

Tools and Methods Series

Reference Document N° 25



The **inclusive** **green economy** in EU development cooperation

An innovative approach at the intersection of the EU's Planet, People and Prosperity objectives

Reference Document N° 25

The inclusive green economy in EU development cooperation

*An innovative approach at the intersection of the
EU's Planet, People and Prosperity objectives*

Directorate-General for International Cooperation and Development
European Commission

Brussels • Luxembourg, September 2018

Disclaimer: The contents of this publication do not necessarily reflect the official position or opinion of the European Commission.

Manuscript completed in September 2018

1st edition

Neither the European Commission nor any person acting on behalf of the Commission is responsible for the use that might be made of the following information.

Luxembourg: Publications Office of the European Union, 2018

© European Union, 2018

Reuse is authorised provided the source is acknowledged.

The reuse policy of European Commission documents is regulated by Decision 2011/833/EU (OJ L 330, 14.12.2011, p. 39).

For any use or reproduction of photos or other material that is not under the EU copyright, permission must be sought directly from the copyright holders.

Print	ISBN 978-92-79-93586-2	doi:10.2841/973967	MN-06-18-072-EN-C
PDF	ISBN 978-92-79-93585-5	doi:10.2841/615005	MN-06-18-072-EN-N

Printed on FSC certified paper.

Cover photo credits (clockwise from upper left): © Gigira/Shutterstock.com, Lampang Province, Thailand: women collect plastic and metallic household wastes in a waste disposal factory; © Gengwit Wattakawigran/Shutterstock.com, solar roof and green roof on high building; © Tango Uniform India/Shutterstock.com, machine recycles plastic pellet resin; © Wollertz/Shutterstock.com, Tambor, Costa Rica: hotel employees clean up beach after a storm.

Abbreviations and acronyms

10-YFP	10-Year Framework of Programmes on Sustainable Consumption and Production	ILO	International Labour Organization
AMCEN	African Ministerial Conference on the Environment	ISO	International Standards Organisation
APEC	Asia-Pacific Economic Cooperation	LDC	Least Developed Country
BDS	Business Development Services	M&E	Monitoring and Evaluation
B2B	Business-to-business	MF	Material Footprint
CAP4DEV	Capacity for Development	MSMEs	Micro, Small and Medium Enterprises
CBD	Convention on Biological Diversity	NGO	Non-Governmental Organisation
CEAP	Circular Economy Action Plan	OECD	Organisation for Economic Co-operation and Development
EcoAP	Eco-innovation Action Plan	PAGE	Partnership for Action on Green Economy
ENRTP	Environment and Natural Resources Thematic Programme	PPP	Public-Private Partnership
EFSD	European Fund for Sustainable Development	R20	Regions of Climate Action
EGS	Environmental Goods and Services	R&D	Research and Development
EIP	External Investment Plan	RECP	Resource Efficiency and Cleaner Production
EMAS	Environmental Management and Audit Scheme	SB4A	Sustainable Business for Africa
EPA	Economic Partnership Agreement	SCP	Sustainable Consumption and Production
EU	European Union	SDGs	Sustainable Development Goals
FLEGT	Forest Law Enforcement, Governance and Trade	SMEs	Small and Medium Enterprises
GCCA	Global Climate Change Alliance	SPP	Sustainable Public Procurement
GDP	Gross Domestic Product	TEEB	The Economics of Ecosystems and Biodiversity
GEC	Green Economy Coalition	UNEA	United Nations Environment Assembly
GGGI	Global Green Growth Institute	UNRISD	United Nations Research Institute for Social Development
GPGC	Global Public Goods and Challenges	WBCSD	World Business Council for Sustainable Development
GPP	Green Public Procurement		

Table of contents

Abbreviations and acronyms	iii
1. Introduction	1
2. Understanding the inclusive green economy	3
2.1 EU's approach	3
2.2 Green economy and circular economy	4
3. A strong rationale for EU cooperation on the inclusive green economy	7
3.1 The inclusive green economy in the context of the 2030 Agenda	7
3.2 A supportive EU policy environment	9
3.3 A growing interest in partner countries	10
3.4 The business case for a new economic model	13
4. State of play of EU cooperation on the inclusive green economy	17
4.1 Overview of EU inclusive green economy cooperation programmes	17
4.2 Results achieved and lessons learnt	19
5. A strategic approach to inclusive green economy cooperation interventions	23
5.1 Overall priorities	23
5.2 Developing enabling frameworks	27
5.3 Promoting green business development	32
5.4 Boosting green investments and access to finance	36
Annexes	
1 SWITCH to Green: EU's flagship initiative on the inclusive green economy	43
2 Guidance on inclusive green economy indicators	45
3 Key messages on the links between the inclusive green economy and key sectors	51
4 Links to resources	73
5 Global Green Economy Index	76

CHAPTER 1

Introduction

The environmental crisis is accelerating. Updated research on the planetary boundaries⁽¹⁾ — thresholds that aim at defining sustainable levels of natural resource use and waste generation — indicate that four of the nine boundaries have been crossed (climate change, loss of biosphere integrity, land-system change, altered biogeochemical cycles), increasing the risk of massive and irreversible environmental degradation that would impede further economic and human development. Projections for human population growth and the impact of human activities indicate that the environmental crisis will worsen considerably business as usual scenarios — contributing, among other things, to a general economic downturn, premature deaths⁽²⁾, loss of jobs and income — and call for an urgent acceleration of efforts to address this challenge. In 2017, a warning to humanity⁽³⁾ issued by over 15 000 scientists from 184 countries concluded that, ‘to prevent widespread misery and catastrophic biodiversity loss, humanity must practice a more environmentally sustainable alternative to business as usual’.

The 2030 Agenda for Sustainable Development (2030 Agenda)⁽⁴⁾, with its 17 Sustainable Development Goals (SDGs), responds to the need for global action towards environmental sustainability. Transforming our economies to balance the economic, social and environmental dimensions of development is imperative to successfully implement this Agenda. Some of the SDGs — such as Goal 8 ‘Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all’, Goal 9 ‘Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation’, and Goal 12 ‘Ensure sustainable consumption and production (SCP) patterns’ — directly link economic growth objectives with environmental — and social — considerations, showing that economic progress and environmental sustainability can be mutually reinforcing. Other SDGs emphasise environmental sustainability in a wide range of sectors, such as agriculture, infrastructure, land and marine resources, education and health.

The green economy — which the EU defines as an ‘economy that can secure growth and development, while at the same time improving human well-being, providing decent jobs, reducing inequalities, tackling poverty and preserving the natural capital upon which we all depend’⁽⁵⁾ — is key in this context. It promotes a paradigm shift which better acknowledges the economic opportunities that ‘green’ policies, markets and business practices can deliver. In many cases, the environment is more a driver of growth and sustainable development for, than a cost to, the economy. As

⁽¹⁾ Steffen et al., ‘Planetary Boundaries: Guiding human development on a changing planet’, *Science* Vol. 347, no. 6223, 2015.

⁽²⁾ Pollution is the largest environmental cause of disease and premature death in the world today. Diseases caused by pollution were responsible for an estimated 9 million premature deaths in 2015 — 16 per cent of all deaths worldwide — three times more deaths than from AIDS, tuberculosis, and malaria combined and 15 times more than from all wars and other forms of violence. P.J. Landrigan, R. Fuller, N.J.R. Acosta et al., ‘The Lancet Commission on pollution and health’, *Lancet*, 19 October 2017.

⁽³⁾ ‘World Scientists’ Warning to Humanity: A Second Notice’, *BioScience*, Vol. 67, no. 12, December 2017.

⁽⁴⁾ United Nations, ‘Transforming our world: The 2030 Agenda for Sustainable Development’, 2015.

⁽⁵⁾ European Commission, ‘Rio+20: towards the green economy and better governance’, communication, 2011.

such, the green economy highlights the need to invest in the natural capital as well as in SCP practices and the circular economy, not only as a means to achieve environmental objectives, but also to contribute to sustainable economic growth and job creation. It also builds the case for the active participation of the private sector in a transition process, as encouraged by EU development policy.

The new EU Consensus on Development⁽⁶⁾, which aligns the EU and Member States' development policy with the 2030 Agenda, confirms EU commitment to promote the green economy and highlights its importance in achieving key EU development objectives, including strengthening investments for growth and jobs, and tackling climate change. A large number of EU international cooperation actions contribute to the green economy transition in partner countries and provide lessons on which to build, to guide further action in this area. This includes actions focusing on the development of enabling green economy frameworks and the adoption of SCP practices by economic operators, actions supporting the sustainable management of natural resources, and as well as actions promoting environmental sustainability across other areas of cooperation such as private sector development and employment.

International cooperation on the green economy is not only a pathway to the SDGs and to EU development priorities. It can also contribute to other EU policy objectives, such as the promotion of responsible trade, in line with the EU's trade and investment strategy⁽⁷⁾, and the implementation of the EU Circular Economy Action Plan (CEAP)⁽⁸⁾, which stresses the global dimension of the circular economy and supply chains in areas such as sustainable sourcing, marine litter, food waste, or secondary raw materials.

This document responds to the need for more guidance and a better appropriation of lessons learnt. It aims at promoting a better understanding of the green economy, giving policy and operational guidance and presenting best practices. In particular, it provides definitions and explains the rationale for cooperation on the green economy, in line with EU policies and the growing interest in partner countries. It presents the state of play of EU actions, including results achieved and lessons learnt. It describes options to support the green economy, through dedicated interventions and by integrating green economy issues across relevant sectors, and provides selected references and tools. As such, it contributes to the EU's efforts to implement the 2030 Agenda, the new European Consensus on Development and the EU CEAP.

⁽⁶⁾ 'The New European Consensus on Development "Our World, Our Dignity, Our Future"', Official Journal, 30 June 2017.

⁽⁷⁾ European Commission, 'Trade for all: Towards a more responsible trade and investment policy', communication, 2015.

⁽⁸⁾ European Commission, 'Closing the loop — An EU action plan for the Circular Economy', communication, 2015.

CHAPTER 2

Understanding the inclusive green economy

2.1 EU's approach

While green economy practices are not new, the concept only received high visibility. Attention to the green economy in EU policy has become prominent since 2011 in particular, through the communication 'Rio+20: towards the green economy and better governance'⁽¹⁾, which presented the European Commission's approach to the green economy. It highlights the need to build an 'economy that can secure growth and development, while at the same time improving human well-being, providing decent jobs, reducing inequalities, tackling poverty and preserving the natural capital upon which we all depend' and stresses that 'moving towards a green economy necessitates preserving and investing in the assets of key natural resources ... It also means making use of low-carbon and resource efficient solutions and stepping up efforts to promote sustainable consumption and production patterns' (see Box 2.1).

In the context of EU development cooperation, the Communication 'an Agenda for Change'⁽²⁾ stated in 2011 that 'EU development policy should promote a 'green economy' that can generate growth, create jobs and help reduce poverty by valuing and investing in natural capital including through supporting market opportunities for cleaner technologies, energy and resource efficiency, low-carbon development while stimulating innovation, the use of information and communication technologies, and reducing unsustainable use of natural resources ...'. The Council

BOX 2.1 The green economy in a snapshot

The green economy is a pathway to sustainable development. It is based on an economic model that differs from traditional ones in that it takes due consideration of environmental and social externalities, and does not focus on GDP growth as the ultimate goal. Instead it focuses on resource efficiency and natural capital as the building blocks of the economy, recognising that environmental degradation undermines long-term economic growth and human development.

An inclusive green economy is associated with a wealth of opportunities, for both people — to improve their living environments and have decent jobs — and businesses — to increase benefits through more efficient production practices that generate savings, taking advantage of the growing market for environmental goods and services, etc.

Conclusions drawn at the Rio+20 conference⁽³⁾ confirmed this approach.

The EU vision entails multiple facets of the green economy:

- economic aspects: an economy that secures growth, building on **resource efficiency and sustainable consumption and production patterns**;

⁽¹⁾ European Commission, 'Rio+20: towards the green economy and better governance', communication, 2011.

⁽²⁾ European Commission, 'Communication from the Commission. Increasing the impact of EU Development Policy: an Agenda for Change', communication, 2011.

⁽³⁾ Council of the European Union, conclusions on 'Rio+20: Pathways to a Sustainable Future', March 2012; and 'Outcome and follow-up to the UNCSD 2012 Summit', October 2012.

