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COMMISSION STAFF WORKING DOCUMENT

Progress on 'GDP and beyond' actions

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Paragraphs in italics at the beginning of sections contain quotes from the 2009 GDP and beyond Roadmap (COM(2009)433).

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Progress on 'GDP and beyond' actions

EXECUTIVE SUMMARY

There is a growing political debate on how best to measure societal progress beyond economic and financial indicators such as gross domestic product (GDP)¹. The limitations of GDP as a measure of key societal goals such as well-being and sustainability are widely recognised and are being addressed. Alternative measurement concepts are being tested and increasingly used for policy-making at regional, national and international level.

The European Commission has engaged in the debate since 2007. It emphasises that GDP is a key indicator of economic performance and essential in key policy fields. However, the Commission recognises that GDP cannot be used to measure societal progress in a wider sense². To remedy this, it decided on the need to develop more inclusive indicators to complement GDP, e.g. in environmental and social dimensions.

The need for additional indicators to assess the economic and social situation, in particular poverty and social exclusion, risks and sustainability, has been reinforced by the crisis. The timely availability of indicators is still a major concern as some essential social and environmental data are two to three years old.

In 2009, the Commission adopted *A roadmap for action, 'GDP and beyond — measuring progress in a changing world'*³. It presents its approach and underpins it with five short- to medium-term actions to improve indicators to complement GDP. It seeks to improve the knowledge base for effective and coherent policy-making. By planning to develop indicators that summarise important issues in a single figure, it is trying to ensure that political challenges and progress towards a wider set of individual and societal goals can be communicated better to a wide audience. The Roadmap was by and large welcomed by the Council, the European Parliament, the European Economic and Social Committee (EESC) and the Committee of the Regions (CoR).

The Roadmap recognised the strengths of GDP as a widely accepted indicator for monitoring the market economy. However, it highlighted the need to complement of GDP with environmental and social indicators in order to enhance effective policy-making and public debate and announced five lines of action:

- As GDP growth figures do not provide sufficient information about social and environmental outcomes, top-level **indicators on environmental protection and quality-of-life indicators** are being developed (*Action 1*).
- For policy-making and public debate, complementary environmental and social indicators need to be available at the same time as GDP, therefore the **timeliness** of such indicators needs to be improved (*Action 2*).

¹ see: http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Glossary:Gross_domestic_product.

² It should be noted that Simon Kuznets, the economist who first developed the concept of GDP, himself recognised that 'the welfare of a nation can scarcely be inferred from a measurement of national income' (see also Annex 1).

³ COM(2009) 433 of 20.8.2009.

- GDP per capita and its growth over time does not tell how economic benefits are shared within a society. To enable a debate on equity and fairness, it is necessary to know the **distribution** (in particular between regions and social groups) of income, health, education and environmental quality. Such data are being further developed and better communicated (*Action 3*).
- GDP growth rates do not indicate whether economic development is sustainable. Tools are being developed to better **measure and communicate overall sustainability** (*Action 4*).
- The central reason why traditional macro-indicators such as GDP or NDP⁴ do not measure environmental or social outcomes is that national accounts do not cover such issues. This is being addressed by enlarging the scope of **accounting to environmental and social issues** (*Action 5*).

This document summarises the action taken under the ‘GDP and beyond’ Roadmap and what has been achieved, and reports on actions that have been taken in addition to those initially foreseen. This includes the work of the European Statistical System (ESS), which has translated the Roadmap into concrete official statistics. Efforts from stakeholders have also been underpinned by the financial support provided under the Commission Framework Programme for Research and Development.⁵

The measures taken address from different angles and different starting points the challenge of complementing GDP. Some are aimed at providing short-term solutions, e.g. timely summary indices, others at building a consistent data set in the longer term, in line with national accounting principles.

The most significant results so far include:

For Action 1: Complementing GDP with environmental and social indicators:

- Pilot versions of two complementary comprehensive environmental indices have been developed and should be further improved in 2013: one covers EU territory while the other gauges environmental and resource-use impacts along global supply chains.
- A novel ‘people at risk of poverty or social exclusion’ indicator was designed to measure progress towards the Europe 2020 target of lifting at least 20 million people out of poverty. This is an aggregate indicator⁶ which summarises the number of people at risk of poverty and/or severely materially deprived and/or living in households with very low work intensity.
- An ‘EU consumer condition index’ based on a set of key indicators describing the consumer environment is now published annually in the framework of the Consumer Conditions Scoreboard.
- The first detailed set of indicators on ‘quality of life and well-being’ has been adopted by the European Statistical System, while the ESS also decided for the EU-SILC (EU

⁴ Net Domestic Product.

⁵ A list of projects is provided in Annex 7.

⁶ Based on European statistics.

Statistics on Income and Living Conditions) to be the core instrument⁷ for building up such indicators.

For Action 2: Near real-time information for decision-making (improving timeliness):

- The time taken to publish key environmental indicators such as greenhouse gas emissions has been shortened by as much as eight months by using advanced statistical methods to arrive at so-called ‘early estimates’, which have proven to be sufficiently accurate to inform policy decisions. Since 2012, Eurostat has produced ‘early estimates’ — within four months — for CO₂ emissions from energy use.
- The European Environment Agency has set up a web-portal on which citizens can report in real time, via a smart phone, measurements and assessments of the quality of their local environmental, e.g. noise.
- Measures have been taken to speed up and refine the monitoring of poverty and social exclusion since the beginning of the crisis.
- An indicator of financial distress is now reported on a monthly basis.

For Action 3: More accurate reporting on distribution and inequalities between regions and social groups:

- Summary indices on poverty and human development have been calculated for all 277 European regions. These can be compared to provide valuable insights into high and low poverty paths to development.
- The ‘consumer empowerment index’ can be broken down by socio-demographic groups to identify the most/least empowered consumer groups.
- Knowledge on the distribution of social issues has been improved through cross-cutting analysis of available sources, including European statistics (e.g. EU-SILC) on the income-poor and materially deprived.

For Action 4: Improving measurement towards sustainability:

- Feasibility testing of an EU Sustainable Development Scoreboard has been inconclusive. Research is on-going on designing a concise, simple and policy-relevant indicator set for essential sustainable development issues in a global context.
- The scientific basis for work to identify environmental ‘tipping points’ has been strengthened, but more work is needed to make this operational for environmental management and target-setting for resource efficiency.
- A preliminary scoreboard of resource efficiency indicators (REI) was proposed in the context of the Roadmap to a Resource-Efficient Europe. This set of indicators, the majority of which are based on European statistics, is currently being tested and discussed with stakeholders.

⁷ Biennial survey data on overall life satisfaction is collected by Eurobarometer since 2003.

For Action 5: Extending national accounts to environmental and social issues:

- A European Parliament and Council Regulation on three sets of environmental economic accounts was adopted in 2011 and will deliver first European statistics in late 2013 and early 2014 (respectively for the years 2008 to 2011). This first Regulation comprises ‘integrated environmental economic accounts’ on emissions to air, including greenhouse gases, environmental taxes and material flows. Council and Parliament are currently discussing a proposal for an amended Regulation with three more modules.
- The EU actively supported the finalisation and adoption by the United Nations Statistical Commission (UNSC) of the System of Environmental Economic Accounting (SEEA) as the international statistical standard. The European Environment Agency (EEA) provided major input to draft guidelines, developed at UN level, on ecosystem accounting.
- At the Rio +20 Summit, the Commission supported the World Bank’s natural capital accounting initiative. Also, the EU delegation had a mandate to negotiate the inclusion of ‘beyond GDP’ in the Rio +20 outcome document *The future we want*⁸. The UN Statistical Commission (UNSC) is now requested to work on global-level indicators to complement GDP.
- European statistics on System of Health Accounts (SHA) have been collected from reference year 2003 onwards and in 2011, the OECD, WHO and Eurostat delivered a new joint SHA manual.
- Since 2010, European statistics have been published on ‘annual adjusted disposable income in purchasing power standards’ and the quarterly ‘real disposable income of households’.

Several results have been used in policy-making: for example, environmental accounts have provided the lead indicator for the **Roadmap to a Resource Efficient Europe** and the data on poverty and social exclusion are being used in social policy-making in the context of the Europe 2020 strategy. Other indicators, such as that on ‘life satisfaction’, have been picked up in public debate. However, work on overall summary indicators is still on-going. With the novel ‘GDP and beyond’ indicators becoming increasingly available, the challenge now is how to link the new insights they provide with the existing tools for policy assessment and evaluation, be they econometric models or political narratives. Further attention also needs to be given to how to effectively integrate and communicate the available indicators and summarise data.

The Rio+20 Summit and the 4th OECD World Forum on ‘Measuring progress for well-being and development’ in New Delhi in October 2012 confirmed that there is a demand for measuring societal progress in all areas that matter for people’s sustainable well-being. The Commission services will therefore continue to work with stakeholders, researchers, Member States and international organisations to implement the 2009 Roadmap to achieve realistic, user-friendly and — where needed — internationally comparable results. Work is on-going to develop, test and use summary and other top-level indicators to complement GDP.

(Illustrations of newly developed indicators are given in Annex 2 to this document.)

⁸ Rio+20: towards the green economy and better governance COM (2011) 20.06.2011
Council conclusions – 3152th Environment Council meeting 9 March 2012

I. Introduction

Indicators are tools to monitor and communicate economic, social and environmental progress, inform policy development and offer a basis for target-setting. Traditionally, overall economic progress is measured by GDP. This is, however, not sufficient to monitor societal progress in a comprehensive way.

