse.

As key sources of growth and well-being in the future, a high level of civic education and competencies must be fostered. This means learning to value everyone, accepting difference and having an open attitude and willingness to learn. These are important foundations, all of which must be strengthened in schools and the early years of education. A high standard of competence levels has been Finland's traditional strength, and we must not lose our competitive edge in this respect. For education to meet future needs, we must now enage in critical examination of the entire education system and ensure its continuous development.

Citizens will have greater responsibility for themselves and the people around – in support of this, we need a form of communality that offers security and care for everyone. We must make use of and highly value the activities of senior citizens within civic society. We need a strong view of interaction between generations, and a sense of community.

We must take care of maintaining and deepening trust between citizens and the various actors in society. A clear division of responsibilities and common rules will increase such trust. In a digital economy, the division of labour between citizens, local authorities and the government must be revised and redefined. Inequality erodes trust, and this must be prevented. We need everyone's

contribution and everyone must be guaranteed equal opportunities to benefit from education and public services. Early-stage prevention of problems among children and young people is the key to future success. Narrowing the well-being and health gaps and prevention of social exclusion will require close cooperation across administrative boundaries.

Public sector in support of sustainable growth

Target in 2030: To build sustainable growth in the future, all actors within society must enthusiastically embrace the idea of engaging in new activities together. A civic society, and enterprises and research bodies developing new solutions, will act as equal partners alongside the public sector. All levels of the public sector will operate openly, testing new solutions open-mindedly and creating markets for sustainable growth. The public sector's own operational preconditions will support speed, openness and innovation.

In a world characterised by the digital economy, Finland's public sector – central administration, regional administration and local authorities – will have the chance to set an example and create sustainable growth, through openness and agility in collaboration with the private and third sectors. Together, high-quality, comprehensive well-being services and sound administration support sustainable growth and a one-nation society. We must invest in a common digital infrastructure. In a digital economy, the various ways of having an impact will become even more diverse. The government and local authorities must seize this as a huge opportunity. We need to disseminate, prepare and publicly discuss information more openly.

A regenerative, experimental and inspired operating culture must become prevalent throughout the state administration and local authorities. Experimentation will be conducted in collaboration with the private and third sectors. Citizens' basic rights and some measure of stability must be maintained in the midst of experimentation. Quality, analysis of experiences and the application of results, rather than quantity, must form the focus during experimentation. Central government and the municipal sector must co-operate more closely, in order to create new platforms for experimentation at local level. Regulation, public procurement and other means of enabling experimentation must be used.

Within central government and the municipal sector, it will be necessary to sharpen their ability to learn from experience and engage in analytical

processess. Government must become target-oriented throughout, rather than being based on administrational structures. Integrating the various aspects of sustainability in decision-making will represent a major change, requiring a great deal of work in the forthcoming years. We must attend to preparing for risk management and change and increasing our tolerance of uncertainty. The public sector must set an example of how to act in an ecologically, socially and economically sustainable way. It must also demand that enterprises operate sustainably in the oncoming digital future, and create the related incentives. Finland must become a proactive player in the creation of rules on sustainable and responsible entrepreneurship in international co-operation.

To guarantee future success and well-being, we must be able to turn our common visions and foresight work into concrete actions. The breakthrough capacity and impact of strategic work by the state administration must be improved. In the forthcoming decades, we must forecast and evaluate the impacts of common global challenges and opportunities for Finland more extensively and profoundly than now. In support of this, we will create a national operating model for futures analysis, within whose scope we will produce, gather and disseminate Finnish and international forecasting data for shared use.