- environmental aspects: an economy that **preserves the natural capital, invests in natural resources and mitigates climate change** through low-carbon and resource efficient solutions;
- social aspects: an economy that **improves human well-being, provides decent jobs, reduces inequalities and tackles poverty**.

In the same vein, the European Environment Agency has formulated its own definition of the green economy, which puts a clear focus on resource efficiency and natural ecosystem health and resilience as the two main pillars of the green economy. It also acknowledges that any economic model that fails to provide decent jobs and earnings will not be politically or socially viable, and hence includes aspects of human well-being as a third pillar, focusing on social equity and fair burden-sharing (see Figure 2.1).

Many EU development partners, including third countries and international organisations, have elaborated their own definitions of a green economy or its variants, such as green growth or low-carbon development. For some organisations, there is a stronger emphasis on economic growth, while social or environmental objectives appear more important to others. However, most definitions share common attention to the development of **a new model, which not only decouples growth — or prosperity — from the consumption of natural resources and the associated environmental impact, but also links environmental sustainability to economic development and social equity**⁽⁴⁾.

2.2 Green economy and circular economy

The promotion of the circular economy has become an important EU policy priority, following the adoption

⁽⁴⁾ Aligned to this new model, new metrics are being developed (albeit with a fair amount of limitations) to complement gross domestic product (GDP) and the Human Development Index (HDI), such as the Inclusive Wealth Index (IWI). IWI is a new sustainability index measured by the Inclusive Wealth Report project, which tracks changes in three categories of capital assets: human capital, produced capital, and natural capital; see the 2014 report [here](#).

FIGURE 2.1 The green economy according to the European Environment Agency



Source: Adapted from European Environment Agency, 'Resource efficient green economy and EU policies', Report No. 2/2014.

of the EU CEAP⁽⁵⁾ in December 2015. As defined in the CEAP, the 'transition to a more circular economy, where the value of products, materials and resources is maintained in the economy for as long as possible, and the generation of waste minimised, is an essential contribution to the EU's efforts to develop a sustainable, low-carbon, resource efficient and competitive economy. Such transition is the opportunity to transform our economy and generate new and sustainable competitive advantages for Europe'.

Circularity explores opportunities to promote closed material loops and resource efficiency chains with a system-wide approach and across the entire value chain. This concept implies designing products for reuse, using products as long as possible, re-manufacturing products at the end of their service life; and in essence avoiding waste in production and supply. Such an approach in agriculture, extractives, and industrial systems, facilitated and driven by enabling policy frameworks, and supported by responsible choices and use by consumers (which includes governments,

⁽⁵⁾ European Commission, 'Closing the loop — An EU action plan for the Circular Economy', communication, 2015.

companies and individuals), can promote equity, resource security, sustainability and job creation. It can also galvanise and spur green investments⁽⁶⁾, partnerships and continued innovation. Waste management plays a central role in the circular economy: it determines how the EU waste hierarchy — which establishes a priority order from prevention, preparation for reuse, recycling and energy recovery through to disposal, such as landfilling — is put into practice.

The transition to a circular economy is expected to boost the EU's competitiveness by protecting businesses against resource scarcity and volatile prices, creating new business opportunities, and encouraging innovative, more efficient ways of producing and

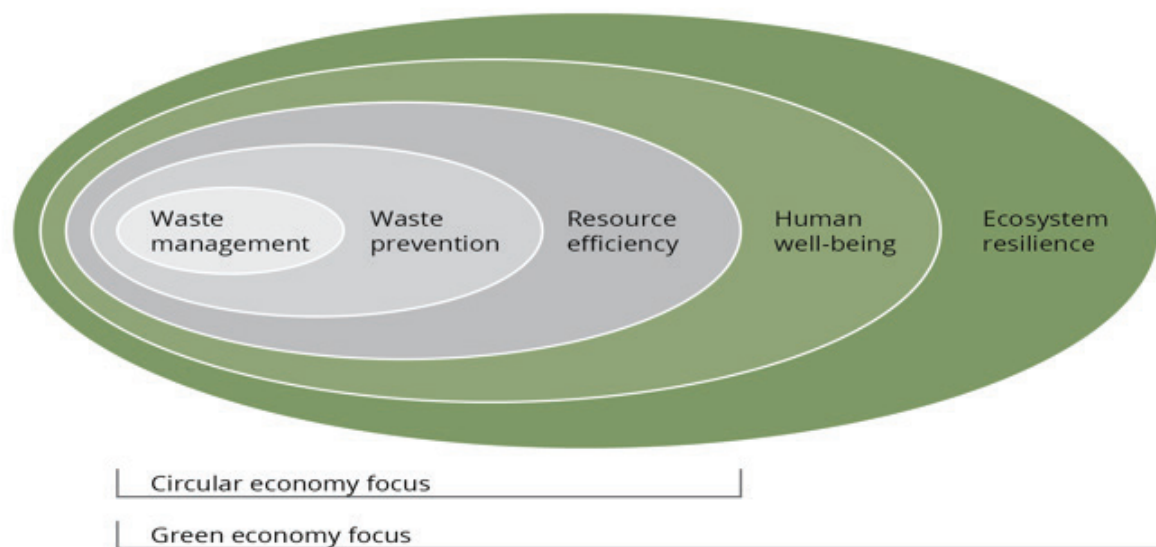
consuming; to create local jobs at all skills levels and opportunities for social integration and cohesion; and, by saving energy and natural capital, help avoid the irreversible damage caused by using up resources at a rate that exceeds the Earth's capacity to renew them in terms of climate and biodiversity, air, soil and water pollution. The Ellen MacArthur Foundation estimates that moving to a circular economy will provide more than a trillion US dollars in business opportunities⁽⁷⁾.

The circular economy is an essential component of the green economy, which has a broader focus, as illustrated in Figure 2.2.

⁽⁶⁾ There is currently a lack of market clarity on what is 'green' or 'sustainable', hence some ambiguity regarding the use of the term green investments, as highlighted in the [final report](#) by the European Commission's High-Level Expert Group on Sustainable Finance.

⁽⁷⁾ Ellen MacArthur Foundation, 'Towards the circular economy: Accelerating the scale-up across global supply chains', 2014.

FIGURE 2.2 Circular economy focus and green economy focus



Source: European Environment Agency, *The European environment — state and outlook 2015*.

CHAPTER 3

A strong rationale for EU cooperation on the inclusive green economy

3.1 The inclusive green economy in the context of the 2030 Agenda

The green economy can be seen as a pathway towards achieving the SDGs, both in the EU and globally. Practices at the heart of the green economy, such as resource efficiency as well as sustainable consumption and production, are key to several SDGs and their targets, while green economy frameworks, which promote coherence between economic and environmental policies can also contribute to SDGs that are meant to be ‘integrated and indivisible and balance the three dimensions of sustainable development: the economic, social and environmental’⁽¹⁾.

Green and circular economy approaches can contribute in particular to the SDGs and targets most focused on economic production and its environmental sustainability (see Figure 3.1⁽²⁾). The International Resource Panel (IRP) has shown that it is impossible to deliver on the SDGs without significant increases in resource productivity to overcome resource constraints. According to the IRP, this requires the more developed economies to bring their resource consumption and environmental footprint⁽³⁾ down to globally sustainable levels (absolute decoupling), by, among other things, developing cleaner technologies and deploying them at scale, while emerging and developing countries have to ‘strive to improve their resource efficiency

even as their net consumption increases until a socially acceptable quality of life is achieved’ (relative decoupling)⁽⁴⁾.

The 2030 Agenda targets on improved resource efficiency and the decoupling of economic growth from environmental degradation (target 8.4), on upgraded infrastructure and retrofitted industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes (9.4), on ensuring sustainable food production systems and implementing resilient agricultural practices (2.4) and Goal 12 (ensure sustainable consumption and production patterns) are particularly important in this context.

The green and circular economy also inherently contributes to Goal 13 (Take urgent action to combat climate change and its impacts), notably through improved resource efficiency as well as waste prevention and recovery, and to SDGs focused on natural resources, as the green economy entails valuing and investing in natural capital and reducing the unsustainable use of natural resources. This includes Goal

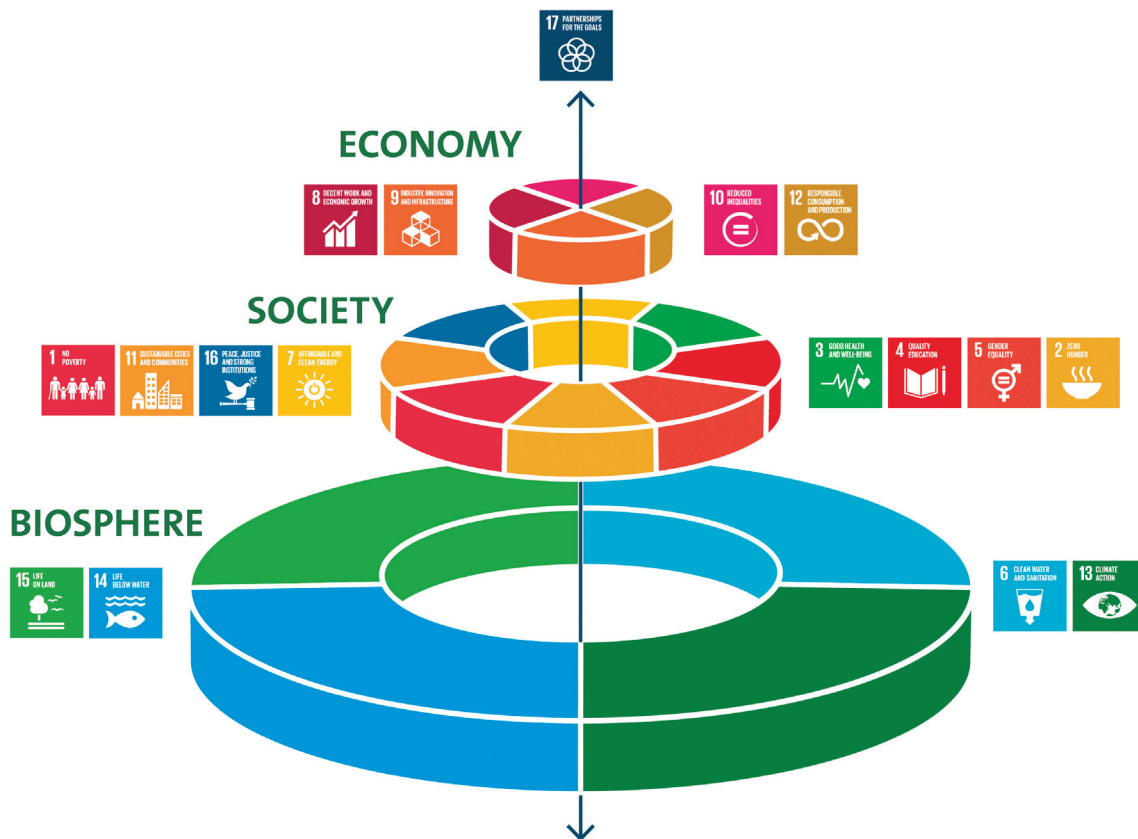
⁽¹⁾ United Nations, ‘[Transforming our world: The 2030 Agenda for Sustainable Development](#)’, 2015.

⁽²⁾ Redrawn from J. Rockström and P. Sukhdev, [opening keynote speech](#) EAT Stockholm Food Forum, 2016.

⁽³⁾ See European Commission, ‘[Environmental Footprint pilot phase](#)’.

⁽⁴⁾ Decoupling economic growth from environmental degradation means using fewer resources per unit of economic output and reducing the environmental impact of any resources that are used or economic activities undertaken. Case studies from developing countries, China, and South Africa, show a steady increase of resource flows, probably indicative of the trends in all emerging economies. However, in the case of China there appears to be some success in the national effort to achieve relative decoupling through modernisation of the economy and explicit policies to reduce resource intensity. On a worldwide scale, resource consumption is steeply on the rise. See UN Environment, [Resource Efficiency: Potential and Economic Implications. A report of the International Resource Panel, Summary for Policy-Makers](#), 2016.

FIGURE 3.1 The Sustainable Development Goals in relation to the biosphere foundation, showing interlinkages between the economy, society and the biosphere



Credit: Azote Images for Stockholm Resilience Centre.

Note: This illustration implies that economies and societies are seen as embedded parts of the biosphere.

6 (Ensure availability and sustainable management of water and sanitation for all), Goal 14 (Conserve and sustainably use the oceans, seas and marine resources for sustainable development) and Goal 15 (Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss).