Developing a more accurate gauge of economic and social progress has been on the agenda for several decades. The Commission has recently taken a leading role in this process.

Following the **Beyond GDP Conference**⁹ of November 2007 a consensus developed between stakeholders (EU institutions, Member States, research community, statistical offices and civil society) on improving the way in which societies' progress is measured.

The 2009 Communication on *GDP and beyond — measuring progress in a changing world*¹⁰ set out short- and medium-term action that the Commission has taken to move towards indicators that can complement GDP.

A lot has been achieved since 2009. Support from other European institutions (the European Parliament and the Council), the impetus from the international debate held by the OECD and the UN, e.g. at the Rio +20 Conference, and the interest shown at all levels of civil society have encouraged the Commission in implementing the Roadmap and identifying new avenues for action. The Stiglitz-Sen-Fitoussi Report (SSFR) and the focus of the Europe 2020 strategy¹¹ on 'a smart, sustainable and inclusive economy' have further confirmed the relevance of this issue.

The process has close ties with the many initiatives launched by Member States in the last few years, at national, regional or local level. In particular, the Commission services have worked in close cooperation with Member States' national statistical authorities, environmental and social agencies, the research community and international organisations.

As signalled in the *GDP and beyond* Communication, this document reports on the implementation and outcomes of action to complement GDP by improving the measurement of environmental and social dimensions of societal progress.

It assesses the results achieved, describes the next steps that have been agreed and raises issues for further consideration.

⁹ Organised by the European Commission with the European Parliament, the Club of Rome, the Worldwide Fund for Nature (WWF) and the Organisation for Economic Cooperation and Development (OECD) — www.beyond-gdp.eu/2007_conference.html.

¹⁰ COM(2009) 433 of 20.8.2009; hereinafter referred to as the *GDP and beyond* Communication or Roadmap — <http://www.beyond-gdp.eu/EUroadmap.html>.

¹¹ Communication on *Europe 2020 — A strategy for smart, sustainable and inclusive growth*, COM(2010) 2020 final of 3.3.2010.

II. Measuring progress in a changing world

1. THE IMPACT OF THE CRISIS AND THE CHALLENGES OF THE 21ST CENTURY

The financial and economic crisis of 2008 is unprecedented since the end of World War 2. Its consequences are still with us. It has further highlighted the long term slowdown in European growth (as measured by GDP) since the 1960s, as well as its more unequal distribution while the degradation of natural capital has continued. We have entered a long period of very slow growth, with a huge adjustment which entails an adverse social impact. It therefore puts to the fore the need to revitalise a concept of growth that goes beyond purely economic parameters.

The use of GDP, together with a range of other macroeconomic and financial indicators, remains essential for dealing with the crisis and to alert policy makers of potential future economic and financial market problems. At the same time it has been recognised that environmental sustainability and social inclusion must also be taken into account in monitoring developments and assessing the impact of policies.

At the EU level, this has been reflected in the European strategy for growth the **Europe 2020 strategy** geared to implementing a wider vision of **smart, sustainable and inclusive** growth, which explicitly aims to integrate the economic, social and environmental dimensions of development.

The development of the crisis has demonstrated the limitations of relying on GDP as the central indicator to guide policy-making, as it does not inform on the other dimensions which have an influence on policies' sustainability. Failure rapidly to identify and draw attention to adverse social impacts and the degradation of natural capital and, for example, to identify and resolve trade-offs, can lead to sub-optimal policies with potentially adverse consequences. As a result, there is an increasing awareness of the need to complement GDP with other indicators that address social and environmental issues.

2. RESPONDING TO CITIZENS' CONCERNS

Opinion polls conducted in the EU and worldwide have confirmed that a significant majority of citizens want social and environmental indices to be used alongside economic ones¹².

Studies have also shown that citizens find it difficult to relate to statistical information. This may in part be due to the gap between what people's day-to-day experience and the national averages that are published. This disconnect is especially strong where issues such as poverty, air quality or crime apply to significantly varying degrees within a country. Indicators that more closely measure the real situation in particular regions or among particular social groups can increase people's trust in, and the relevance of, official data.

A large number of stakeholders from the **private sector and civil society**, such as corporations engaging in social and environmental responsibility, social innovators and non-governmental organisations, advocate the collection of data and the **development of powerful environmental and social summary indicators to inform public debate and policy-making, including at the regional and local levels.**

¹² Special Eurobarometer "Attitudes of European citizens towards the environment, August 2011 and Globescan surveys 2007, 2010 and 2013.

3. A WIDELY SHARED CONCERN

This call from stakeholders has been taken up at national and European levels. A number of initiatives have also been taken by international organisations such as the OECD and the UN.

In recent years, an increasing number of **countries and regions** in the EU have launched initiatives to improve the balance in the monitoring of economic activities and their environment and social outcomes nationally and regionally.

The **Council** recalls ‘that gross domestic product (GDP) is mostly a measure of production and does not reflect issues such as environmental sustainability and social inclusion’¹³ and stresses the need to ‘use, and where necessary develop and agree on, indicators that complement GDP ...’¹⁴. The **European Parliament** adopted a Resolution¹⁵ supporting the actions proposed by the Commission and stressing the need to develop clear and measurable indicators for measuring medium- and long-term economic and social progress. The **Committee of the Regions** requests¹⁶ the development of regional and local indicators while the **European Economic and Social Committee (EESC)** calls¹⁷ for the building and testing of indicators for well-being and sustainable progress.

The above all link in with wider international initiatives. Particularly relevant in this context are the OECD’s ‘**Better Life**’ initiative (measuring well-being and societal progress)¹⁸ and ‘**Green Growth**’ strategy¹⁹, the United Nations Environment Programme (UNEP) report ‘**Towards a Green economy**’, the UN Millennium Development Goals (MDGs) and Human Development Index (HDI)²⁰ and the World Health Organisation (WHO) initiative on the ‘**Measurement of and target-setting for well-being**’²¹. There are synergies between these and the Commission’s action.

The Union’s proposals at Rio+20 for clear measurable targets and concrete actions with agreed timeframes in areas directly related to the transition towards an **inclusive green economy** have in part been accepted and will be developed within the UN system. The Rio +20 Summit also mandated the UNSC to develop indicators complementing GDP²².

¹³ http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/envir/128881.pdf (Art. 14).

¹⁴ <http://register.consilium.europa.eu/pdf/en/12/st15/st15477.en12.pdf> (Art. 15 + 16).

¹⁵ European Parliament Resolution of 8 June 2011 on *GDP and beyond — Measuring progress in a changing world* (2010/2088(INI)).

¹⁶ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2012:181:0014:0020:EN:PDF>.

¹⁷ GDP and beyond/complementary indicators, Session of 28-29 March 2012, CESE 814/2012 — ECO/301.

¹⁸ www.oecd.org/progress.

¹⁹ www.oecd.org/greengrowth/.

²⁰ The updated version of the HDI now measures development towards more harmonious or consistent human development. There is a commitment from UNDP to further develop it as an index of sustainable human development.

²¹ http://www.euro.who.int/__data/assets/pdf_file/0020/167402/Well-being-experts-meeting-16-6-2012-again.pdf

In preparation of this World Forum, a European Conference on ‘Measuring well-being and fostering the progress of societies’ was held in June 2012. It was organised by the OECD in collaboration with Eurostat and the European Statistical System and together with the *eFrame* project.

²² Article 38 of outcome document *The Future we want*.

4. MEASURING COHESION AND SUSTAINABILITY AT THE CORE OF THE EU'S GROWTH STRATEGY

The above developments have increased the relevance of the action set out in the Roadmap as supporting implementation of the EU's strategies.

The **Europe 2020 strategy** and its flagship initiatives involve a broad range of policy areas from economy and finance to employment and social affairs, environment and climate actions, education and innovation. This is why Europe 2020 has headline indicators and targets addressing climate, energy and social issues. The development of the indicators in the *GDP and beyond* Roadmap, broadened to cover topics such as cohesion, sustainability and quality of life, therefore helps with the monitoring of progress on the Europe 2020 strategy and the wider vision of growth it entails.

The development of such indicators is also relevant to other major EU policies, including: the **Cohesion Policy**, the 2011 **EU development and cooperation policy** priorities of the '**Agenda for Change**', the 7th European Environmental Action Programme²³ and the follow-up on the Rio +20 conclusions²⁴.

²³ Proposal for a General Union Environment Action Programme to 2020 *Living well, within the limits of our planet*, 2012/0337 (COD) <http://ec.europa.eu/environment/newprg/proposal.htm>.

²⁴ Commission Communication *A decent life for all: Ending poverty and giving the world a sustainable future*, COM(2013) 92 final, 27 February 2013.

III. Results achieved and work in progress

The action set out in the Roadmap falls into two categories: that aimed at short-term solutions, e.g. early estimates for most important summary indicators, and that seeking to build the long-term foundations for an integrated economic, environmental and social accounting system.

The first element to be developed to complement GDP is a very limited set of **key indicators** on essential societal assets, such as environment, social cohesion and quality of life — ideally at the same aggregation level as for economic performance, where GDP provides a single indicator (*Action 1* of the *GDP and beyond* Roadmap).

To be considered on a par with GDP, these **indicators must be produced in a timeframe consistent with GDP figures**. Hence the timeliness of the underlying data must be brought up to speed or reliable estimation methods applied (*Action 2*).