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APPENDIX 1: PREPARATION OF THE GOVERNMENT REPORT ON THE FUTURE

The preparation project of the Government Report on the Future and the administration of preparatory work

The Prime Minister's Office began preliminary preparations for the Government Report on the Future focusing on well-being based on sustainable growth in autumn 2011, and the project was established on 20 March 2012. Preparation of the Government Report on the Future and, once this report has been completed, implementation of the policies listed in the report, have been the task of the project, which has three phases. Based on the foresight phase, views of future directions were generated that offer solutions and opportunities for the creation and maintenance of sustainable growth and well-being in Finland. Following this, a strategy phase was implemented, resulting in the Government's future vision and policy guidelines. The implementation phase will be launched once the report has been completed and will last until the end of the present term of government.

To direct the preparation and implementation of the Government Report on the Future, a ministerial working group has been established, under which the project steering group and the project team and secretariat are working. The project is being implemented based on collaboration, with the Prime Minister's Office being generally responsible for preparing the Government Report on the Future and promoting the implementation of its policies. The project secretariat was based in the Prime Minister's Office and was under the leadership of General Secretary Pekka Lindroos, with Mari Hjelt acting as lead author. Other parties to the project include the Ministry of Employment and the Economy, the Finnish Innovation Fund Sitra, the Academy of Finland, and the Funding Agency for Technology and Innovation Tekes, which were particularly involved in the project's foresight phase. The project was also closely connected to the international research project Sustainable Growth Model, which had its own steering group. The members of the groups responsible for the project's administration are presented in Appendix 2.

The foresight phase

Preparation of the foresight phase was launched in early 2012. In order to target foresight and support the selection of themes covered, we created an extensive collection of background material based on the participating organisations' materials on the forces of change, and on an analysis and

summary of international and Finnish research and evaluation reports. An open, online interview was set up as part of the preparatory work. Participants were requested to brainstorm on what issues needed to be resolved in order to make Finland a good place in which to live and work in 2030. The participants also assessed each other's ideas. This online interview was implemented between 27 February and 14 March 2012. Approximately 5,500 people took part and some 15,000 ideas were generated. The collected materials were utilised in workshops organised alongside various stakeholders and experts. Various groups of citizens were consulted at a workshop held in Finlandia Hall, with around 120 participants.

Based on this preparatory work, the ministerial working group for the Government Report on the Future decided to base its foresight work on six themes in terms of content and on four horizontal aspects. These themes were public administration as an enabler, business regeneration, working life in the future, opportunities in the midst of scarcity, citizens' well-being and inclusion, and a new geography for the North. The cross-cutting themes examined were competences and capabilities, changes brought about by the digital economy, globalisation and flexibility, and crisis resilience.

The project website, www.2030.fi, was launched in September 2012. This website includes foresight-related articles, acts as a platform for public debate, and disseminates information on the progress of the project.

Independent representatives of research, businesses and citizens' organisations were invited to participate in the foresight process. The objective of foresight was to produce fresh and bold ideas and desired future scenarios by 2030. A group of around 10 experts was responsible for working on each theme. The actual foresight process was conducted by means of interactive workshops in autumn 2012. Each of the six content themes had two chairpersons, responsible for leading the workshops and reporting. One of the workshop chairpersons represented business life, and the other the world of research and universities. In addition, expert 'envoys' were assigned to deal with the horizontal perspectives cutting across the themes. The chairpersons and theme envoys worked on the main results of the foresight process, in joint meetings.

The views of regions and young people were included in the foresight process by organising regional discussion events, led by ministers, in seven university cities. One foresight theme was selected for each regional event, and the chairpersons of the themes were responsible for planning the events' contents. The events were hosted by the universities, universities of applied sciences and vocational institutions in the region. Schoolchildren between the fourth

and sixth grade, and sixth form college students from each area, also took part in the preparation of the events. Schoolchildren, representatives of businesses and civic organisations, citizens, researchers, civil servants and politicians were invited to participate. In total, over 1,000 people took part. It was also possible to participate in the events' team tasks online. Every event was videoed and transmitted online in real time, and a summary of the related discussions was compiled and distributed on the 2030 website. Live blogging of the events was also arranged on Twitter. Online discussions were organised immediately, during the event.