Less directly, though still concretely, the green economy is linked to other SDGs, including Goal 3: Ensure healthy lives and promote well-being for all at all ages (e.g. by contributing to addressing pollution — including the unsustainable management of chemicals and waste — and its health implications, while family planning — covered in target 3.7 — is essential in a context of rapid demographic growth which contributes to the

acceleration of environmental degradation), Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all (e.g. by raising awareness and creating demand for new skill profiles to address the needs of both existing — e.g. sustainable farming — and new — e.g. solar technicians — jobs), Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all (e.g. by exploiting renewable energy sources and improving energy efficiency), Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable (e.g. by promoting improved waste management schemes), Goal 17: Strengthen the means of implementation and revitalise the global partnership for sustainable development (e.g. by promoting green fiscal policies that strengthen domestic resource mobilisation and help mobilise other sources of financing)

and Goal 10: Reduced inequality within and among countries (e.g. by encouraging the removal of existing incentives for unsustainable practices and promoting fiscal transparency and fairer tax collection, including by integrating the value of natural assets).

3.2 A supportive EU policy environment

The new European Consensus on Development⁽⁵⁾ strengthens EU commitment to promote the green and circular economy in partner countries. In line with goals and targets of the 2030 Agenda and the Paris Agreement on Climate Change, it states that ‘the EU and its Member States will promote an economic transformation that creates decent jobs, increases productive capacity, generates sufficient revenues for public services and social protection, fosters sustainable value chains and diversification, including sustainable industrialisation. This includes promoting sustainable consumption and production patterns in a circular economy, including the promotion of non-toxic material cycles, resource efficiency and the transformation to low-emission and climate resilient pathways’.

Importantly, the new Consensus refers to SCP, resource efficiency, green and circular economy under both the planet and the prosperity priorities, acknowledging that environmentally sustainable practices are not only important to achieve environmental objectives, such as fighting climate change. They are also essential to sustainable growth and job creation. In this regard, the new Consensus states that the EU and its Member States will ‘help developing countries adopt growth models that take account of resource scarcity and climate change action’ — including promoting sustainable value chains and environmental and social standards. They ‘will contribute to scaling-up private and public investments in the low-emission, climate-resilient green economy’, and promote ‘private sector accountability in areas with significant transformation potential for sustainable development’, including the green and circular economy.

The importance of the green and circular economy is particularly emphasised in EU’s strategy for cooperation on private sector development, trade and investment issues. The 2014 communication ‘A Stronger Role of the Private Sector in Achieving Inclusive and Sustainable Growth in Developing Countries’⁽⁶⁾ noted that the ‘active participation of the private sector can contribute to the achievement of sustainable development and the transformation towards an inclusive green economy’ and indicated that the EU will ‘promote eco-entrepreneurship and green job creation through the SWITCH to Green initiative’. The 2017 communication ‘Achieving Prosperity through Trade and Investment’⁽⁷⁾ states that ‘environmental sustainability will also be at the heart of aid for trade. Climate finance and the green and circular economy offer developing countries leapfrogging opportunities in trade, growth and employment’ and foresees relevant actions such as promoting social and environmental sustainability along value chains through integrated and multi-stakeholder approaches.

The new European External Investment Plan (EIP)⁽⁸⁾ will be the main EU instrument to scale up investments promoting a green economy in the coming years. The ‘investment windows’, meant to define priority sectors for the European Fund for Sustainable Development (EFSD) of the EIP, provide scope for significant contributions to the green economy, notably through windows targeting Sustainable Energy and Connectivity, Micro, Small and Medium-sized Enterprises (MSMEs), Sustainable agriculture, rural entrepreneurs and agroindustry, and Sustainable cities. Specifically, investments under the EIP should have a particular focus on, among other things, sustainable and inclusive growth, the creation of decent jobs, resource efficiency, and environmental protection and management⁽⁹⁾.

⁽⁵⁾ ‘The New European Consensus on Development “Our World, Our Dignity, Our Future”’, Official Journal, 30 June 2017.

⁽⁶⁾ European Commission, ‘A Stronger Role of the Private Sector in Achieving Inclusive and Sustainable Growth in Developing Countries’, communication, 2014.

⁽⁷⁾ European Commission, ‘Achieving Prosperity through Trade and Investment. Updating the 2007 Joint EU Strategy on Aid for Trade’, communication, 2017.

⁽⁸⁾ European Commission, ‘Strengthening European Investments for jobs and growth: Towards a second phase of the European Fund for Strategic Investments and a new European External Investment Plan’, communication, 2016.

⁽⁹⁾ Council decision on the establishment of the Investment Windows of the European Fund for Sustainable Development Guarantee, 2017/7899/EC, November 2017.

The EU has also developed a strong supportive framework to promote the green and circular economy domestically through its economic and environmental policy. Many of the thematic priorities covered through these policies are also targeted through international cooperation on green economy, including green jobs, green SMEs, SCP, eco-innovation, resource efficiency, etc. This offers scope for synergies and lessons learnt that may be of interest to partner countries and feed into policy dialogue. Linking international cooperation to EU's domestic experience contributes to making the EU a legitimate actor to cooperate with on the green economy, showing that the EU practices what it encourages its international partners to do. Finally, supporting the green economy transition generates mutual benefits for EU and partner countries, creating business opportunities in Europe and promoting EU standards and know-how in this area.

Relevant policy initiatives in this regard include, among others, the circular economy package (transforming Europe's economy from linear to circular by implementing an ambitious CEAP); the Resource Efficient Europe roadmap (indicating action to be taken in areas such as SCP practices, waste, research and innovation, environmentally harmful subsidies, ecosystem services, etc.); the Low-Carbon Economy roadmap (indicating how the main sectors responsible for Europe's greenhouse gas emissions can help make the transition to a Competitive Low-Carbon Economy (LCE) successful); the Green Action Plan for SMEs; and the Eco-innovation Action plan.

3.3 A growing interest in partner countries

Recalling the development cooperation effectiveness principles agreed in Busan⁽¹⁰⁾ with regard to partnership, ownership and alignment, a strong interest from partner countries in the green economy is essential to EU cooperation in this area. There is evidence nowadays that the green economy — or some of its components, such as resource efficiency — is gaining traction globally and in the public policies of many

countries where the EU supports development cooperation programmes.

The Green Growth Best Practice initiative, which recently evaluated practices and lessons learnt from green growth programmes in all regions of the world, noted that 'a growing number of countries and sub-national governments around the world are demonstrating the value of green growth in achieving economic, environmental and social development and are designing and implementing appropriate green growth policies and strategies'⁽¹¹⁾.

According to UN Environment⁽¹²⁾, 'over 65 countries globally are currently pursuing green growth or green economy strategies' (Figure 3.2), a statement backed by several regional and national level commitments. In Africa, for example, Ministers of the Environment have committed to put in place 'strategies for sustainably harnessing Africa's natural capital including instituting appropriate policies and practices to reverse ecosystems degradation and promote sustainable consumption and production patterns'⁽¹³⁾. Another example is the Batumi Initiative on Green Economy, launched in 2016 within the 'Environment for Europe' process. This initiative makes the Pan-European Strategic Framework for Greening the Economy. At present, 27 countries and 13 organisations have submitted 122 commitments⁽¹⁴⁾. The goal of pursuing a greener economy has been backed at the highest level by two Eastern Partnership Summits — in 2011 and 2017, with heads of state recognising their countries' commitment 'to transition towards greener, more efficient and sustainable economies'⁽¹⁵⁾.

This growing attention to the green economy globally is based on diverse factors that vary from one

⁽¹⁰⁾ See OECD, 'The Busan Partnership for Effective Development Co-operation'.

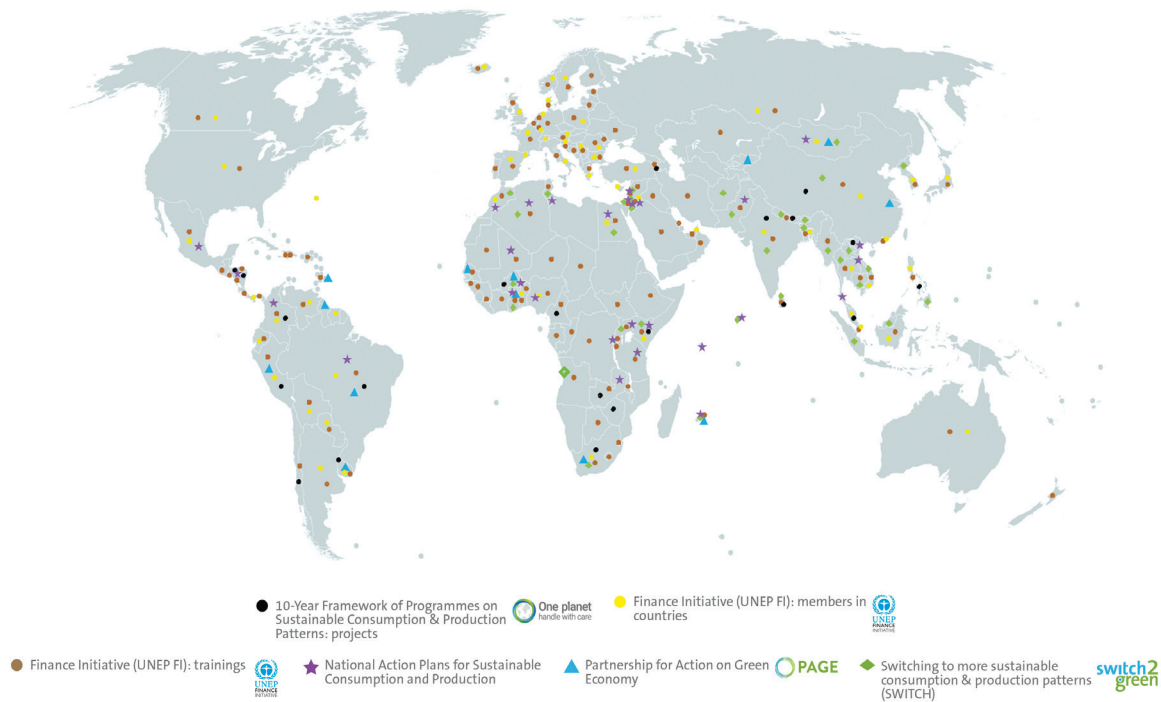
⁽¹¹⁾ Green Growth Best Practice, 'Green growth in practice: lessons from country experiences', 2014.

⁽¹²⁾ See presentation by Dr Steven Stone, 'Making Growth Inclusive and Sustainable: Approach Paths to the 2030 Agenda', Economics and Trade Branch, Economy Division, UN Environment, available at [Cap4Dev](#).

⁽¹³⁾ See 15th Session of the African Ministerial Conference on the Environment (AMCEN), 6th Special session declaration (Cairo AMCEN Declaration), 2016.

⁽¹⁴⁾ See UNECE, 'Batumi Initiative on Green Economy (BIG-E)'.

⁽¹⁵⁾ See the Eastern Partnership Summit Declaration of 24 November 2017.

FIGURE 3.2 Selection of countries involved in green economy related initiatives

Source: UN Environment 2017.

Note: This map features a selection of projects and initiatives under the area of decoupling, but is not a comprehensive list.

country to another. There is increased recognition that the transformation is not only urgent for developed economies, but also for developing countries facing the same need to improve the environmental sustainability of their economy⁽¹⁶⁾ and mitigate the economic costs of further environmental degradation, which, if unaddressed, could lock them further into poverty. At the same time, more efficient resource use and presence on the rapidly growing global Environmental Goods and Services (EGS) market are important for developing countries' competitiveness and growth.

There is no standard pathway towards the green economy and the transformation process cannot be the

same for everyone. Countries adopting measures to transform their economies may have different mutually reinforcing objectives, such as securing long-term benefits from natural resource use and conservation, improving domestic industry competitiveness, accessing new markets, creating jobs, and reducing reliance on imports of raw materials. Strategies to achieve these objectives should be tailored to national contexts and depend on many factors, such as existing or potential comparative advantages, the structure of the economy, access to natural and/or financial resources, and ability to attract investments (Box 3.1). For economies largely based on agriculture, as in many developing countries, measures related to water efficiency and resilience to climate change are essential to secure growth in the sector while addressing environmental problems.

Likewise, in countries where oceans and marine resources are a major source of food, energy, minerals, cosmetics and medicines, as well as the backbone of

⁽¹⁶⁾ Global material productivity has declined since the beginning of the millennium, following a large shift of economic activity to less material-efficient economies, such as those of China, India and South East Asia, resulting in growing average environmental pressure per unit of economic activity. See UN Environment, 'Global material flows and resource productivity', Summary for Policymakers, 2016, pp. 19 and 26–27.