The overall GDP growth rate might hide increasing inequalities of income or local environmental quality, for example. **Indicators on distribution** help in focusing measures on poverty and social exclusion (*Action 3*).

For **measuring** very broad and interlinked societal goals such as **sustainable development**, the Commission services have explored the possibility of setting up concise ‘scoreboards’ (*Action 4*).

Finally, the Commission committed itself to working on **integrating environmental and social data** into the core measurement framework of economic statistics, the **national accounts**. This is also done with a view in the longer term to deriving macro-indicators that are conceptually fully consistent with GDP, e.g. on natural capital (*Action 5*).

Box 1: Summary of the five actions in the Roadmap

This chapter reports on and assesses the most significant outcomes of the five lines of action set out in the Roadmap. It describes actions that have led to the production of official European statistics²⁵ and indicators based on them. The assessment of the outcomes looks in particular at their (potential) use for policy-making and issues still to be addressed.

1. COMPLEMENTING GDP WITH ENVIRONMENTAL AND SOCIAL INDICATORS

Action 1 in the GDP and beyond Communication (page 4):

‘Indicators that summarise important issues with a single figure are essential communication tools. They trigger policy debate and give people a feel for whether or not progress is on track. GDP and the unemployment and inflation rates are prominent examples of such summary indicators. But they are not meant to reflect where we stand on issues such as the environment or social inequalities. To fill this gap, the Commission services intend to develop a comprehensive environmental index and improve quality-of-life indicators.’

This first Action of the *GDP and beyond* Roadmap seeks to complement GDP by developing **summary indicators at an aggregation level similar to that of GDP** that reflect overall developments in the respective area. Using them together with GDP provides a more comprehensive picture of societal progress and allows for a more integrated policy debate.

On the environmental side, the work focused on developing two comprehensive environmental pilot indices, one on environmental pressures generated directly on EU

²⁵ Within the meaning of Commission Decision 2012/504/EU of 17 September 2012 on Eurostat (OJ L 251, 18.9.2012, p. 49) and Regulation (EC) No 223/2009 of the European Parliament and of the Council of 11 March 2009 on European statistics (OJ L 87, 31.3.2009, p. 164).

territory and one on overall environmental impacts ‘caused’ along the supply chain of EU production and consumption. Both indices are still at a pilot stage and are being further tested and refined.

In the social field, the work has had a much broader scope, covering topics such as human development, poverty, social exclusion, quality of life and well-being. For the first three topics, summary indicators have been developed and are already used in policy evaluation and even for target-setting (e.g. the social cohesion target in the Europe 2020 strategy). In the area of quality of life and well-being, a first set of indicators has been established and the underlying European statistics are being developed.

1.1. Comprehensive environmental indices

Economic production uses natural resources and is a source of waste, pollution and other ‘pressures’ on the natural environment. To complement GDP — the monetary measure of economic production — with environmental information at ‘eye height’, the Commission has worked on two summary metrics that express the impacts of human activity on the natural environment.

An EU index on environmental pressures

The Commission committed itself to producing an index that will reflect pollution and other harm to the environment (‘pressures’) generated *within* the territory of the EU. The aim of this index is to assess the results of *domestic* environmental protection efforts. A fall in the value of the index would show that progress is being made on domestic environmental protection. In addition, comparing this index with the one on global environmental impacts (see below) can show the extent to which the EU is ‘exporting’ environmental pressures.

The aim is to cover measurable environmental pressures comprehensively and to calculate the index for the EU and Member States for a time series of about a decade, so that trends can be analysed. As far as possible, this should be based on data from official sources, such as Eurostat, the EEA and the JRC. However, development proved more difficult than initially foreseen. The main stumbling block has been the availability of data and its timeliness. To improve the situation, the Commission has launched a study searching for reliable data sets to complement official data, e.g. from scientific sources. In addition, Commission services and the EEA have been working closely together to assess the suitability of individual indicators as potential components of the composite index. In 2012, a first pilot index with improved data underwent statistical testing and this continues in 2013. Stakeholder consultation will take place as soon as results are sufficiently robust to form a solid basis for discussion.

An index on global environmental impacts and eco-efficiency indicators

In 2011, to complement the *domestic* or *territory* perspective with a *global* or ‘*footprint*’ perspective, the Commission services calculated a pilot set of **life-cycle-based environmental impact indicators**²⁶ for the EU-27 and one Member State, Germany²⁷, for the years 2004 to 2006. The key purpose was to measure the worldwide environmental impacts

²⁶ Life cycle indicators framework: development of life-cycle-based macro-level monitoring indicators for resources, products and waste for the EU-27 — <http://lct.jrc.ec.europa.eu/pdf-directory/ILCD-Handbook-General-guide-for-LCA-DETAIL-online-12March2010.pdf>

Life cycle indicators for resources: development of life-cycle-based macro-level monitoring indicators for resources, products and waste for the EU-27 — <http://lct.jrc.ec.europa.eu/pdf-directory/LBNA25517ENN.pdf>.

²⁷ Germany was selected because of data availability.

along the supply chain relating to European consumption²⁸, and the eco-efficiency of resource use.

A pilot for a **summary index of (negative) environmental impact** for the EU, including the impacts of imported and exported goods, has been developed and produced. This summarises the 11 dimensions of environmental impacts such as climate change, acidification, toxicity and energy resource depletion²⁹ in a single index. Comparing the overall index figure or the individual indicators for the 11 dimensions with GDP provides the aggregate and 11 specific ‘eco-efficiency’ indicators. They can help tracking progress towards a green and resource-efficient economy (see Figures 1 and 2 in Annex 2).

These calculations are being extended with the aim of covering around 85% of the EU economy and a longer time series of about a decade. Results are expected by the end of 2013.

In addition, co-financing has been given for research to further develop the Ecological Footprint indicator, combining three footprint indicators (land, carbon and water) with global economic data. An online tool allows policy-makers and citizens to view and analyse the data³⁰.

These indicators will help improve the measuring of the overall global environmental impact of EU activities and the further development and monitoring of the Roadmap to a Resource-Efficient Europe and the Europe 2020 strategy.

Towards a future indicator on environmental quality

The 2009 Roadmap also recognised the potential of a comprehensive indicator of environmental *quality*, e.g. counting the citizens living in a healthy or sustainably managed environment. The increasing availability of geo-spatial data, e.g. on air and water pollution or soil erosion, is improving the prospects of producing such an indicator. In particular, relevant geo-spatial and Earth observation data is becoming available through ongoing EU projects like INSPIRE and COPERNICUS. The Commission services follow developments in this area closely and will consider the feasibility of such an indicator when data availability allows.

1.2. Social indicators

Social indicators complement GDP by directly measuring actual social outcomes in terms of cohesion, poverty, quality of life and well-being. For communication and political use, the available data should as much as possible be aggregated.

1.2.1. Social cohesion and human development

The concrete measure of progress towards social cohesion, the ‘**number of people at risk of poverty or social exclusion**’, takes account of three aspects of poverty and social exclusion: relatively low income³¹, lacking basic goods and services³² and being only loosely connected

²⁸ In this context, (Apparent) consumption equals domestic production plus imports minus exports.

²⁹ Full list of impact categories: climate change, ozone depletion, human toxicity, respiratory inorganics / particulate matter, ionising radiation, photochemical ozone formation, acidification, eutrophication, ecotoxicity, land use, resource depletion. LCIA methods for assessing other impact categories, such as biodiversity and landscape, are still not mature enough to be included in the analysis.

³⁰ OPEN-EU (<http://www.OnePlanetEconomyNetwork.org/>).

³¹ Persons who live in households with less than 60% of the median income.

³² Inability to afford some items considered by most people to be desirable or even necessary to live an adequate life.

to the labour market³³. This aggregate indicator based on European statistics is used as a headline indicator for the Europe 2020 strategy and assessed against a headline target (see Annex 2 — Figures 3 and 4). A mid-term review is planned for 2014.

On the basis of the United Nations Development Programme (UNDP) approach, two **composite indices** have been calculated for all EU regions: one measuring human development (EU HDI — merging GDP with indicators on health and education in one single index figure) (see Annex 2 — Figure 5) and the other measuring human poverty (EU HPI-2)³⁴. These indices show the significant variations both between and within countries. Comparing the two indices revealed that some Member States have found a low-poverty road to development, while others are stuck on a high-poverty road³⁵ (see also point.3.1). The indices have been used in the 5th Cohesion Report and discussed in the Cohesion Forum. The Forum concluded that poverty in the EU should be measured annually at regional level to monitor, *inter alia*, the impact of the next round of Cohesion Policy. However, the identification of poverty hotspots by these indices was considered promising, but still insufficient. This has led to a joint World Bank and European Commission project to estimate local poverty rates to identify priority areas for poverty reduction in the next round of Cohesion Policy.

1.2.2. *Quality of life and well-being indicators*

Good **quality of life** is an individual aspiration as well as an objective for society as a whole, but what constitutes good quality of life and how can well-being be measured?

The European Statistical System has established a detailed **set of quality-of-life indicators**, covering the full range of **quality-of-life dimensions, including the well-being perspective**³⁶. The indicator set consists of headline and context indicators for all nine³⁷ quality of life dimensions. For most dimensions, European statistics are already available or in the process of being collected.

To secure continuous production of these indicators, the European Statistical System agreed that the **European Statistics on Income and Living Conditions (EU-SILC)**³⁸ should be the core instrument for measuring quality of life. As of 2013, a module on ‘subjective well-being’ is included. The objective is to help identify the profile of households and individuals that need assistance and channel EU funding more effectively. A proposal for adding a variable on ‘overall life satisfaction’ in the yearly data collection on EU-SILC is currently in the process of being approved by the ESS.