The dates, locations and themes of the regional events:

24 September: Lappeenranta, opportunities in the midst of scarcity
27 September: Helsinki, a nationwide event with the theme of competence
5 October: Jyväskylä, public administration as an enabler
8 October: Oulu, a new geography for the North
9 October: Vaasa, business regeneration
17 October: Turku, well-being of citizens
22 October: Tampere, working life in the future

The website of the project (www.2030.fi) has played a key role during and after the foresight phase. Information on the progress of preparations was disseminated through the website and has provided a platform for a public debate. During the foresight phase, the website had an outside editor-in-chief who changed every two weeks. This editor-in-chief selected a theme, based on which he or she also invited interesting people to write a blog on the website. There were a total of around ten editors-in-chief with very different backgrounds. Other blogs, totalling over 200, were also published on the website. By June 2013, the website had had approximately 28,000 visitors, almost 5,000 of whom had visited it more than five times. In addition to the websites, the project had its own Facebook page (over 1,300 people liking it) and a Twitter account (over 500 followers).

The results of the work performed by groups of experts during the foresight phase were published at a seminar held on 14 February 2013. Results of the foresight phase are reported as an interactive online report at tulevaisuus.2030.fi in Finnish, Swedish and English. Since its publication by June 2013, around 6,500 people have become acquainted with the report, some 1,000 of whom have visited the report website over five times.

Alongside the systematic foresight process, we have established a practice of conducting experiments to accelerate the implementation of goals selected as

focal points, and to promote broad-based co-operation. These experiments will also be based on cooperation between and the voluntary participation of various actors. The key idea underlying the Future 2030 project is to provide motivated actors with the possibility of seeking new solutions to meet the needs of the national economy, operating environment and individuals.

The strategy phase

After the completion of the foresight phase, the preparation of the Government Report on the Future policy guidelines was launched. In the strategy phase, we focused on selecting key new and fresh development paths from the perspective of 2030, which require particular attention in terms of sustainable growth and, in turn, the well-being of citizens.

Immediately after the publication of the Foresight Report Future 2030, we gathered feedback in the form of a questionnaire, which was opened on the 2030 website and aimed at various stakeholders and civil servants within the ministries. This questionnaire was implemented in Finnish and Swedish. The foresight online report also includes an opportunity to give feedback on its contents. In the questionnaire, opinions were requested on the results of the foresight and, in particular, their importance to the Government Report on the Future. The questionnaire was available between 14 February and 10 March 2013, and had 260 respondents. In the same period, around 250 comments were submitted directly alongside the online report.

Seven discussion sessions, aimed at ministries and stakeholders, were held in March 2013. The objective of these sessions was to gather comments on the results of the foresight phase and to discuss those that can best be influenced by the government in order to guarantee growth and well-being. In addition to the Foresight Report Future 2030, the results of the above-mentioned questionnaires were also used at the events. A summary was drawn up of the discussions on each event, and was made available on the 2030 website. These events were attended by a total of 125 people.

In addition to these discussion sessions, debates were conducted with various bodies during spring 2013. The Young People's Working Group on the Future of the EU, Team Finland and various stakeholder organisations collaborated in these discussions. Preparation of the Government Report on the Future was based on research results, particularly those of the international research project and, within the project, the round table discussion sessions held in April 2013, in which leading Finnish researchers participated.

The foresight phase of the Government Report on the Future was assessed in spring 2013. Assessment of the entire preparation project will be performed at a later date.