BOX 3.1 Examples of countries adopting green economy strategies

Belarus approved the National Action Plan for the Green Economy through a resolution by the Council of Ministers in December 2016. The Plan is multi-faceted and aims at shifting consumer behaviours towards more sustainable consumption patterns; promoting green and fair trade; improving access to services, healthy living and well-being; and promoting public participation and education for sustainable development. Among other things, the Plan promotes the development of the resource efficiency and cleaner production (RECP) approach with the creation of a RECP centre and of RECP clubs in the regions.

China committed to green growth in its 12th Five Year Plan (2011–2015), following acknowledgement of the high pressure placed on its environment by past efforts to boost economic growth, involving industrial and other intensive economic activities. Relevant actions include, for example, investments in natural resource management aimed at creating 1 million new forestry jobs and reducing rural poverty (OECD, 2013). China has joined the Partnership for Action on Green Economy (PAGE), starting at the provincial level, in Jiangsu.

Ethiopia builds its approach to green growth on the economic development — poverty reduction — climate change resilience and greenhouse gas mitigation nexus, with a view to achieving middle-income country status by 2025. It focuses on agriculture, energy and water, with benefits including improvements in productivity, food security, jobs and the

stability of export income, expanded energy access and security, and reduced economic and social vulnerability. Greening a rapidly growing economy requires trade-offs, such as between forest conservation and increasing land for agricultural production, with the country considering ways to increase the productivity of agriculture and provide economic incentives for forest preservation.

Fiji implements a process of integrating green growth into its development efforts. Actions include mainstreaming green growth into the new National Development Plan for 2015–2020, which builds on the country's recent Green Growth Framework, and developing a series of green infrastructure project proposals. Assisted by the Global Green Growth Institute (GGGI), the government is exploring opportunities to revitalise their biofuel programme, looking into opportunities for small-scale biofuel mills established in remote islands to play a stronger role.

Ghana's transition to sustainable growth was triggered by the triple F — food, fuel and finance — crisis, leading to the 2010 publication of 'Ghana Goes for Green Growth'. The government, recognising the importance of a green economy transition, drafted a new National Energy Policy, including a strategy for renewable energies, passed both a medium-term development strategy — the Ghana Shared Growth and Development Agenda II — and a National Climate Change Policy, and joined PAGE to benefit from

assistance in implementing relevant strategies and policies.

Peru sees the green economy as a tool to guide the country towards sustainable development. Peru has adhered to the OECD Declaration on Green Growth and has joined PAGE with a view to integrating the concept of green growth into development policies through the formulation and implementation of green economy public policy proposals promoting 'the efficient use of resources, environmental quality and sustainability and green jobs creation in key sectors of the economy'. Commitment is high, with a key milestone in the process being the 2016 debate on green growth among presidential candidates.

Rwanda released its Green Growth and Climate Resilience National Strategy in October 2011. The country aims at becoming a developed climate-resilient, low-carbon economy by 2050, through the achievement of three key strategic objectives: energy security and a low-carbon energy supply; sustainable land use and water resource management; and social protection and disaster risk reduction. The Government of Rwanda has also made a commitment towards inclusive and sustainably growing cities, implementing the Second Economic Development and Poverty Reduction Strategy II 2013–2018 in the area of green urbanisation, which envisages a better quality of life for all Rwandans, through high (11.5 per cent), but green, growth, sustained in several Rwandan cities, beyond the capital of Kigali.

Sources: Green Growth Best Practice initiative, *Green growth in practice — Lessons from country experiences*, 2014; UN PAGE website; GGGI website; OECD, *Putting Green Growth at the Heart of Development*, Green Growth Studies, Paris: OECD Publishing, 2013.

entire industries such as transport, tourism and recreation, measures promoting the environmental sustainability of marine and maritime sectors, i.e. conservation and sustainable use of ecosystem goods and services, are vital⁽¹⁷⁾.

In the report ‘[Why a Green Economy Matters for the Least Developed Countries](#)’, UN Environment stresses both the importance and the opportunities for the poorest countries to transform their economies, observing that Least Developed Countries (LDCs) rely significantly on natural capital assets, on which their green economy can be based, and have a large potential for renewable energies. The report also argues that, ‘while other countries face sizable economic and social costs of ‘decarbonisation’, alongside costs linked with retiring inefficient fossil fuel-based technologies, LDCs can jump start the green economy transition by maintaining and expanding the sustainable practices that already exist’, highlighting the importance of directing the first wave of investment into clean, efficient and renewable energy production/generation.

In most countries, the green economy transformation should be seen as a long-term process involving actions that are better implemented progressively. The identification of realistic initial measures, or ‘entry points’, that do not entail costly investments or are based on affordable — yet efficient — practices or technologies, is particularly important for developing countries. This includes, for example, the rationalisation of inefficient fossil fuel subsidies that encourage wasteful consumption, the promotion of sustainable farming methods, or changes to the legal framework in order to both redirect subsidies allocated to polluting activities into environment-friendly alternatives and facilitate investments in relevant areas, such as renewable energy and waste management.

3.4 The business case for a new economic model

The prospects of socio-economic benefits are a major driver of the green economy transition. They are part of the objectives of governments developing green economy policies and guide businesses adopting green practices. These include, in particular, job creation and economic growth at a macro-level, and improved competitiveness at a business level.

Growth in EGS (Table 3.1) trade is a key factor — and indicator — of a green economy transition. According to EUROSTAT estimates for 2014⁽¹⁸⁾, in the EU-28 alone, the EGS sector (environmental economy) generated EUR 710 billion of output and EUR 289 billion of value added, an increase since 2000 by 131 per cent and 114 per cent, respectively (in current price terms). Likewise, the global market for EGS reached USD 1.05 trillion in 2015, up from USD 866 billion in 2011⁽¹⁹⁾.

Trade policy initiatives, such as the Asia-Pacific Economic Cooperation (APEC) tariff cuts on environmental goods trade, are expected to create further opportunities for countries and businesses that anticipate further policy and market changes. The growing interest in green products and services is also visible on the financial markets, notwithstanding some ambiguity in the definition of the term ‘green’. According to the Climate Bonds Initiative, global green bond issuance reached USD 155.5 billion in 2017⁽²⁰⁾ (compared to just USD 11 billion in 2013). At the same time, investments in polluting sectors are perceived as increasingly risky, notably in the fossil fuel industry, where assets may become ‘stranded’⁽²¹⁾ as a result of

⁽¹⁷⁾ The EU has introduced the concept of [Blue Growth](#), based on productive, but at the same time healthy, seas and oceans, and has endorsed a Blue Growth long-term strategy to support sustainable growth in the marine and maritime sectors as a whole.

⁽¹⁸⁾ See EUROSTAT Statistics Explained, ‘[Environmental economy — employment and growth](#)’.

⁽¹⁹⁾ Estimates from the [US Department of Commerce](#) and Environmental Business International (‘Strategic Information for a Changing Industry’, *Environmental Business Journal* Volume XXV, no. 6/7, 2012), respectively.

⁽²⁰⁾ Including USD 21.3 billion in certified green bonds and USD 134.2 billion aligned with CBI definitions. Additional bonds worth USD 14.1 billion were labelled green, but not aligned with CBI definitions (and excluded from 2017 issuance calculations). See [Green Bond Highlights](#) 2017.

⁽²¹⁾ See [Smith School of Enterprise and Environment, Oxford Sustainable Finance Programme](#).

TABLE 3.1 Environmental goods and services (EGS) classification by OECD/EUROSTAT

ENVIRONMENTAL GOODS AND SERVICES	
CATEGORY	DESCRIPTION
A. Pollution Management	<ul style="list-style-type: none"> • Air pollution control (e.g. dust collectors; incinerators, scrubbers) • Wastewater management (e.g. sewage treatment; water pollution control equipment) • Solid waste management (e.g. waste collection, recycling and disposal equipment) • Remediation and clean-up of soil, surface water and groundwater (e.g. absorbents) • Noise and vibration abatement (e.g. mufflers/silencers; highway barriers) • Environmental monitoring, analysis and assessment equipment (e.g. sampling systems) • Environmental R&D (e.g. non-technological research to improve knowledge on ecosystems and the impact of human activities on the environment) • Environmental contracting and engineering (e.g. environmental management, auditing and other environmental consulting services) • Analytical services, data collection, analysis and assessment (e.g. monitoring sites; health, safety, toxicology studies and analytical laboratory services) • Education, training, information • Other (any activity that provides services to measure, prevent, limit or correct environmental damage to air, water and soil, as well as problems related to waste, noise and ecosystems, not included in any other class)
B. Cleaner Technologies and Products	<ul style="list-style-type: none"> • Cleaner/resource-efficient technologies and processes (e.g. technologies or processes reducing energy consumption) • Cleaner/resource-efficient products (e.g. chlorofluorocarbon substitutes; double-hulled oil tankers)
C. Resource Management	<ul style="list-style-type: none"> • Indoor air pollution control (e.g. services for the treatment and renewal of indoor air to remove pollutants — air-conditioning is excluded) • Water supply (e.g. potable water treatment, supply and distribution) • Recycled materials (e.g. recycled paper or other recycled products) • Renewable energy plant (e.g. solar, wind, tidal, geothermal, hydroelectric plants) • Heat/energy saving and management (e.g. heat pumps, electric cars) • Sustainable agriculture and fisheries (e.g. equipment, technology or specific materials applied to organic or biodynamic agriculture and fishery activities) • Sustainable forestry (e.g. services for reforestation projects) • Natural risk management (e.g. satellite imaging, seismic instruments) • Ecotourism (e.g. eco-lodges) • Other (e.g. nature conservation, habitats and biodiversity)

Sources: OECD and EUROSTAT, *The Environmental Goods and Services Industry: Manual for Data Collection and Analysis*, 1999; and OECD, *Environmental Goods: A Comparison of the APEC and OECD List*, 2005.

environmental risks or climate regulations, while the industry is the subject of divestment campaigns.

For the EU, socio-economic benefits are at the heart of domestic efforts to advance a green economy transition. Studies on the circular economy in the EU have provided evidence that ‘a circular economy, enabled by the technology revolution, would allow Europe to grow resource productivity by up to 3 percent annually. This would generate a primary resource benefit of as much as EUR 0.6 trillion per year by 2030 to Europe’s economies. In addition, it would generate EUR 1.2 trillion in non-resource and externality benefits, bringing the annual total benefits to around EUR 1.8 trillion. This would translate into a GDP [gross domestic product] increase of as much as 7 percentage points relative to the current development scenario’⁽²²⁾.

The number of ‘green jobs’⁽²³⁾ in the EU has augmented from 3 to 4.2 million between 2002 and 2014, with annual employment increases in the range of 2–6 per cent for most years, including by a total of 20 per cent during the recession years (2007–2011)⁽²⁴⁾, mainly as a result of investments in the field of energy production from renewable sources, and the production of equipment and installations for heat and energy saving.

Green economy benefits also include the mitigation of environmental degradation costs. There has been progress recently in estimating the economic value of natural capital, and initiatives such as [The Economics of Ecosystems and Biodiversity \(TEEB\)](#), have demonstrated the importance of integrating ecosystems degradation and restoration costs in economically sound decision-making. The value of services provided by nature every year — from carbon storage and crop pollination to water flow regulation and others — is

estimated at USD 145 trillion⁽²⁵⁾, which corresponds to almost twice the annual global GDP. The costs of environmental degradation are proportionally staggering. Global land use changes result in a loss of ecosystem services of an estimated value between USD 4.3 and 20.2 trillion per year⁽²⁶⁾ — or between 5 per cent and 25 per cent of the global GDP. According to the Stern Review⁽²⁷⁾, climate change is estimated to cost an extra 5 per cent of global GDP per year and could cost up to 20 per cent of global GDP annually, if a wider range of risks and impacts are included. Recent studies reach similar conclusions. For example, the Asian Development Bank predicts that ‘climate change will slash up to 9 percent of the South Asian economy every year by the end of this century, if the world continues on its current fossil-fuel intensive path’⁽²⁸⁾.