On the basis of information about these different dimensions³⁹ of quality of life, it is possible to evaluate how existing social and other policies influence individual well-being. In

³³ Persons living in households where on average, the adults worked less than 20% of their time in a year.
³⁴ European Commission, *Fifth Cohesion Report on economic, social and territorial cohesion: Investing in Europe's Future*.

³⁵ http://ec.europa.eu/regional_policy/sources/docoffic/official/reports/cohesion5/index_en.cfm.
See Regional Focus 2011/02, *The European regional Human Development and Human Poverty Indices*, Bubbico and Dijkstra; http://ec.europa.eu/regional_policy/information/focus/index_en.cfm.

³⁶ http://epp.eurostat.ec.europa.eu/portal/page/portal/pgp_ess/0_DOCS/estat/SpG_Final_report_Progress_wellbeing_and_sustainable_deve.pdf.

³⁷ See Annex 5 for the quality of life dimensions covered.

³⁸ EU-SILC is one of the most extensive surveys in the EU. It covers more than 130 000 households and 290 000 individuals in all Member States and collects a vast set of data on social topics.

³⁹ For a number of these dimensions, such as ‘Productive and valued activities (including work)’, ‘Material living conditions’, ‘Governance and basic rights’, ‘Leisure and social interactions (inclusion/exclusion)’, ‘Natural and living environment’, ‘Economic and physical safety’, European

particular, the Healthy Life Years (HLY) indicator measures the number of years that a person of a certain age is expected to live without disability, thus adding the quality-of-life dimension to the simple notion of life expectancy.

A challenge for analysis is the (sometimes considerable) time lag between policy decisions, the resulting change in quality of life and the final outcome in terms of perceived well-being.

Detailed indicators and analysis of the European Quality of Life Survey

The European Quality of Life Survey (EQLS) has been carried out by Eurofound⁴⁰ every four years since 2003. The overview report of the third edition was published in November 2012. The EQLS provides a broad range of data that allows well-being among different social groups and changes in quality of life over time to be compared. It covers a comprehensive spectrum of life domains and contains indicators both for objective and subjective aspects, for individual well-being and quality of society.

These data complement the information from Eurobarometer opinion polls⁴¹ carried out since 1973, which show levels of life satisfaction remaining stable, regardless of GDP increases. Efforts have been stepped up since the beginning of the crisis to improve the timeliness of quality-of-life data (see also Section III 2.2) with Special Eurobarometers asking key questions in 2009 and 2010⁴².

EQLS results confirm that (un)employment, health, work-life balance, quality of social contacts and the societal environment are the main factors shaping the quality of life in the present⁴³. The results have helped in identifying factors that may be amenable to policy measures.

Data from EQLS and other complementary sources have been used widely by the European Parliament, e.g. for analysing the social impacts of the economic crisis, in reports on female poverty and social services, and by the Employment, Social Policy, Health and Consumer Affairs Council (EPSCO) in connection with the reconciliation of work with family life. The EQLS data on health inequalities are also used widely. (With its coverage and analysis of inequalities between social groups, the EQLS also contributes to Action 3 of the *GDP and beyond* Roadmap; see Section III 3.2.)

A number of Member States are starting to use such indicators to improve policy effectiveness. For example, research⁴⁴ using well-being indicators has demonstrated that the amount of social spending per se is not likely to enhance life satisfaction significantly. The enhancement of individuals' well-being depends rather on the **type and quality of spending**.

statistics and comprehensive indicators sets are already available and are used to monitor EU measures and national policies.

⁴⁰ European Foundation for the Improvement of Living and Working Conditions (Eurofound), an EU agency.

⁴¹ Standard Eurobarometer http://ec.europa.eu/public_opinion/index_en.htm

⁴² EQLS covers all EU Member States and candidate countries. It was carried out in 2003, 2007 and 2011/12 and will be repeated in 2016. A set of EQLS questions was also used in special EB 72.1 (321) and 74.1 (355) in 2009 and 2010 to monitor the changes caused by the financial crisis; <http://www.eurofound.europa.eu/surveys/eqls/index.htm>.

⁴³ Third EQLS overview report, released in November 2012;

<http://www.eurofound.europa.eu/publications/htmlfiles/ef1264.htm>.

⁴⁴ OECD study prepared for the Commission, *Subjective Well-being and Social Policy*, February 2010; <http://ec.europa.eu/social/BlobServlet?docId=6704&langId=en>.

However, not much weight is given to these indicators in assessments of the overall economic performance of a country or region, and they are rarely commented on in the media.

Key challenges in the next few years are:

- Complementing the measurement of current quality of life (observable ‘facts’) and well-being (as individually perceived) with the measurement of potentials and risks for future quality of life and well-being, i.e. linking the measurement of current well-being to measures of long-term sustainability;
- Analysing more in details the perceived levels of quality-of-life/well-being and their objective elements; and
- Finding ways to aggregate quality-of-life and well-being for efficient communication and political use.

1.2.3. *Consumer conditions and empowerment*

In a consumer society, consumption represents one of the main drivers of individual and societal well-being. A healthy consumer environment which entails, *inter alia*, citizens’ capacity to make informed choices, their awareness of and trust in consumer protection legislation, and their options for seeking redress when needed has a pivotal role for both economic and social development.

Two indexes are available. An EU Consumer Conditions index has been published annually since 2010 in the framework of the Consumer Conditions Scoreboard⁴⁵. This provides an overview of the key indicators describing the consumer environment at national level (i.e. perceived frequency of fraudulent advertisements, consumers’ trust in consumer legislation, etc.). A consumer empowerment index compiled as a pilot exercise in 2010 describes the consumer’s ability to deal successfully with this environment. The purpose of these indices is to create a long-term data set which can be used by national policy-makers and stakeholders to guide the development of consumer policies.

2. NEAR REAL-TIME INFORMATION FOR DECISION-MAKING

Action 2 in the GDP and beyond Communication (page 6):

*‘Factors including globalisation and climate change are bringing ever faster changes to the economy, society and the environment. Policy-making requires equivalent information on all those aspects — even if this goes at the expenses of accuracy — as it has to react quickly to new developments. Currently, there are considerable differences in the timeliness of statistics in the different areas. GDP and unemployment figures are published frequently within a few weeks of the period they are assessing and this can allow near real-time decision making. By contrast, environmental and social data in many cases are too old to provide operational information e.g. on fast-changing air and water quality or work patterns. The Commission will therefore aim to **increase the timeliness of environmental and social data to better inform policy-makers all across the EU.**’*

Speeding up the production of social and environmental data is also important to allow for more balanced policy-making. An integrated analysis can support public debate and political

⁴⁵ http://ec.europa.eu/consumers/consumer_research/editions/docs/7th_edition_scoreboard_en.pdf.

decision-making only if economic, social and environmental figures are available in time. This can improve policy coherence and underpin an evidence-based approach. The call for more timely social and environmental data concerns all level of aggregation, from data for analytical purposes to summary indicators for reporting on overall progress.

The Commission services have pursued several avenues to arrive at more timely or even ‘near real-time’ indicators. The options include small and fast specific surveys for essential topics, e.g. on the financial situation of households, generally speeding up the collection and processing of raw data and using advanced statistical methods to provide timely first estimates for key indicators (as for the GDP flash estimate). On the environmental side, direct physical measurement is partly possible, e.g. for air quality. New information and communication techniques can be used to provide a near real-time database. This chapter describes the results of the Commission services’ use of these approaches and sets out the remaining challenges.

2.1. More timely environmental indicators

2.1.1. Early estimates and now-casting

Greenhouse gas (GHG) emissions

Climate change mitigation and the transition to a low-carbon economy are important goals for the EU, domestically and internationally, expressed in the relevant Europe 2020 headline target.

Since 2009, the European Environment Agency (EEA) has published annual ‘early estimates’⁴⁶ of **greenhouse gas emissions**⁴⁷ for the EU-15 and EU-27 within nine to ten months of the reference year, while the official final UN Framework Convention on Climate Change (UNFCCC) data for the EU and the Member States are available after about 18 months. ‘Early estimates’ halve the time needed to compile this Europe 2020 headline indicator. Since 2011, early GHG estimates have also been published for Member States⁴⁸ (see Figure 6 in Annex 2), which makes it easier to relate the analysis of GHG emissions to the economic cycle.

In the past three years, the method has predicted the final EU figures⁴⁹ within the stated uncertainty ranges. Accuracy at Member State level varies and there is room for improvement, but the approach that has been developed is considered to be sufficiently robust.

Eurostat has started to develop ‘early estimates’ of EU-27 CO₂ emissions from energy use with a time lag of four months⁵⁰ only.

The Commission has proposed making the reporting of early emission estimates legally mandatory for Member States. This is included in the 2011 proposal for the revision of the EU

⁴⁶ Approximated (or proxy) GHG inventory. The ‘flash estimate’ for GDP is published within 45 days (1.5 months) after the reporting period (quarter).

⁴⁷ GHGs covered by the Kyoto Protocol .

⁴⁸ 2011 report: http://www.eea.europa.eu/publications/approximated-eu-ghg-inventory-2010;2012_report; <http://www.eea.europa.eu/publications/approximated-eu-ghg-inventory-2011>.