APPENDIX 2: STEERING OF THE PREPARATION OF THE GOVERNMENT REPORT ON THE FUTURE

The ministerial working group of the Government Report on the Future project 26 January 2012 – closing of the project

Jyri Häkämies, Minister of Economic Affairs, MEE, Chairman (until 16 November 2012)
Jan Vapaavuori, Minister of Economic Affairs, Chairman (as of 16 November 2012)
Henna Virkkunen, Minister of Public Administration and Local Government, MF
Jukka Gustafsson, Minister of Education and Science, MEC (until 24 May 2013)
Krista Kiuru, Minister of Education and Science, MEC (as of 24 May 2013)
Heidi Hautala, Minister for International Development, MFA (until 17 October 2013)
Päivi Räsänen, Minister of the Interior, MIA
Jutta Urpilainen, Minister of Finance, MF
Stefan Wallin, Minister of Defence, MD (until 5 July 2012)
Carl Haglund, Minister of Defence, MD, (as of 5 July 2012)
Merja Kyllönen, Minister of Transport, MTC
Pekka Lindroos, General Secretary, Prime Minister's Office, Secretary
Riitta Kirjavainen, Counsellor, Prime Minister's Office, Secretary

The steering group of the Government Report on the Future project 20 March 2012 – closing of the project

Jouni Hakala, State Secretary, Ministry of Employment and the Economy, Chairman (until 1 January 2013)
Marja Rislakki, State Secretary, Ministry of Employment and the Economy, Chairman (as of 1 January 2013)
Pekka Sinko, Secretary General, Prime Minister's Office, member
Outi Honkatukia, Financial Counsellor, Ministry of Finance, member
Marja Pulkkinen, Counsellor of Education, Ministry of Education and Culture, member
Veli-Pekka Talvela, Director General, Ministry of Agriculture and Forestry, member
Petri Jalasto, Senior Adviser, Ministry of Transport and Communications, member
Marja-Liisa Parjanne, Ministerial Counsellor for Finance, Ministry of Social Affairs and Health, member

Jarmo Muurman, Environment Counsellor, Ministry of the Environment, member
Mikko Kosonen, President (Paula Laine, Director, as substitute), Finnish Innovation Fund Sitra, member
Heikki Mannila, President (substitutes Leena Treuthardt, Director of Strategy, until 1 January 2013, Marja Makarow, Vice President for Research, as of 1 January 2013, and Riitta Mustonen, Vice President for Research, until 24 April 2013, Pentti Pulkkinen as of 24 March 2013), Academy of Finland, member
Veli-Pekka Saarnivaara, Director General, (substitute Hannu Kemppainen, Director) Tekes, member (until 26 September 2012)
Pekka Soini, Director General (as of 26 September 2012)
Pekka Lindroos, General Secretary, Prime Minister's Office, Secretary
Riitta Kirjavainen, Counsellor, Prime Minister's Office, Secretary

Project group for the preparation of the Government Report on the Future

20.3.2012-28.2.2013

Pekka Lindroos, General Secretary, Prime Minister's Office, Chair
Riitta Kirjavainen, Counsellor, Prime Minister's Office, member
Leena Treuthardt, Director of Strategy, Academy of Finland, member
Annamaija Lehvo, Senior Science Adviser, Academy of Finland, member
Sirpa Nuotio, Senior Science Adviser, Academy of Finland, member
Elina Kiiski, Specialist, Sitra, member
Pirjo Kyläkoski, Foresight Manager, Tekes, member
Juha Suuronen, Chief Adviser, Tekes, member

1 March 2013 – closing of the project

Pekka Lindroos, General Secretary, Prime Minister's Office, Chair
Riitta Kirjavainen, Counsellor, Prime Minister's Office, member
Annamaija Lehvo, Senior Science Adviser, Academy of Finland, member
Paula Laine, Director, Sitra, member
Elina Kiiski, Specialist, Sitra, member
Pirjo Kyläkoski, Foresight Manager, Tekes, member
Juha Suuronen, Chief Adviser, Tekes, member
Jenni Lahtinen, Project Secretary, Prime Minister's Office (until 30 June 2013)

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ISBN Print 978-952-287-069-8
ISBN PDF 978-952-287-070-4
ISSN Print 0782-6028
ISSN PDF 1799-7828