A key finding of studies on the value of ecosystem services and on the costs of environmental degradation is that, in many cases, measures preventing or addressing environmental issues early on are more cost effective than mitigation measures. In 2007, the Stern Review estimated that, in contrast to the excessive costs of climate change, the cost of reducing greenhouse gas emissions to avoid its worst impacts could be limited to 1 per cent of global GDP each year. In sectors relying on ecosystem services, like water supply or agriculture, initiatives such as the TEEB have shown that measures protecting these services often deliver more economic benefits to society than those ignoring their full environmental impact and associated costs.

⁽²²⁾ Ellen MacArthur Foundation and the McKinsey Centre for Business and Environment, ‘[Growth within: A circular economy vision for a competitive Europe](#)’, 2015.

⁽²³⁾ According to the ILO definition, green jobs are decent jobs in any sector that help reduce negative environmental impact and/or contribute to the preservation or restoration of the environment.

⁽²⁴⁾ See EUROSTAT Statistics Explained, ‘[Environmental economy — employment and growth](#)’; and ‘[Environmental goods and services sector](#)’.

⁽²⁵⁾ R. Costanza et al., ‘Changes in the global value of ecosystem services’, *Global Environmental Change* 26, 2014. The authors acknowledge sources of error and limitations on the estimation of the total value of nature, such as the possibility of double counting, the exclusion of household labour and the informal economy, the estimation of the supply and demand curves, the lack of consideration of thresholds, discontinuities or irreversibilities in ecosystems, and the inability to fully incorporate important goals such as social fairness and ecological sustainability (see also R. Costanza, ‘The value of ecosystem services’, *Ecological Economics* 25, 1–2, 1998).

⁽²⁶⁾ Ibid.

⁽²⁷⁾ *Stern Review: The Economics of Climate Change*, Cambridge University Press, 2007.

⁽²⁸⁾ Asian Development Bank, ‘Assessing the costs of climate change and adaptation in South Asia’, 2014.

At a micro-level, the benefits of adopting green practices are also clear, although they may depend on the sector in focus, and be subject to barriers, such as the lack of access to finance for potentially necessary upfront investments. Businesses may find several benefits in going green, such as opportunities for increased business activities in the fast growing EGS trade (including in markets for green and fair products), potential savings (e.g. in raw materials, energy and water resources) resulting from more efficient production processes, improved image and reputation, more effective risk management, and competitive advantages. Gains from sustainable business practices have been extensively documented, including by EU-funded programmes supporting the adoption of SCP by the private sector⁽²⁹⁾.

⁽²⁹⁾ See for example [project impact sheets](#) from the SWITCH-Asia programme.

Private sector initiatives like the World Business Council for Sustainable Development (WBCSD) — which recently launched a collective business effort to scale up the circular economy, under the name ‘Factor 10’⁽³⁰⁾ — confirm that many companies recognise the benefits of greening the economy and are moving beyond niche approaches and markets into full sustainable value-chain approaches and across all sectors.

⁽³⁰⁾ Launched at the World Economic Forum in Davos on 23 January 2018, by over 30 leading companies across 16 sectors that are collectively responsible for USD 1.3 trillion in annual revenues. See World Business Council for Sustainable Development 23 January 2018 [news release](#).

CHAPTER 4

State of play of EU cooperation on the inclusive green economy

4.1 Overview of EU inclusive green economy cooperation programmes

In line with EU development policy, the EU has been supporting actions contributing to the green economy for a number of years, including programmes in relevant areas, such as natural resources management, sustainable agriculture or renewable energies, and through the integration of environmental issues in relevant sectors, such as private sector development.

To accelerate the green economy transition and encourage coherent action across all relevant economic sectors, over the last 10 years the EU has also started to implement a series of programmes targeting the green economy explicitly as its main objective, promoting the development of enabling frameworks and showcasing the potential benefits of green practices to promote their wider uptake across all relevant sectors. This includes:

- Support to the development of enabling frameworks, engaging with public institutions, mobilising stakeholders, and delivering support through activities such as economic assessments and modelling, consultation processes, technical assistance, institutional capacity building, awareness raising, advocacy, etc. EU-funded initiatives in this category include for example the [UN Partnership for Action on Green Economy \(PAGE\)](#), the [Green Economy Coalition \(GEC\)](#) and the One Planet network, i.e. the network of the 10-year framework of programmes on SCP, a global action to 'enhance international cooperation to accelerate

the shift towards sustainable consumption and production (SCP) in both developed and developing countries'⁽¹⁾.

- Actions promoting the adoption of SCP practices by the private sector through the funding of projects implemented by intermediary organisations and providing support to enterprises — in particular MSMEs — in areas such as resource-efficiency, eco-innovation, certification, access to finance, networking, etc. This category includes for example the SWITCH programmes, with regional programmes in [Asia](#), [the Mediterranean](#) and [Africa](#).

These initiatives promote partnerships with a large range of actors, including (i) the private sector, counting business associations and service providers, as well as MSMEs which form the main target group; (ii) NGOs, promoting civil society participation in policy development processes and delivering support to MSMEs, inclusive of beneficiaries in the informal sector; and (iii) International Organisations, notably UN Environment, as a key player delivering institutional support, promoting the development of enabling policy frameworks and facilitating global and regional dialogue on the green economy.

Together, these programmes form the SWITCH to Green initiative, which provides a framework to coordinate and improve the coherence and visibility of EU international cooperation on the green economy (see











⁽¹⁾ The [One Planet network \(10YFP\)](#) currently comprises the following six programmes: Consumer information; Sustainable lifestyles and education; Sustainable public procurement; Sustainable buildings and construction; Sustainable tourism, including ecotourism; and Sustainable Food Systems.

Annex 1). The total amount of EU commitments to these programmes is approximately EUR 300 million, as shown in Table 4.1. This table only includes programmes focusing specifically on the green economy and on SCP as main objectives and which are seen as part of the SWITCH to Green initiative. It does not include actions across all relevant sectors that also contribute to the green economy.

Several other EU-supported actions complement the SWITCH to Green initiative, albeit without necessarily having the promotion of the green economy as a main

objective. These include initiatives such as the Global Climate Change Alliance (GCCA+) and notable actions in sectors such as ecotourism, agriculture, or fisheries; the Biodiversity for Life initiative targeting ecosystem-based approaches; measures promoting legal timber trade under the EU Forest Law Enforcement, Governance and Trade (FLEGT) Action Plan; and actions addressing environmental sustainability issues across relevant sectors, such as renewable energy production, sustainable value chain development, vocation training and green skills development, waste management and recycling, etc.

TABLE 4.1 Main recent and ongoing EU international cooperation actions under the SWITCH to Green initiative

TITLE AND FINANCING PROGRAMME		TOTAL EU COMMITMENT TO DATE
Sustainable Consumption and Production (SDG 12)		
SWITCH-Asia (Asia Regional Indicative Programme)		EUR 210 000 000
SwitchMed (Environment and Natural Resources Thematic Programme – ENRTP)		EUR 23 000 000
SWITCH Africa Green (ENRTP and Global Public Goods and Challenges Programme – GPGC)		EUR 39 000 000
Support to UN Environment–led initiatives on SCP (ENRTP/GPGC), including: <ul style="list-style-type: none"> • 10 Years Framework of Programmes (10FYP) on SCP/One Planet Network • International Resource Panel • Sustainable Public Procurement and Eco-labelling • Life Cycle Initiative • Resource Efficiency and Eco-innovation 	 	EUR 15 000 000
Inclusive and Sustainable Growth (SDG 8)		
Partnership for Action on Green Economy (GPGC)	 PARTNERSHIP FOR ACTION ON GREEN ECONOMY	EUR 8 500 000
Green Economy Coalition – GEC (GPGC)		EUR 3 000 000
SWITCH to Green Facility (GPGC)		EUR 2 000 000
Greening Economies in the European Union's Eastern Neighbourhood		EUR 10 000 000
Support to UN Environment–led initiatives on green economy (ENRTP/GPGC), including: <ul style="list-style-type: none"> • Support to the work on green economy progress review/measurement • Inquiry into the design of a sustainable financial system • UN Environment Finance Initiative • Environment and Trade Hub Plurilateral Environmental Goods Agreement 		EUR 2 350 000
Total		EUR 312 850 000

4.2 Results achieved and lessons learnt

By promoting the development of enabling frameworks and the adoption of green practices by businesses, the aforementioned EU international cooperation initiatives targeting the green economy as a main objective have delivered a large range of outputs and outcomes over the last 10 years, contributing to social (e.g. job creation and improved working conditions), environmental (e.g. reduced material consumption and greenhouse gas emissions) and economic (e.g. financial savings and investments) impacts. A key conclusion of EU experience with these programmes is that cooperation on the green economy, in particular actions focusing on green business development, have been effective in delivering results on some of the main EU priorities, notably growth, jobs and climate change mitigation.

Support to the development of enabling frameworks has been delivered through diverse activities and outputs, including the delivery of trainings for improved capacities of policymakers, the establishment of mechanisms for improved institutional coordination, dialogue and communication programmes for improved public and consumer awareness, the production of studies (e.g. green economy scoping studies to identify options and pathways for the green economy transition at a national level), etc.

As noted in the 2017 [strategic evaluation of EU international cooperation on SCP](#), this support has resulted in significant green economy policy reforms taking shape in some 45 partner countries (in South East and Central Asia, Africa, Latin America, the Caribbean, and the Mediterranean). In Asia for example, the SWITCH-Asia policy support activities have brought SCP to the forefront of government agendas in several countries by advocating potential green economy benefits, developing and strengthening regional SCP fora (e.g. the Asia-Pacific Roundtable on SCP), and actively engaging with ministries and stakeholders, thus resulting in changes to institutional and legal frameworks.

Complementary support to the private sector, in particular MSMEs, has been delivered through the (past or on-going) implementation of approximately 150 'green business' projects under the SWITCH regional programmes in Asia, Africa and the Mediterranean. Each of these projects supports a large number of MSMEs.

Box 4.1 presents the SWITCH-Asia project 'Greening Supply Chains in the Thai Auto and Automotive Parts Industries', providing further illustration of the results achieved through the green business component of the EU SWITCH to Green initiative.

BOX 4.1 Results achieved by the SWITCH-Asia project ‘Greening Supply Chains in the Thai Auto and Automotive Parts Industries’

Overall objective: to improve sustainable production of SMEs in the Thai auto and automotive parts supply chains.

Duration: 2/2012–1/2015.

Total budget: EUR 2 020 000 (EU Contribution: 80 per cent).

Key achievements:

At policy level

- Contributed to three policies regulating the automotive sector, and resource and energy efficiency: (i) Thai Automotive Industry Master Plan; (ii) Thai Green Industry Mark; (iii) 20-Year Energy Efficiency Plan.
- The Ministry of Industry adopted the project’s recommendation on improving rewards and incentives for the Green Industry Mark

programme, thus encouraging SMEs to implement SCP practices.

- Demonstrated green procurement guidelines for car makers that require GHG emission reduction (thus making SME suppliers aware of the importance of climate change to their business).

At SME level

- Brought monetary savings of EUR 7.9 million to beneficiary companies.
- Created additional business opportunities for SMEs by: improving Thai suppliers’ production performance and the supply chain’s efficiency; reducing production costs, which in turn created higher profit; increasing interest from car makers that wished to source from Thai local suppliers.

- Convinced 376 SMEs to invest in SCP measure implementation.

- Leveraged EUR 623 000 of green finance for SMEs, using existing green financial products and subsidy programmes.

- Achieved total water use savings of 118 230 m³/year, representing an average saving of 51 per cent and total solid waste savings of 2 161 tonnes/year, representing an average saving of 49 per cent.

- Achieved total energy savings of 114 433 082 GJ per year or an average saving of 27 per cent. Reduced GHG emissions of 16 413 tonnes CO₂ equivalent per year.

- Achieved 35 per cent reduction in work-related accidents through the implementation of health and safety risk reduction measures in SMEs.

Source: Evaluation of EU international cooperation on Sustainable Consumption and Production, 2017.

According to the 2017 evaluation, 83 per cent of the supported projects have resulted in the adoption of SCP practices by targeted MSMEs, with multiple impacts, such as job creation and improved working conditions, increased investments, monetary savings, reduced resource consumption and related pollution. The same survey concludes that the SWITCH programmes have contributed to:

- the adoption of SCP practices by approximately 90 000 MSMEs;
- the creation/sustaining of approximately 350 000 jobs;

- investments of more than EUR 1 billion by beneficiary MSMEs⁽²⁾.

The 2017 strategic evaluation also provides a comprehensive analysis of EU international cooperation on SCP, based on standard evaluation criteria (relevance, effectiveness, efficiency, sustainability, impact, community value added, and coherence/complementarity), as summarised in Box 4.2.