⁴⁹ For example, in October 2011 the EEA predicted that EU-27 GHG emissions would increase by 2.4% (+/- 0.3 uncertainty) and EU-15 emissions by 2.3% (+/- 0.7 uncertainty) in 2010 as compared with 2009. The official data reported to UNFCCC in May 2012 were 2.4% for the EU-27 and 2.1% for the EU-15.

⁵⁰ The results from this project were published on Eurostat’s website in 2012. The main data used are the monthly energy statistics reported under the Energy Statistics Regulation.

GHG Monitoring Mechanism Decision (280/2004/EC)⁵¹. This is included in the 2011 proposal for the revision of the EU GHG Monitoring Mechanism Decision (280/2004/EC) adopted on 21 May 2013⁵².

Environmental economic accounts and resource efficiency indicators

Eurostat has tested methods to produce early **estimates for three modules of environmental accounts** (see also Section III. 5). The results are promising for ‘material flow accounts’ (MFA) and ‘air emissions’ at the national level. For some erratic components of ‘environmental protection expenditure’, such as investment expenditure, it has not so far been possible to find more timely data with suitable ‘prediction power’. As part of the early estimates for MFA, Eurostat intends from 2013 onward to produce the lead indicator of the EU **Resource Efficiency Roadmap**⁵³ — currently ‘resource productivity (GDP/DMC)’ — **with a 12-month time-lag**.

The potential to produce early estimates and ‘now-casts’⁵⁴, balancing political relevance, costs and value added of such estimates at EU and Member State level is being analysed for 60 other indicators relevant for the EU Resource Efficiency Roadmap. The time lag is expected to vary between eight and 12 months.

2.1.2. Near real-time data

In some areas, such as air or bathing water quality, state-of-the-art information and communication technologies (ICT) can provide a near real-time (NRT) picture of the situation and can support decision makers. This can be a cost-effective solution for extensive data needs from local to global level, as the examples below show.

Eye-on-Earth and complementary tools

As technology is progressing, mobile phone technology increasingly allows citizens to provide data on their local environment. The ‘**Eye-on-Earth**’ **Network**⁵⁵ pools and shares information between a large number of people. ‘**Noise Watch**’, launched in 2011 allows citizens to upload their individual noise assessments in real time and for their exact location. If complemented by a near real-time data exchange with official measurement stations, this could present a truly fluid and up-to-date policy information tool. The ‘NatureWatch’ pilot enables citizens, in particular conservationists or anglers, to report sightings of invasive alien species. This application could help Member States to implement cost-effective monitoring systems⁵⁶.

EU Earth Observation Programme (GMES/COPERNICUS)

In recent years, progress has been made on the access, sharing, quality and timeliness of environmental and geospatial information at global, European, national and local level,

⁵¹ http://ec.europa.eu/clima/policies/g-gas/documentation_en.htm#Monitoring_mechanism.

⁵² Regulation (EU) No 525/2013 of the European Parliament and of the Council of 21 May 2013

⁵³ COM(2011) 571 of 20.9.2011

⁵⁴ http://ec.europa.eu/environment/resource_efficiency/about/roadmap/index_en.htm.

⁵⁴ A ‘now-cast’ provides an estimate for the current period building on very timely predictor statistics of the given year, while a forecast looks into the future and is much more driven by assumptions (scenario analysis).

⁵⁵ <http://eyeonearth.org>.

⁵⁶ See TESS project (Details in Annex 7)

underpinned by implementation of the INSPIRE Directive⁵⁷ and the adoption of the GMES Regulation⁵⁸.

Since 2010, COPERNICUS (previously GMES) has launched a number of services, including NRT services on atmosphere, marine and land providing data at global and European level based on space and *in situ* data. For example, the GMES Marine service provides NRT information for combating oil spills, managing fish stocks, and coastal activities. A Copernicus climate change service is also under preparation; one of the objectives is to disseminate results via the European climate adaptation platform – climate-ADAPT. In the longer term, after the launch of the Sentinel 2 satellites from 2013 onwards, land services data will be available in ‘near real-time’ rather than after several years.

Using this huge data stream for the production of indicators as well as for modelling and for specific applications (such as combating oil spills) remains a challenge.

Group on Earth Observation (GEO)

At international level GEO, gathering 81 countries and the European Commission, designs and implements a Global Earth Observation System of Systems (GEOSS). GEOSS aims to link together planned and current observing systems, and improving the integration of, and access to, data and information from individual systems and platforms. As a result, GEOSS provides timely, quality, long-term, global information to decision makers and managers allowing to draw synergies from a wide range of domains ranging from agriculture and biodiversity to health and energy.

2.2. More timely social indicators

GDP and unemployment figures are released quarterly and monthly, respectively, within weeks of the period in question. They should ideally be accompanied by a concise set of up-to-date social indicators so as to give a balanced and accurate picture of the social and economic situation, especially in times of rapid change. Since 2010, Eurostat has published quarterly press releases on European household income, consumption and savings statistics and compared these developments with GDP. A more in-depth analysis of these data is published in the Employment and Social Situation Quarterly Review.

The following structural action is ongoing, planned or being considered with a view to improving the timeliness of social data in the near future:

- gathering faster data on income distribution, e.g. by using a faster data collection instrument and bringing forward the release of EU-SILC data by six months;
- gathering data on material deprivation in near-real time;
- gathering information about coping strategies (households’ and individuals’ reactions to financial stress), possibly by means of a short module for Member States to implement in their own national systems, so as to get results within six months of the field work.

⁵⁷ Directive 2007/2/EC establishing an Infrastructure for Spatial Information in the European Community (INSPIRE), OJ L 108, 25.4.2007, p. 1.

⁵⁸ Global Monitoring of Environment and Security (GMES); Regulation (EU) No 911/2010 on the European Earth monitoring programme (GMES) and its initial operations (2011 to 2013), OJ L 276, 20.10.2010, p. 1.

Additional action is using *inter alia* special flash surveys, collecting administrative data and applying estimation techniques:

- **‘Now-casting’ of household income structure:** A unique EU-level model (EUROMOD) has been developed for ‘now-casting’ changes in the income structure of households. As demonstrated by a recent report⁵⁹, this can be used for policy analysis of the impact of fiscal consolidation measures on different income groups in different Member States.
- **EU consumer surveys** (see Section III 1.2.3): these provide monthly information on the financial situation of households. (As these data are broken down by income categories, they contribute to Action 3 of the Roadmap on distributional indicators; see Section III 3.2).
- **Using data collected from national administrative sources** on recipients of social assistance, unemployment benefits, early retirement and disability pensions. These data, although not comparable between countries, provide monthly information on the number of recipients and potential shifts between schemes, especially between unemployment benefits and social assistance. They have been used for country-specific recommendations within the Europe 2020 policy cycle.

⁵⁹ <https://www.iser.essex.ac.uk/euromod>.

3. MORE ACCURATE REPORTING ON DISTRIBUTION AND INEQUALITIES

Action 3 in the GDP and beyond Communication (page 7):

‘Social and economic cohesion are overarching objectives of the Community. The aim is to reduce disparities between regions and social groups. In addition, far-reaching reforms — such as those required fighting climate change or to promote new patterns of consumption — can only be achieved if efforts and benefits are felt to be equitably shared among countries, regions, and economic and social groups.’

Many top-level indicators, such as unemployment rate or GDP per capita, tend to report on how countries are performing overall or on average. These national averages can hide large differences within countries, by region, income group, age or gender. The data demand of distributional statistics is larger than for national totals and averages, but by using existing administrative registers and geo-spatial information it is possible to produce such indicators in a cost-effective way.

This section presents the Commission’s achievements to date and ongoing and potential future work to improve data on regions and specific social groups.

3.1. The regional and other sub-national dimensions

Measuring issues at sub-national (local to regional) level is especially important for ‘area-based’ policies. Sub-national indicators capture the unequal distribution of issues within a country and enable policy-makers to identify the areas where problems are most concentrated. For example, in many regions **poverty** and **severe material deprivation rates**⁶⁰ are far above or below the national average and need a specific policy response.

Sub-national measures are also more likely to correspond to **what people experience in their day-to-day lives**. For example, crime, violence and vandalism tend to be concentrated in cities. Thus, while some people experience this frequently and others rarely, few can identify with the national average (see Annex 2 – Figures 5 and 7).

With regional-level data, it is possible to carry out in-depth studies, e.g. to quantify the regional impact of income inequality on important social outcomes relating to education, health, living and social conditions, well-being, trust and political/civic participation. As an example, information about death rates and causes of death at regional level provide important indicators about the level of health inequalities between regions and allow exploration about how these are related to socio-economic factors and health services.

Sub-national data can therefore help policy-makers by capturing issues at the appropriate decision-making level (such as labour market areas or river basins) and help to restore confidence that official statistics measure what matters to people.

Geospatial analysis allows combining different data sources, adding flexibility (see Annex 6). has allowed the Commission services to create new harmonised regional and local typologies.

⁶⁰ People are said to be in material deprivation when they do not have the resources to cover at least four of the following situations: i) pay the rent and utility bills, ii) adequately heat their place of residence, iii) pay unexpected expenses, iv) afford to eat meat, fish or equivalent proteins regularly (every second day), v) afford a one-week annual holiday away from home, vi) run a car, vii) purchase a washing machine, viii) purchase a colour television or ix) pay telephone bills.

This helps policy-makers who want to compare the performance of metropolitan regions or rural areas across countries, for example.

The **fifth Cohesion Report**⁶¹ uses a wide range of these indicators covering key aspects of overall societal progress: competitiveness index, human development index, human poverty index and the Lisbon index. The sixth Cohesion Report (2014) will include a number of new and revised summary indicators, including a regional Europe 2020 index.

Significant progress has been made in this area since 2009, yet many challenges remain to develop data sources to identify the areas in need of targeted policy action and monitor progress in particular with respect to poverty and/or exclusion.

In particular, the Commission services have asked the World Bank and the European Observation Network on Territorial Development and Cohesion (ESPON) to create detailed poverty maps to prepare the 2014-20 Cohesion Policy programmes. In addition, they are actively investigating how EU-SILC can provide reliable regional figures in time for the preparation of Cohesion Policy post 2020.

3.2. Disparities and inequality between social groups

Using the Open Method of Coordination on Social Inclusion and Social Protection⁶², a set of distributional measures has been defined and in use since 2009. Key European statistics include the **‘at-risk-of-poverty’ rate**⁶³ and an **indicator comparing the incomes of people earning most and least**⁶⁴. These measure disparities in income. Other examples of inequality indicators include the **‘housing cost burden’**⁶⁵ and **‘unmet needs for medical examination’**.

To further improve European statistics on income (in-)equality without additional data collection, a joint **OECD-Eurostat Expert Group** has been set up to explore the potential for breaking down the macro-indicators from national accounts according to household type, level of income and main source of income.

A second area of activity is on health inequality indicators. The European Community Health Indicators (ECHI) already include several indicators on health status and healthcare broken down by sex, age group and socio-economic status. The ‘Healthy Life Years’ indicator is now broken down into three age groups (at birth, at 50 and at 65) to track developments in ageing societies. The set also includes European statistics on how people in different income or education groups feel about their health and how restricted they are in their daily activities. Around 14 Member States have also produced indicators on life expectancy by educational group. These indicators will form the backbone of the progress report on health inequalities expected in 2013.

The EU-SILC micro-database allows more detailed analysis with European statistics on the differences between people by socio-economic conditions and how these are related to other factors such as health. A key concern in the fundamental revision of EU-SILC launched in 2011 is how better to cover **vulnerable groups, e.g. the elderly and children**.

Challenges as regards social disparity measurement include:

⁶¹ http://ec.europa.eu/regional_policy/sources/docoffic/official/reports/cohesion5/index_en.cfm.

⁶² <http://ec.europa.eu/social/main.jsp?catId=753>.

⁶³ Share of people living in households with an income of less than 60 % of the national median income.

⁶⁴ ‘Top/bottom income quintile ratio’.

⁶⁵ http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Glossary:Housing_cost_overburden_rate

a) further improvement of Household Budget Survey and Time Use Survey data, *inter alia* to prepare **balance sheet accounts for private households** to show their debt and financial and real estate assets, and estimate their production. These data can inform social policies on the distribution of risks and stress factors in households. They also provide input to quality-of-life measures (financial security and leisure time) and can make it possible to estimate the economic production in private households that is not covered by GDP;

b) establishing commonly known and used measures for distribution to complement the well-known ‘average per capita’. Options include the median, Gini-coefficient, top/bottom-ratio or the proportion of people earning less than the average. Such figures could condense the information provided by detailed breakdowns by social group, for example, and make information on distribution more easily accessible to citizens and policy-makers.

4. DEVELOPING A EUROPEAN SUSTAINABLE DEVELOPMENT SCOREBOARD

Action 4 in the GDP and beyond Communication (page 8):

‘Sustainable Development (SD) is an overarching objective of the European Union. The aim is to continuously improve the quality of life and well-being on Earth for present and future generations. ... To stimulate the exchange of experience between Member States and among stakeholders on policy responses, we need a more concise and up-to-date set of data. The Commission therefore explores the possibilities to develop, together with Member States, a Sustainable Development Scoreboard.’

*‘The SD strategy⁶⁶ sets as a key objective to respect the **limits of the planet’s natural resources**. These include nature’s limited capacity to provide renewable resources and absorb pollutants. Scientists are seeking to identify related physical **environmental threshold values** and highlight the potential long-term or irreversible consequences of crossing them. For policy-making it is important to know the ‘danger zones’ before the actual tipping points are reached, thereby identifying alert levels.’ (page 9)*

The aim of the SD Scoreboard is to complement the existing EU set of SD Indicators (SDIs). The SDIs are for monitoring the objectives and actions of the SD strategy in detail, but not for communicating overall achievements and challenges in the area of SD. The area of SD was found as too heterogeneous to develop an overall progress index on SD and therefore explored the possibilities of a concise SD Scoreboard.

In parallel scientifically defined ‘environmental sustainability thresholds’ are being investigated as a gauge of the distance between our current position and a sustainable use of natural resources.

4.1. Towards a Sustainable Development Scoreboard

In 2010, with the adoption of the Europe 2020 strategy for smart, sustainable and inclusive growth, sustainable development (SD) became an integral part of the EU’s socio-economic strategy. As a result, the reporting and governance approach has changed and has been included in the European Semester. While SDIs continue to be published twice a year, a first feasibility test showed that not many indicators are readily available to be assembled into an easy communicable SD scoreboard.

⁶⁶ EU Sustainable Development Strategy <http://ec.europa.eu/environment/eussd>.

Academic research continues, however, with EU support⁶⁷ to further explore the possibilities of an SD Scoreboard with a view to contributing to the Rio +20 follow-up. Rio +20 has given new international impetus to measuring progress towards sustainable development.

4.2. Thresholds for environmental sustainability

Environmental Sustainability Thresholds (ESTs) or ‘planetary boundaries’ are increasingly recognised in science⁶⁸. Scientific knowledge about such thresholds needs to be combined with an ability to measure, using suitable indicators, how far away from them we are. Work is on-going to identify tipping points for indicators on environmental pressures and natural resources. The first results may be used, where appropriate, as a basis for target-setting in the framework of the Resource Efficiency Roadmap.

⁶⁷ FP7 Projects — BRAINPOOL, APPRAISE and E-FRAME (details in Annex 7).

⁶⁸ e.g. Rockström et al. Nature 461, pp. 472-475 (24 September 2009)
<http://www.nature.com/nature/journal/v461/n7263/full/461472a.html>.

5. EXTENDING NATIONAL ACCOUNTS TO ENVIRONMENTAL AND SOCIAL ISSUES

Action 5 in the GDP and beyond Communication (page 9):

*'The European System of Accounts is the main tool behind EU economic statistics as well as many economic indicators (including GDP). As a foundation for coherent policy-making, we need a data framework that consistently includes environmental and social issues along with economic ones. In its June 2006 conclusions, the European Council called on the EU and its Member States to extend the national accounts to key aspects of Sustainable Development. The national accounts will therefore be complemented with **integrated environmental economic accounting** that provides data that are fully consistent. As methods are agreed and the data becomes available this will be complemented, in the longer term, with additional **accounts on social aspects**. ... In the longer term it is expected that more integrated environmental, social and economic accounting will provide the basis for new top-level indicators.'*

Social, economic and environmental indicators that comply with the rigid accounting principles of the System of National Accounts also make it possible to carry out fully consistent policy analysis and evaluation, e.g. based on integrated modelling. This is the main value added of applying the standard accounting principles to environmental and social issues and setting up such accounting systems.

These two areas are at considerably different stages of development and this has been taken into account by the Commission services. The development and testing of environmental accounting started about 25 years ago and methods have only recently been agreed at international level, on the basis of which the EU adopted a first regulation on environmental accounting. On the social side, the standard national accounts already contain some relevant information (mainly on the financial side) and the social accounting concepts enjoy a high level of acceptance. However, social accounts require very extensive data, production of which has been improved but not extended in recent years. The priorities here are to develop further macro-indicators and improve the availability and communication of existing indicators.

A similarity between social and environmental accounts is that they build on primary data and their production can only start when these are final. As a result, they are two to five years old. They are useful in providing information on structural trends but limited as regards providing an accurate picture of the current situation (see III 2. on improving timeliness of indicators).

5.1. Integrated environmental-economic accounting

Environmental-economic accounting tracks the **links between the environment and the economy** at EU, national, and in most cases also sector⁶⁹ and industry level. It measures what impacts the economy has on the environment (e.g. pollution) and how the environment contributes to the economy (e.g. use of raw materials, ecosystem services). It makes it possible, for example, to compare the amount of pollution generated and natural resources used by different industries with employment created, the value of production and, for example the environmental subsidies granted. These accounts also allow policy-makers to

⁶⁹ Enterprises (private sector), households and public sector.

trace domestic resource-use and imports and exports. On this basis, they can analyse the influence of environmental policies on the economy, and vice versa, and design generally cost-effective policies.

Given that environmental accounts are normally based on existing statistics, the additional administrative burden is low and they are therefore a highly cost-effective way of complementing economic accounts with environmental data.

5.1.1. European environmental economic accounts

Over the past two decades, the European Statistical System has gradually established a European environmental accounting system. The EU made considerable progress towards broad implementation with the adoption of the **Regulation⁷⁰ on European environmental economic accounts** in 2011. This marks a key milestone, as it is the first piece of statistical EU legislation in the environmental sphere since the adoption of the Waste Statistics Regulation 2002 and only the second overall.

This first Regulation contains three modules: (a) *air emissions*, including greenhouse gases, (b) *environment-related taxes* and (c) economy-wide *material flow accounts (EW-MFA)*. These European statistics, for the years 2008 to 2011 and with a breakdown of 60 economic activities⁷¹, will be made available by Member States in late 2013 and early 2014, and will then be **updated annually**, though only within 21 and 24 months of the end of the reference year (see III 2.1 for ‘early estimates’ of environmental accounts).