⁽²⁾ These figures include both direct and indirect results from the projects; hence, they cannot be attributed directly and/or entirely to EU support. Figures have not been verified independently and should be treated with caution.

BOX 4.2 Main conclusions and selected recommendations of the 2017 strategic evaluation of EU international cooperation on Sustainable Consumption and Production

Main conclusions

- SCP actions supported by the EU are **relevant** to EU and global development policies, taking into account the importance of SCP in the 2030 Agenda and the contribution of SCP to key priorities of the new European Consensus on Development, including climate change, jobs and sustainable growth. EU interventions are also relevant to partner countries' priorities.
- The **effectiveness** of interventions — e.g. regional SWITCH programmes and the 10YFP Secretariat — is satisfactory, as shown for example by results achieved in terms of improved stakeholder capacities and knowledge sharing.
- Actions targeting the private sector and promoting green business development through the SWITCH programmes have achieved 'high **impact** in terms of uptake of SCP practices and increased levels of investments by MSMEs, contributing notably to the creation of green jobs'. The **impact** of policy support has been variable across programmes and insufficiently documented.
- EU-supported programmes on SCP are relatively **cost effective**. In particular, there has been an uptake of green technologies by MSMEs, new investments and major green job creation resulting from the green business component of the SWITCH programmes, with a far higher financial value than programme costs.
- EU-funded SCP and green economy interventions are generally **coherent and complementary**; however, there is insufficient

interaction between actions promoting green business development and the private sector and those providing policy support.

- SCP actions supported by the EU show positive elements of **sustainability**, as evidenced by the local ownership of programme outcomes, effective capacity building, some evidence of policy uptake, and the existence of self-funding mechanisms allowing the continuation of green business development projects.

Selected recommendations

- There is a need to improve the understanding within EU institutions of the green economy and its contribution to EU development priorities; this requires more effective monitoring and evaluation, a better documentation of EU interventions and their results, as well as more guidance.
- The EU should prioritise green economy/SCP actions based on a return on investment approach, in the form of cost-benefit analyses. Higher attention to employment impacts is of particular importance, considering the potential contribution of the green economy to job creation.
- In many countries, green economy policies are in place, and support should build on these. Support should focus on the translation of international and regional policies into national policies. This means a lesser focus on developing new policies, but more attention to policy coherence and implementation.
- The design of green business development interventions should

take into account lessons learnt, including:

- Successful partnerships include organisations that have economic and financial expertise, and local partners with links to government agencies;
- Projects addressing sectors or areas of significant socio-economic importance to countries, including industrial zones or special economic zones, are more successful;
- Options should be explored for taking further advantage of the enormous value of green trade.
- SCP actions should focus more strongly on sustainable consumption, including sustainable (green) public procurement, as support in this area has been limited, whereas demand for green products is one of the main drivers for sustainable production and for the adoption of green practices by businesses.
- Further support to networking, as well as policy and business dialogue, is necessary. The existing SWITCH networking facilities are well positioned to assist with information dissemination, foster multiplier effects and increase investments in green economy sectors.
- The EU should enhance the coherence and complementarities of the overall EU intervention on SCP; this requires further engagement with key partners such as EU Member States and Development Banks, but also functioning coordination mechanisms at a country level.

Source: Evaluation of EU international cooperation on Sustainable Consumption and Production, 2017.

CHAPTER 5

A strategic approach to inclusive green economy cooperation interventions

5.1 Overall priorities

OBJECTIVES AND AREAS OF INTERVENTION

The definitions presented in [Chapter 2](#) and relevant EU commitments show that EU cooperation on the green economy is at the intersection of the Prosperity, People and Planet priorities of the new European Consensus on Development. Cooperation on the green economy can also contribute to the Partnerships priority of the new European Consensus and, indirectly, to the Peace priority. Programmes promoting the green economy should therefore aim at contributing to (i) Inclusive and sustainable growth and jobs, and (ii) Protecting the environment, managing natural resources and tackling climate change. This is consistent with the general objective on the Consensus to ‘pay particular attention to such interlinkages (between SDGs) and to integrated actions that can create co-benefits and meet multiple objectives in a coherent way’⁽¹⁾.

The new Consensus also sets EU green economy cooperation objectives by stating that the EU and its Member States will promote ‘resource efficiency and sustainable consumption and production, including the sustainable management of chemicals and waste, with a view to decouple economic growth from environmental degradation and enable the transition to a circular economy’ and ‘an economic transformation that creates decent jobs, increases productive capacity, generates sufficient revenues for public services and social protection, fosters sustainable value chains and

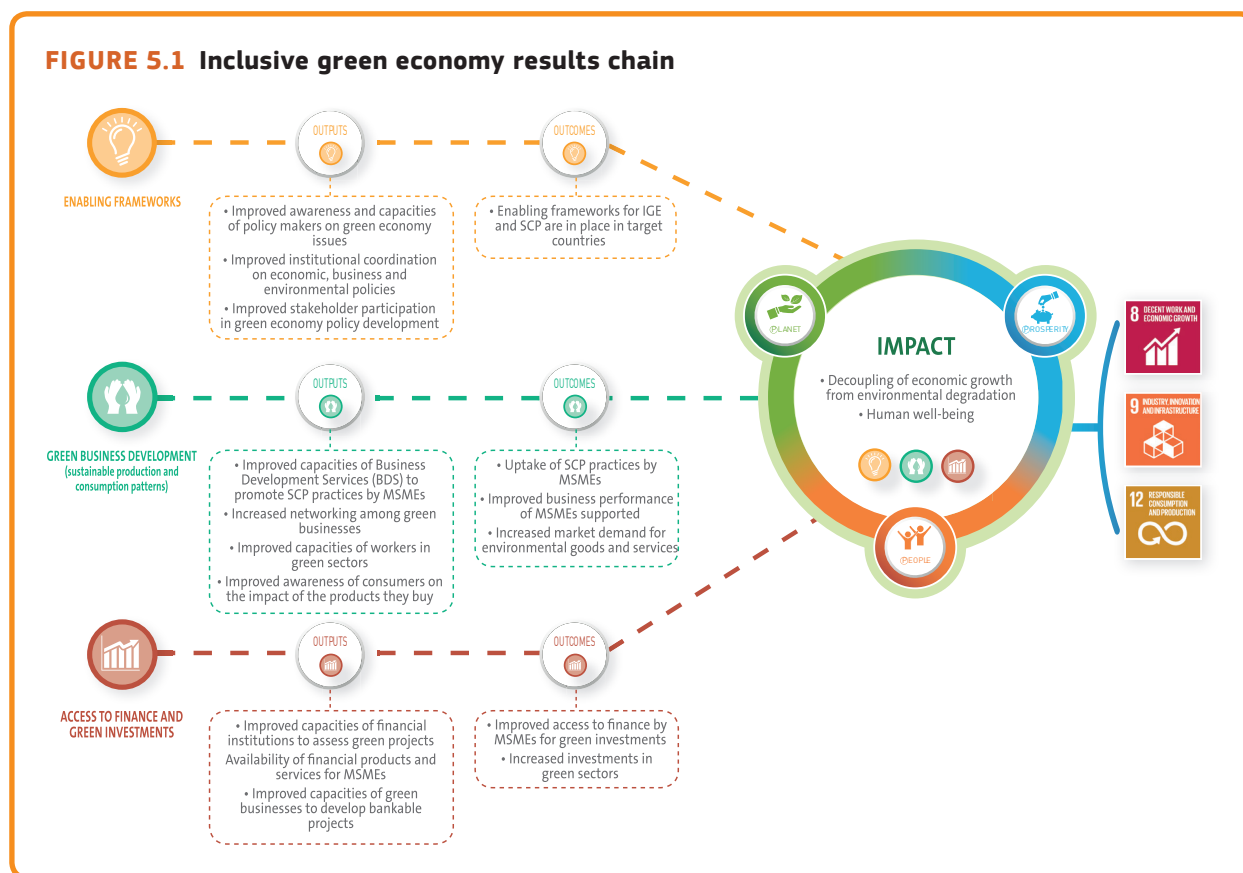
diversification, including sustainable industrialisation’. It also emphasises the importance of working with the private sector and of mobilising ‘private resources for development, whilst also promoting private sector accountability, in areas with significant transformation potential for sustainable development’.

The priorities of EU action on the green economy are also framed by the communication on the role of the private sector in achieving inclusive and sustainable growth in developing countries⁽²⁾, which committed support to eco-entrepreneurships and green job creation by combining policy dialogue on enabling conditions for green business development with the co-funding of innovative projects that support SCP. This approach is all the more important in the context of the EU External Investment Plan and the Sustainable Business for Africa (SB4A) platform which reiterate the importance of sustained dialogue with the private sector — and other key players — to identify barriers to private investment and support priority reforms.

In line with this framework, and building on the approach and experience of recent EU programmes on the green economy and SCP, Figure 5.1 presents a results chain identifying three main areas of green economy intervention and highlighting their contribution to relevant EU priorities.

⁽¹⁾ ‘The New European Consensus on Development “Our World, Our Dignity, Our Future”’, Official Journal, 30 June 2017, paragraph 19.

⁽²⁾ See European Commission, ‘A Stronger Role of the Private Sector in Achieving Inclusive and Sustainable Growth in Developing Countries’, communication, 2014.

FIGURE 5.1 Inclusive green economy results chain

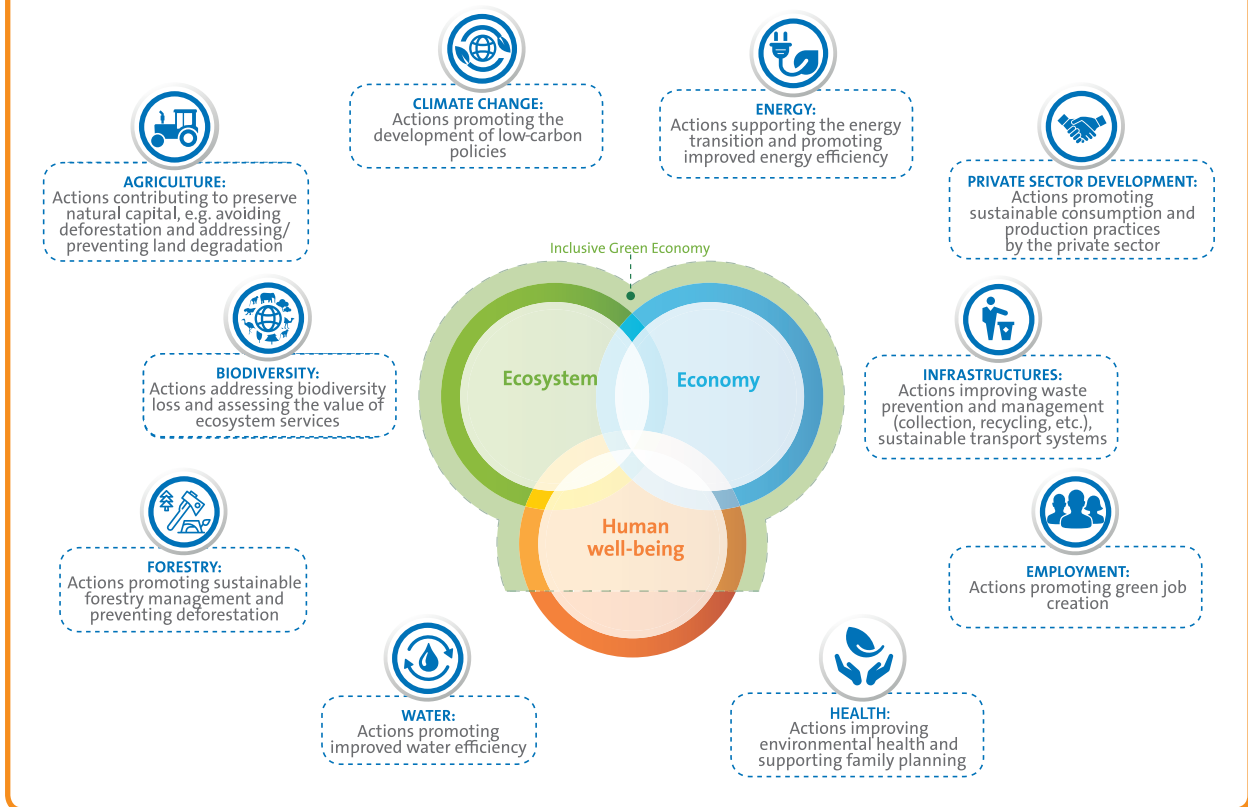
A TWO-PRONGED APPROACH TO PROMOTE THE GREEN ECONOMY ACROSS ALL RELEVANT SECTORS

The EU's vision on the green economy implies that practices across many sectors of EU international cooperation contribute to the transition. This includes actions promoting green business practices in the context of private sector development; actions in environmental sectors, such as biodiversity and forestry; relevant agricultural practices that contribute to natural capital preservation; actions in the area of renewable energy production, energy efficiency and the fight against climate change; actions on sustainable cities; waste prevention (including re-manufacturing, repair, direct reuse) and management (waste collection, recycling, etc.); and actions in social sectors, notably initiatives to promote green and decent job creation. Figure 5.2 shows the main links between the green economy and relevant sectors of EU international cooperation.