Environmental accounting data can be combined with novel statistical methods⁷² to produce indicators showing resource use and pollution along the global production chain, or ‘footprint type indicators’ (see also III.1.1 on environmental impact indicators). The potential of environmental accounts is illustrated in Figure 8 in Annex 2, which shows the difference between the ‘domestic territory perspective’ and the ‘global supply chain perspective’ for CO₂ emissions. With such indicators, it is possible to analyse whether structural changes in a country’s economy lead to shifts of environmental burden to other countries.

As regards international developments, Eurostat contributed expertise and financial support to the development of **the System of Environmental-Economic Accounts (SEEA)**. After over 20 years of development and testing in several countries around the world, the SEEA-Central Framework (SEEA-CF) was adopted in February 2012 as an official statistical standard at UN level. This paves the way for international comparable data set that can be used to analyse the environment-economy interface and create new macro-indicators on this⁷³. The existing and potential future European regulations are consistent with the SEEA.

Ongoing work and challenges

At European level, work is under way to add the following three modules to the EU Regulation on environmental accounts: ‘*physical energy flow accounts*’ (PEFA), ‘*environmental goods and services sector*’ (EGSS) and ‘*environmental protection expenditure*’ (EPE). The second and third of these are especially important for the resource efficiency strategy, as they capture the size of the market for green products and services from both the supply (EGSS) and the demand side (EPE). A proposal on adding those modules is currently being discussed by the Council and the European Parliament. The Parliament has

⁷⁰ EP and Council Regulation (EU) No 691/2011 of 6 July 2011, OJ L 192, 22.7.2011, p. 1.

⁷¹ For the air emissions and environmental taxes modules.

⁷² Environmentally extended supply-use — input-output tables.

⁷³ <http://unstats.un.org/unsd/envaccounting/seearev/>.

called for the Regulation to be quickly expanded with more modules, which may prove difficult in view of the current budgetary constraints⁷⁴.

To overcome the limitations of the current lead indicator for resource efficiency, 'Domestic Material Consumption' (DMC), and take into account calls from stakeholders and Member States for a better material indicator, Eurostat is exploring the possibility of producing the 'Raw Material Consumption' (RMC) indicator to measure imported and exported goods in terms of 'Raw Material Equivalents' (RME), i.e. the amount of domestic extraction needed to provide the respective traded good. Eurostat will calculate RMC at EU level first and support national statistical institutes, at least in some larger Member States, in measuring national RMC. At least one larger Member State has already developed and is using RMC, and Eurostat's work will ensure that lessons are learned from this experience and that future work by other Member States is coordinated and comparable.

Accounts on physical and monetary *flows* (such as emissions / environmental subsidies) will continue to be given priority over accounts on *stocks*, such as reserves of natural resources (with the exception of the on-going work on forest accounts).

Monetary estimates of loss of natural resources, including the degradation of environmental quality would mean that environmental information could be better integrated into economic modelling and decision making. For the time being, however, European statistics can produce such valuations for only a limited number of natural resources, e.g. as regards the depletion of oil, gas and standing timber. For other natural resources, only physical indicators can be produced for now due to the absence of observable market prices.

To make progress, the Commission has supported several projects and initiatives such as the Economics of Ecosystems and Biodiversity (TEEB) Project⁷⁵. On the occasion of the Rio +20 Summit, the Commission joined the World Bank's Natural Capital Initiative and decided to support the Wealth Accounting and Valuation of Ecosystem Services (WAVES) Project, which promotes the use of environmental accounts (SEEA, see above), including physical and monetary accounts of natural capital, to provide a fuller picture of national wealth in monetary terms.

Another example of monetary valuation is the calculation of the most relevant external costs relating to transport (congestion, accidents, GHG emissions, air pollution and noise), with a view to pricing and internalising them according to the 'polluter pays' principle⁷⁶ (see the Commission's 2011 **White Paper on Transport**⁷⁷).

5.1.2. *Ecosystem capital accounts*

Understanding how well we manage key ecosystems, such as cropland, forests or water bodies, and the services they provide (biomass, timber, food, climate regulation, etc.) is

⁷⁴ The EP has called for a further eight modules to be developed and proposed.

⁷⁵ See in particular 'A synthesis of approaches to assess and value ecosystem services in the EU in the context of TEEB' at http://ec.europa.eu/environment/nature/biodiversity/economics/index_en.htm.

⁷⁶ This is part of the effort to align market choices with concerns for sustainability in all its dimensions. In 2008, the European Commission adopted the Greening Transport package, including the Communication on the *Strategy for the internalisation of external costs*, the technical annex to which provides an evaluation of these costs and a methodology for calculating them. http://ec.europa.eu/transport/themes/strategies/doc/2008_greening/2008_greening_cost_annex_technical_en.pdf.

⁷⁷ *Roadmap to a Single European Transport Area — Towards a competitive and resource efficient transport system*. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0144:FIN:EN:PDF>.

crucial for maintaining them. Ecosystem accounting helps us to understand whether we run down our natural capital and where action is required to protect or improve ecosystems and the services they provide, to achieve well-being now and in the future. Therefore, the 7th Environmental Action Plan recognises that measuring the value of our ecosystems and the cost of their depletion is essential to inform policy and investment decisions⁷⁸.

Simplified **ecosystem capital accounts** are currently being tested and implemented for Europe by the EEA⁷⁹. The objective is to come up with a small number of indices, based on existing data, that can be readily computed and provide a credible representation of complex natural systems. The four indices being tested relate to land, water, carbon and ‘landscape ecosystem potential’.

These simplified accounts are to measure the **ecosystem resources that are accessible without environmental degradation**, the **actual intensity of use** of the accessible resources and the **change in the capability of ecosystems to deliver services over time**, and thereby develop the evidence base for the sustainable management of renewable natural resources. They cover all ecosystem types (forests, wetlands, agricultural and urban systems, sea, etc.) found in the EU-27 countries.

The results can be aggregated to the level on which decisions are taken, e.g. watersheds or administrative regions, and thereby inform key policy processes such as implementation of the Habitats Directive and the Water Framework Directive, and sectoral policies such as those on agriculture, transport and fisheries. The concepts and results of ecosystem accounting are also being used to map ecosystem services by 2014 in line with the EU Biodiversity strategy and obligations under the Convention on Biological Diversity (Aichi Target 2 and related milestones). Further work is undertaken in the EU in the context of the Mapping and Assessment of Ecosystems and their Services (MAES) initiative which is one of the key actions of the EU Biodiversity Strategy to 2020.

This methodological framework and first pilot results of the accounts⁸⁰ form the basis of the EEA contributions to the on-going development of an extension of SEEA on ecosystem accounting⁸¹.

5.1.3. *Assessing the link between environmental performance and economic growth*

In recent years, the EU has financed or directly undertaken several projects that aim to provide policy analysts with integrated databases that can be used to analyse the synergies and trade-offs between policy objectives. For example, the World Input Output Database (WIOD) research project (2009-12) has provided the necessary data basis to improve our understanding of how changing trade patterns affect environmental pressures and socio-economic variables⁸².

Another recent example is the **iGrowGreen assessment framework** designed by the Commission services to measure Member States’ progress towards a competitive, greener economy. iGrowGreen⁸³ systematically compares Member States’ environmental

⁷⁸ Living well, within the limits of our planet, COM(2012) 710 final.

⁷⁹ http://projects.eionet.europa.eu/leac/library/e_c_a_fast_track_provisional_repository/background_documents/experimental-framework-ecosystem-capital-accounting-europe.

⁸⁰ To be found at http://projects.eionet.europa.eu/leac/library/cube/recent_papers_presentations.

⁸¹ Volume II of SEEA on ecosystem accounting <http://unstats.un.org/unsd/envaccounting/seearev/>. The draft manual is on the agenda of the UN Statistical Commission in early 2013.

⁸² See Project WIOD in annex 7.

⁸³ http://ec.europa.eu/economy_finance/db_indicators/igrowgreen/index_en.htm.

performance with macroeconomic and fiscal implications across relevant policy areas, taking account of performance levels and changes for more than 70 indicators. Composite indices have been calculated for '*environmental tax reforms and fiscal consolidation*', '*strengthening market functioning and competitiveness*', '*boosting new sources of growth*', and '*climate change and biodiversity*'. The results of this analysis have been used in the Annual Growth Survey.

5.2. Increasing use of existing social indicators from national accounts

National accounts contain a series of information useful for building social indicators. In particular, they contain breakdowns by sectors, including the household sector. Examples of corresponding macro-indicators are 'gross disposable income of households', 'adjusted disposable income in purchase power standards' and 'saving rate for households' (see Annex 2, Figure 9). These data can be used to improve indicators on household income and consumption. As mentioned in Section III 2.2., the Commission services facilitate the use of these summary indicators by publishing them in dedicated press releases together with GDP.

In line with the recommendations of the SSFR, the European Statistical System agreed on additional household-related macro-indicators to be produced by 2010 (see Annex 5, 1.). In addition, the ESS has made a series of recommendations on compiling **balance sheet accounts for households** and **broadening income measurement to non-market domestic activities and leisure time**. The timing of their production still needs to be decided.

The comparability of household income data between countries will in the long run be further improved by including that part of government expenditure linked to private consumption which benefits from government expenditure, e.g. healthcare and education⁸⁴. Ultimately, this will provide a full picture of income and poverty which takes into account the organisation of the social services and social security systems of a country. A proposal for doing this in a comparable way across the EU is due for publication in late 2013, to then be discussed with potential users of these data.

The ESS has also worked on setting up complementary accounts such as the **System for Health Accounts (SHA)**⁸⁵, for which Eurostat, OECD and WHO agreed on a revised manual in 2011⁸⁶.

⁸⁴ These expenditure flows are termed Social Transfers in Kind (STIK).

⁸⁵ http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Healthcare_expenditure.

⁸⁶ http://www.who.int/nha/sha_revision/en/.

IV. Communication

‘The Commission intends to step up its ... communication in this field. The aim is to provide indicators that do what people really want them to do, namely measure progress in delivering social, economic and environmental goals in a sustainable manner.’ (COM(2009) 433, p. 10)

Communicating results and developing fora where these issues can be debated is essential to measuring societal progress in a way that is balanced and relevant to citizens.

In order to inform partners, stakeholders and the public of activities in the field, the Commission services have continued to run the Beyond GDP website⁸⁷, which provides basic background and up-to-date information on political developments, data improvements and the publication of novel indicators.

Eurostat has set up specific web pages with specific and detailed information on developments in the ESS⁸⁸. All documents on the recommendations regarding the ‘Measuring Progress, Well-being and Sustainable Development’ Sponsorship Group can be found at the ESS website⁸⁹.

Statistics are not always easy to access and understand in the form in which they are commonly presented and published. To remedy this, European data providers constantly improve their websites with content targeted at lay-persons. For example, Eurostat has added the ‘Statistics explained’ section⁹⁰, which presents statistical topics in an easily understandable way, and produced specific publications, such as *Figures for the future: 20 years of sustainable development in Europe – A guide for citizens*⁹¹ and a series of videos on topics such as green growth and poverty in the EU.

V. Conclusions and next steps

With the implementation of the *GDP and beyond* Roadmap, the Commission has responded to growing concern from citizens, media and policy-makers on the need to measure and assess societal progress against social and environmental indicators complementing GDP.

The policy context has changed significantly since the initial Beyond GDP Conference in 2007. The financial crisis of 2008 and the subsequent, still on-going, economic, social and government debt crisis has required full political attention, while the longer-term challenges of ageing societies, education, climate change and scarcity of natural resources are ever more present. The crisis has also stressed the need to revitalise a conception of economic development that goes beyond pure economic parameters and to measure progress in a wider scope from environmental and social perspectives. It is recognised that policy domains are increasingly linked in a complex way across countries and continents, calling for a better knowledge base for assessing and communicating developments, and supporting timely and integrated policy responses.

⁸⁷ www.beyond-GDP.eu.

⁸⁸ http://epp.eurostat.ec.europa.eu/portal/page/portal/gdp_and_beyond/introduction.

⁸⁹ http://epp.eurostat.ec.europa.eu/portal/page/portal/pgp_ess/about_ess/measuring_progress.

⁹⁰ http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Main_Page.

⁹¹ http://epp.eurostat.ec.europa.eu/portal/page/portal/product_details/publication?p_product_code=KS-32-12-152.

Broad EU policies covering, in particular, the thematic part of the Europe 2020 growth strategy and the reinforced coordination of national economic policies in the context of the European Semester make reference to essential aspects of economic, environmental and social sustainability. These policies are supported by indicators, based mainly on official European statistics, which measure the EU's performance on these aspects, thus providing early examples of the practical implementation of the *GDP and beyond* initiative, with GDP being complemented by environmental and social indicators to provide a more comprehensive understanding of societal progress.

In addition, several EU Member States have launched their own initiatives and action plans to go beyond GDP and the Rio +20 summit gave a clear signal to UN bodies and countries worldwide that measuring progress with indicators and in particular complementing GDP is a prerequisite for good governance and societal success.

To summarise, there is growing interest among citizens, media, researchers, statisticians and policy-makers in measuring the different dimensions of societal progress directly and separately rather than relying on GDP as a one-size-fits-all indicator.

Although some actions (e.g. the development of a sustainable development scoreboard) have been put on hold, significant progress has been made over the last three to five years towards complementing GDP with additional summary and other top-level indicators to measure and communicate societal progress more comprehensively. Some of the new indicators have been released and have proven their worth for policy-making. It is expected that more indicators will be released in the next few years and the accounting framework will be further developed in parallel.

As such indicators become increasingly available a logical next step could be to test the most mature indicators in 'real-world' policy-making. While the first pilots do not yet match GDP in terms of accuracy and comparability, they could still be used — with caution — so as to determine their strengths and limitations for policy-making and learn from that for their further improvement.

As pointed out by this report, a number of challenges remain, however:

Several new indicators have been developed and produced, but they often remain compartmentalised in their respective policy areas. Efforts are still needed to produce a comprehensive basket of top-level indicators complementing GDP and being released, when possible and relevant, at the same time.

A number of methodologies have been identified which could produce reliable 'early' estimates within a few months. These have already been applied in a number of areas, leading to better informed policy decisions. Significant efforts are needed to scale up some of these methodologies, however, before they can be considered fully operational.

The extension of national accounts to integrate environmental, social and economic accounting is progressing well but work is still needed to translate this wealth of information into integrated macro-indicators and to promote analyses that exploit the potential of this coherent data framework. Further research is on-going to put a monetary value on the loss of natural resources and on external costs relating to human activities. Pilot initiatives are being established at international level.

Finally, the media seldom report on a country or region's overall performance, despite the various initiatives not only at EU level but also in Member States to publish new summary

and other top-level indicators. By sharing experiences and best practices, stakeholders and policy-makers would be more aware of the results achieved and of the potential of using indicators complementing GDP to assess and design their policies.

LIST OF ABBREVIATIONS

AES	Adult Education Survey
APP	Smartphone Application
AWP	Annual Work Programme
CAP	Common Agriculture Policy
CFP	Common Fisheries Policy
CI	Composite Indicator
CoP	Code of Practice
CoR	Committee of the Regions
CPI	Consumer Price Index
CREEA	Compiling and Refining Environmental and Economic Accounts
CTP	Common Transport Policy
DGINS	Directors-General of the National Statistical Institutes
EAFRD	European Agricultural Fund for Rural Development
EB	Eurobarometer
ECB	European Central Bank
ECU	Ecosystem Capability Unit
EDP	Excessive Deficit Procedure
EEA	European Environment Agency
eeIOT	Environmentally Extended Input-Output Tables
EESC	European Economic and Social Committee
eeSUIOT	Environmentally Extended Supply, Use and Input-Output Tables
EFTA	European Free Trade Association
EGDNA	Expert Group on Disparities in a National Accounts framework
EHIS	European Health Interview Survey
EIONET	European Environment Information and Observation Network
EMFF	European Maritime and Fisheries Fund
EP	European Parliament
EPE	Environmental Protection Expenditure
EPSCO	Employment, Social Policy, Health and Consumer Affairs Council
EQLS	European Quality of Life Survey
ERDF	European Regional Development Fund
ESA	European System of Accounts
ESF	European Social Fund
ESMS	Euro SDMX Metadata Structure

ESP	European Statistical Programme
ESS	European Statistical System
ESSC	European Statistical System Committee
EST	Environmental Sustainability Threshold
ETC/ACM	European Topic Centre on Air Pollution and Climate Change Mitigation
EU-KLEMS	European Union level analysis of capital (K), labour (L), energy (E), material (M) and service inputs (S)
EUROMOD	EU-level micro-simulation model
EU-SILC	European Statistics on Income and Living Conditions
EXIOPOL	Externality data and Input-Output Tools for Policy Analysis
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GIS	Geographic Information Systems
HBS	Household Budget Survey
(EU) HDI	Human Development Index
(EU) HPI-2	Human Poverty Index
IAS	Invasive Alien Species
ICG	Interdepartmental Coordination Group
ILO	International Labour Organisation
IMF	International Monetary Fund
JAF	Joint Assessment Framework
LAU	Local Administrative Units
LFS	Labour Force Survey
(UN) MDGs	Millennium Development Goals
MIP	Macro-economic Imbalance Procedure
MMR	Monitoring Mechanism Regulation
NA	National accounts
NDP	Net Domestic Product
NRT	Near Real-Time
NUTS	Nomenclature of Units for Territorial Statistics
OECD	Organisation for Economic Cooperation and Development
POIs	Points of Interest
PPP	Purchasing Power Parities
PPS	Purchasing Power Standard
QoL	Quality of life

RBD	River Basin Districts
SD	Sustainable Development
SDG	Sustainable Development Goal
(EU) SDI	Sustainable Development Indicator
(EU) SDS	Sustainable Development Strategy
SDMX	Statistical Data and Metadata Exchange
SILC	Statistics on Income and Living Conditions
SEEA	System of Environmental-Economic Accounts
SHA	System for Health Accounts
SNA	System of National Accounts
SPC	Social Protection Committee
SSFR	Stiglitz-Sen-Fitoussi Report
STIK	Social Transfers in Kind
SUT	Supply and Use Tables
SWD	Staff Working Document
TEEB	The Economics of Ecosystems and Biodiversity
TFEU	Treaty on the Functioning of the European Union
TUS	Time Use Survey
UN	United Nations
UNDP	United Nations Development Programme
UNECE	United Nations Economic Commission for Euro
UNEP	United Nations Environment Programme
UNFCCC	UN Framework Convention on Climate Change
UNSC	UN Statistical Commission
WHO	World Health Organisation
WIOD	World Input-Output Database