To support the green and circular economy transition coherently, a two-pronged approach is therefore necessary, including:

- **'Dedicated' programmes promoting the green economy specifically**, that directly address priorities by contributing to the establishment of institutional and macro-level policy frameworks, which in turn provide the conditions for the transition in relevant sectors, to demonstrate examples of SCP practices in business and the circular economy by the private sector, and facilitate their financing as a means to encourage their wider uptake (see sub-sections below on developing enabling frameworks, green business development and green investments/access to finance).
- **The mainstreaming of green economy components** across relevant sectors of EU international cooperation. In sectors pursuing environmental

FIGURE 5.2 Main contributions from relevant sectors of EU cooperation to the inclusive green economy



objectives, such as biodiversity⁽³⁾ or climate change, this might entail, when relevant, a stronger focus on economic and business incentives (e.g. actions promoting the valuation of ecosystems and the services they provide), and require stronger engagement from policymakers to duly attract the private sector. In sectors where environmental objectives are usually not specifically targeted, green economy mainstreaming entails, among other things, stronger attention to the potential benefits of environmentally sustainable practices. This is particularly the case in private sector development programmes, where greener practices can deliver significant benefits, such as improved productivity,

financial savings from reduced material, water and energy consumption, or better waste management, improved market access, and premium prices. Assessing and documenting the growth and job potential of environmentally friendly sectors and practices, including those sectors encouraged by local authorities and cities — e.g. organic (urban) agriculture, ecotourism, waste prevention and management, sustainable transport systems, energy efficiency/low-carbon technologies — is also key in this regard.

Tools and guidelines already exist to support the integration of green economy considerations across EU international cooperation. In particular, the EU guidelines on the integration of environment and climate change into EU international cooperation and development, which were updated in 2016⁽⁴⁾, identify

⁽³⁾ Biodiversity mainstreaming in agriculture, fisheries, forests and tourism was the main theme of the Convention on Biological Diversity (CBD) COP 13 and was addressed in (among others) the Cancun Declaration and a relevant [COP Decision on strategic actions](#). Mainstreaming biodiversity in energy, infrastructure, mining, manufacturing and processing industry and health will be addressed by CBD COP 14 in November 2018.

⁽⁴⁾ See European Commission Directorate-General for International Cooperation and Development, '[Integrating](#)

sectoral interventions contributing to the green economy and provide guidance on relevant tools, such as Strategic Environmental Assessments, which can be tailored to support the green economy. In this context, the green economy transition can be seen as an objective that supports the EU's environment and climate change integration objective, by highlighting that integration is not merely about minimising potential negative impacts, but also a process identifying economic opportunities associated with greener and resource-efficient practices.

Development partners have also elaborated tools that can guide the identification of cooperation actions promoting the green economy. In particular, UN Environment has produced a series of assessments on the role of relevant sectors in the green economy transition, including natural capital sectors (**agriculture, fisheries, water, forests**) and sectors related to energy and resource efficiency (**renewable energy, manufacturing, waste, buildings, transport, tourism**). Key messages on the role of these sectors in the green economy transition are compiled in [Annex 3](#)⁽⁵⁾. UN Environment has also conducted various studies (e.g. national-level green economy assessments and scoping studies to identify possible pathways towards the green economy, stocktaking assessments, modelling studies) which can guide actions at a national level and be replicated when appropriate⁽⁶⁾.

Likewise, the GGGI has elaborated a series of country- and city-level [reports](#), for example on the assessment of national green growth potential, on urban planning strategies for green growth and on cross-cutting issues like green financing, green infrastructure pipelines, etc. The Green Growth Knowledge Platform (GGKP) is one of the main tools available to access resources on the green economy globally (Box 5.1).

A directory of EU and other resources for green economy cooperation actions, including tools, is provided in [Annex 4](#).

the environment and climate change into EU international cooperation and development'.

⁽⁵⁾ The full report, including sector analysis, is available online; UN Environment, 'Green Economy Report'.

⁽⁶⁾ Links to selected tools and resources are provided in [Annex 4](#).

BOX 5.1 Green Growth Knowledge Platform (GGKP)

The GGKP was established in 2012 by the GGGI, the Organisation for Economic Co-operation and Development (OECD), the United Nations Environment Programme (UN Environment) and the World Bank. The GGKP has since expanded to a global partnership of nearly 60 international organisations, research institutes and think-tanks committed to collaboratively generating, managing and sharing green growth knowledge and data.

The GGKP supports Expert Working Groups that collaborate on themes identified as critical, but having insufficient amounts of data or knowledge, in terms of a green economy transition. These Expert Working Groups cover a range of issues including metrics and indicators, trade and competitiveness, and natural capital. The GGKP also manages an extensive web [platform](#) that provides access to green growth resources, tools, data, and guidance. The platform includes the following features:

- **global library** — the largest repository of green growth research from international organisations and think-tanks including over 1700 technical and policy resources from over 400 organisations organised by geographic coverage, sectors, themes, and authoring institutions;
- **learning database** — a collection of over 300 webinars, tools, courses, and multimedia focused on supporting a green economy transition;
- **data explorer** — a dynamic tool for visualising green growth patterns and trends between countries drawing from 20 data sets over a 50-year period;
- **expert connect** — a network of leading technical and policy experts available to provide tailored guidance to developing country policymakers on a range of green growth issues, including fiscal reform, access to finance, indicators and metrics, natural capital, sustainable trade, and government procurement;
- **best practices** — a database of over 190 case studies on the development and implementation of green growth policies and practices;
- **insights** — a blog space for experts and practitioners to share their analysis on the latest green growth research, projects, and events.

5.2 Developing enabling frameworks

NEEDS AND TYPES OF ACTIONS

The transition to the green economy is a relatively new process, powered by a growing, but still limited, number of private sector and consumer initiatives. Government intervention is also required to accelerate this transition and to address market failures. In particular, enabling public policies and concerted government interventions are necessary to steer the transformation and establish frameworks that provide long-term certainty to economic operators, mobilise finance, raise awareness, influence trends in consumption patterns, build support and deliver appropriate incentives to scale-up action. The range of policy areas contributing to green economies is very broad, and covers, among others, industry, enterprises, investment, trade, research and innovation, education and skills development, etc. Economic instruments and fiscal policies (introducing tax reductions, rationalising harmful subsidies, introducing appropriate taxation on carbon investments, etc.) in particular play a central role in stimulating impact (inclusive and green) investments and discouraging unsustainable investments.

In many countries, policy and regulatory frameworks presently constitute barriers to the green economy transition, as policies that were adopted many years ago, when environment and economic links were less visible and understood, remain in place and are supported by those who benefit from the status quo, making reforms difficult. Such barriers may include policies or regulations restricting investments and trade in environmental goods and services (e.g. restrictive tariffs and technical regulations for products, or licensing and other access requirements for services), environmentally harmful subsidies, a lack of clear policy orientations and long-term certainty, etc.

The European Consensus on Development states that ensuring policy coherence for sustainable development as embedded in the 2030 Agenda requires taking into account the impact of all policies on sustainable development at all levels⁽⁷⁾. This is crucial for the

green economy. Policy coherence and coordination are major challenges to address when building enabling frameworks, since environmental and economic objectives are frequently presented as opposed, and put forward by different institutions with different interests and stakeholders, often undermining both environmental and economic objectives. Conversely, a key objective of the green economy transition is precisely to pursue economic and environmental objectives jointly and coherently. Economy-wide frameworks are necessary to address cross-sector issues, such as financing strategies, fiscal and subsidies reforms, or institutional coordination.

Improving awareness, capacities, and building political support is also essential for developing enabling frameworks. Despite the growing evidence of the negative financial impact of environmental degradation, the importance of environmentally sustainable practices to the economy remains insufficiently understood. This also requires significant attention.

PAGE, which the EU supports, provides an illustration of relevant actions contributing to addressing these needs and ‘reframe economic policy around sustainability and put in place enabling policy conditions, reforms, incentives, business models and partnerships’ (Box 5.2).

While national governments are the main actors in the development of enabling green economy frameworks, policy development and implementation at multilateral, regional and sub-national levels is also important. Multilateral and regional cooperation provides opportunities for engagement with emerging economies which are no longer eligible for bilateral aid programmes with the EU but have a strong influence on less developed countries through their trade, investments and political relations. The G20 — which has shown interest in environment-related matters such as green finance⁽⁸⁾ is an example of one of the forums providing opportunities to scale up dialogue and cooperation on the green economy.

⁽⁷⁾ ‘The New European Consensus on Development “Our World, Our Dignity, Our Future”’, Official Journal, 30 June 2017, paragraph 108.

⁽⁸⁾ Finance Ministers of the G20 indicated that ‘in order to support environmentally sustainable growth globally, it is necessary to scale-up green financing’ and have welcomed the voluntary options elaborated by the G20 Green Finance Study Group to ‘enhance the ability of the financial system to mobilize private capital for green investment’ (Chengdu, China, 23–24 July 2016).

BOX 5.2 UN Partnership for Action on Green Economy (PAGE)

PAGE supports countries and regions in reframing economic policies and practices around sustainability to foster economic growth, create income and jobs, reduce poverty and inequality, and strengthen the ecological foundations of their economies. It is a direct response to the Rio+20 Declaration which called for assistance to interested countries in developing and implementing green economy policies. It also assists countries in achieving and monitoring the SDGs, especially SDG 8 on Decent Work and Economic Growth.

PAGE encourages policy coherence and institutional coordination by engaging with all relevant institutions jointly and requiring that statements of interest from countries willing to join the Partnership address inter-ministerial coordination and demonstrate support from relevant ministries.

The main services provided by PAGE include green economy diagnostics and assessments for evidence-based policy proposals, policy consultations and support to the adoption of policies and plans (e.g. green economy policy analysis; prioritisation of green economy sectors; mobilisation and engagement of public, private and civil society stakeholders; advisory support integrated into the design and advancement of sector and thematic policies, strategies and plans), support to policy implementation (including evidence-based sectoral and thematic reforms in line

with green economy priorities) and mobilisation of finance, and capacity development (e.g. designing and implementing nationally tailored green economy training and awareness creation packages and programmes on specific priority areas). Examples of country-level support include:

- **Mongolia:** Finance mobilisation and development of green and inclusive financial products and services by the Mongolian banking sector; inclusion of sustainability principles in the national legal framework for public procurement.
- **Peru:** Operationalisation of national green jobs policy at the sub-national level through the greening of regional youth employment plans; operationalisation of Peru's bio-trade strategy; elaboration of fiscal and cross-sectoral green growth policies and instruments.
- **Burkina Faso:** Support to green fiscal policy and reform options to help implement the next national development strategy; promotion of green industrialisation through a Green Industry Assessment.
- **Senegal:** Development of a green industry strategy drawing on Green Industry Assessments; analysis of options for reforming subsidies in the energy sector with a view to promoting green financing.
- **Ghana:** Development of a Green Economy Action Plan based on a green economy assessment focused on forestry, energy and agriculture; development of a green economy knowledge sharing platform with national training and research institutes.
- **South Africa:** Analysis of green industry and trade sectors with potential for exports of sustainably manufactured products; green economy knowledge sharing through an interactive platform; development of a green economy course for South Africa to be delivered through a national institution.
- **Mauritius:** Mobilisation of private sector investments in green sectors, including through a mapping of existing green products and services; development of an action plan for promoting green jobs creation at a national level and training of trade unions on the green economy and green jobs.
- **China (Jiangsu province):** Production of a stocktaking report of major green economy policies, strategies, and plans, including those embedded in the 13th Five-Year Plan, and provision of examples of successes and good practices; support for the establishment of a network of cities interested in the green economy.

Sub-national authorities are equally important partners, as the ‘achievement of most of the SDGs is strongly dependent on the active involvement of local and regional authorities’⁽⁹⁾. Their contribution to the green economy has been acknowledged repeatedly, including through initiatives from the Covenant of Mayors⁽¹⁰⁾ — which the EU supports — as well as from other municipal or regional networks, such as ICLEI⁽¹¹⁾ and the R20⁽¹²⁾, which have demonstrated the willingness and efficiency of local actors’ involvement in the transformation of the economy. Their role is becoming increasingly important within the context of intense urbanisation and global trends in demographic growth.

A CLEAR FOCUS ON INCLUSIVENESS AND JOB CREATION

The promotion of a green economy that is genuinely inclusive is an imperative in the context of EU development policy, in line with the 2030 Agenda’s principle of leaving no one behind and with the European Consensus on Development. An inclusive green economy promises to deliver benefits to people, including the poorest. This entails both direct benefits, such as decent job creation, access to clean water and energy, or even food and income deriving from natural capital and ecosystem services (e.g. for forest and coastal communities relying on forest products and fish stocks), and indirect benefits, such as the mitigation of negative consequences from environmental degradation and climate change, including air pollution, chemical spills, and exposure to hazards and disasters, to which the poorest are more vulnerable.

At the same time, the green economy transition can, in certain contexts, have an adverse impact on the poorest if adequate measures are not taken. For

example, the implementation of cleaner production practices, which should contribute to an increase in productivity, could reduce demand for manual labour in some sectors while new jobs are created in others. Relevant interventions are therefore necessary. This may include, for example, reinvesting savings from the removal of fossil fuel subsidies into pro-poor measures — which will also facilitate their political acceptance — or supporting the development of skills relevant to emerging green sectors for workers in polluting sectors, where activities are declining.

Analysis from the UN Research Institute for Social Development (UNRISD) indicates that inequality in the context of the green economy matters, because ‘people’s capacity to take advantage of employment and other opportunities associated with green economy, and to change their consumption patterns, is correlated with inequality’ and because ‘large income inequalities erode the social solidarity required for an active public policy and social pacts to deal with major challenges such as climate change and poverty reduction’⁽¹³⁾. This underlines the importance of the early identification of green job opportunities, and signals that ‘the education and skills training needed to fill them ought to be an early priority for any state engaging such a transition’⁽¹⁴⁾.

Strong attention must be given to decent job creation and to the rights and situation of vulnerable groups, to ensure that EU-supported initiatives on the green economy contribute coherently to development and poverty reduction objectives, but also to encourage the social and political acceptance of green economy reforms. Relevant measures in this context include addressing social and labour market aspects in the context of economic and environmental policy development, with a view to maximising positive effects on job creation and ensuring that issues of equity (e.g. gender equity, equal distribution of wealth achieved through higher productivity and new market opportunities), human rights, security, and dignity are promoted.

⁽⁹⁾ The New European Consensus on Development ‘Our World, Our Dignity, Our Future’, Official Journal 30 June 2017, paragraph 86.

⁽¹⁰⁾ The Covenant of Mayors constitutes a growing network of more than 6000 municipalities that commit to reduce energy use and GHG emissions.

⁽¹¹⁾ ICLEI – Local Governments for Sustainability is a global network of cities committed to building a sustainable future.

⁽¹²⁾ R20 is a coalition of partners led by regional governments that work to promote and implement projects that are designed to produce local economic and environmental benefits.

⁽¹³⁾ See UNRISD, ‘Social dimensions of green economy’, Research and Policy Brief 12, ISSN 1811-0142, 2012.

⁽¹⁴⁾ See UN Environment, ‘Uncovering Pathways towards an Inclusive Green Economy: A Summary for Leaders’, 2015.

This approach is at the core of both EU policy on sustainable value chains⁽¹⁵⁾ and the EU Decent work agenda⁽¹⁶⁾. Green economy reforms and practices provide opportunities for the integration of social standards and the promotion of decent working conditions — including wages and occupational health and safety — at all levels of productive sectors. Given that the most vulnerable segments of the population, those with less adaptive capacity, are the groups facing multiple risks, including children, older people and people with disabilities, it is of paramount importance that the benefits of greening economies reach these groups.

Promoting stakeholder participation in policy development is key to the development of frameworks to enable the green economy that are inclusive and address the needs of all groups. This includes women, who tend to have a smaller ecological footprint than men, but are particularly exposed to environmental damage and severely affected by energy shortages. There is a wide scope to promote gender equality through green economy interventions, notably through interventions in sectors where the employment of women is particularly high, such as textiles, garment and agriculture. A [workshop on the gender dimension of SCP](#) organised by the SWITCH-Asia Networking Facility in 2015 concluded that the importance of gender equality was often understated in SCP interventions, but also that SCP produces positive impacts on women's empowerment via multiple avenues including safer working and living conditions, healthier environments, job creation, access to jobs, trainings and skills transfers, and support to entrepreneurship. Giving attention to young people is equally important. Young people are regarded as 'central to the goal of building a new global discourse and solutions for inclusive green economy i.e. as ambassadors, as users of social media, and as future entrepreneurs and decision-makers'⁽¹⁷⁾.

A participatory approach to policy development obviously includes the private sector — in particular MSMEs

and the informal sector, who have fewer opportunities to contribute to policy development — as well as civil society, which can play an important role in advocating, monitoring and supporting policy development and implementation, as well as raising awareness among policymakers, businesses and consumers on issues like SCP, the circular economy, and sustainable lifestyles. The EU's international cooperation experience demonstrates the effectiveness of this approach. In the forestry sector for example, the implementation of the FLEGT Action Plan has showcased the benefits of a strong civil society engagement to build consensus and support for policy and regulatory reforms.

Activities undertaken by the Green Economy Coalition (Box 5.3), to which the EU provides financial support, illustrate the role that civil society can play in the green economy transformation, including in reaching out to the informal economy.

BUILDING ON EU'S EXPERIENCE AND PROMOTING SYNERGIES WITH OTHER EU POLICY AREAS

The EU has significant experience promoting a green economy domestically — especially through the implementation of its CEAP⁽¹⁸⁾ but through other initiatives as well, such as the Eco-Innovation Action Plan (EcoAP)⁽¹⁹⁾, the Green Action Plan for SMEs⁽²⁰⁾, or the Green Employment Initiative⁽²¹⁾ among others⁽²²⁾ (Table 5.1).

Building on this experience and promoting synergies with relevant EU policy areas — other than development — is particularly relevant for international

⁽¹⁵⁾ Council Conclusions on the EU and Responsible Global Value Chains, 8833/16, 12 May 2016.

⁽¹⁶⁾ European Commission, 'Promoting decent work for all — The EU contribution to the implementation of the decent work agenda in the world [SEC(2006) 643]', communication, 2006.

⁽¹⁷⁾ UN Environment, 'Uncovering Pathways towards an Inclusive Green Economy: A Summary for Leaders', 2015.

⁽¹⁸⁾ European Commission, 'Closing the loop — An EU action plan for the Circular Economy', communication, 2015.

⁽¹⁹⁾ European Commission, 'Innovation for a sustainable Future — The Eco-innovation Action Plan', communication, 2011.

⁽²⁰⁾ European Commission, 'Green Action for SMEs: Enabling SMEs to turn environmental challenges into business opportunities', communication, 2014.

⁽²¹⁾ European Commission, 'Green Employment Initiative: Tapping into the job creation potential of the green economy', communication, 2014.

⁽²²⁾ A [compilation of case studies](#) presenting EU policies linked to the green economy and highlighting their international dimension has been produced by the EU SWITCH to Green Facility.

BOX 5.3 The Green Economy Coalition (GEC)

The GEC is a growing movement of over 50 members representing poor people, workers, environmental and development organisations, and small businesses as well as international institutions. It aims at accelerating the transition to green and fair economies, focusing on five interrelated priority areas:

- measuring what matters, i.e. not thinking only in terms of GDP but also account for ecological damage, social inequality, or long-term sustainability, and using new benchmarks for measuring progress in line with the SDGs at corporate, national and global levels;
- reforming financial systems, so prices reflect their full societal or environmental values and financial institutions integrate social and environmental information into their decisions;

- greening economic sectors, focusing on smaller businesses and the informal economy to achieve a fair green economy transition;
- tackling inequalities, by ensuring that people — particularly poorer and marginalised groups — have a voice in decision making;
- valuing nature, so businesses and governments better understand the rewards of looking after nature, building on better economic tools, such as natural capital accounts or payment for ecosystem services, and dialogue with relevant constituencies.

To achieve its goals, GEC coordinates multi-stakeholder dialogues on the green economy, researches and identifies policies necessary for the transition, represents the voices of stakeholders in national and international processes, engages

target audiences in the opportunities offered by a transition, and lobbies key decision makers.

EU support to GEC focuses in particular on the development of hubs in developing countries and regions (Peru, Caribbean, Senegal, Uganda, South Africa, India, Mongolia) to strengthen networks of civil society to campaign for green economy reforms, support SMEs and social enterprises so they are able to take advantage of market opportunities around greener growth, mainstream development plans and institutions aiming at green economic reform, mobilise domestic resources and finances, and improve understanding at a global and national level of the realities on the ground and practical options for generating inclusive transitions.

More details at [Green Economy Coalition](#).

cooperation on the green economy. It can help address several objectives:

- **Aligning development policy with EU's strategic interest:** Cooperation on the green economy can contribute to addressing the global dimension of the circular economy, which the EU CEAP underlines, or promote networking between EU and developing countries' business partners — as done through the SWITCH to Green initiative. This approach can bring multiple benefits for those involved, notably in terms of know-how exchange and access to new markets, with EU green technologies and services being promoted, and partner country enterprises gaining support in conforming to environmental standards and regulations, as well as to voluntary schemes such as the [EU Ecolabel](#), to better access EU and global markets.

- **Lead by example:** The Global Strategy for the EU's Foreign and Security Policy⁽²³⁾ states that 'The EU will lead by example by implementing its commitments on sustainable development and climate change'. This is key to cooperation on the green — and circular — economy since the concept remains relatively new and, despite a growing interest globally, some countries remain unsure — or sceptical — about the potential benefits for them. Policy and business dialogue, as well as communication on the EU's experience, is an opportunity to demonstrate that the EU practices what it encourages other countries to do, and to showcase potential benefits, for example in terms of green job creation and benefits for businesses. EU 'Circular Economy

⁽²³⁾ EU, 'Shared Vision, Common Action: A Stronger Europe A Global Strategy for the European Union's Foreign and Security Policy', 2016.

TABLE 5.1 Examples of EU domestic policies and instruments contributing to the green economy

POLICY/INSTRUMENT	LINK FOR MORE INFORMATION
Circular Economy Action Plan (CEAP)	http://ec.europa.eu/environment/circular-economy/index_en.htm
Resource Efficiency roadmap	http://ec.europa.eu/environment/resource_efficiency/about/roadmap/index_en.htm
Eco-innovation Action Plan	https://ec.europa.eu/environment/ecoap/_en
Green Action Plan for SMEs	http://ec.europa.eu/growth/smes/business-friendly-environment/green-action-plan_en
Green Employment Initiative	http://europa.eu/rapid/press-release_MEMO-14-446_en.htm
Eco-label scheme	http://ec.europa.eu/environment/ecolabel/index_en.htm
Roadmap for moving to a competitive low-carbon economy by 2050	https://ec.europa.eu/clima/policies/strategies/2050_en

Missions' to third countries⁽²⁴⁾, which comprise high-level political and business meetings in third countries to communicate and promote environmentally sustainable and resource-efficient policies, are one of the activities leading by example, while promoting the EU's interest at the same time.

- **Ensure coherence with other policy areas, in particular trade:** Economic Partnership Agreements (EPAs) can provide opportunities for removing barriers to trade in environmental goods (e.g. tariffs, technical regulations, conformity assessment procedures) and services (e.g. quantitative restrictions, qualification requirements), developing joint strategies for green investment, engaging in capacity-building, etc. The EU encourages the 'systematic inclusion in all EU Trade Agreements of trade and sustainable development provisions, which contain commitments by parties to respect core labour standards and other ILO conventions as well as key multilateral environmental agreements'⁽²⁵⁾. Trade and invest-

ment cooperation focused on green sectors and sustainable value chains is highly relevant in this context. It can help identify and maximise opportunities from partner countries' trade with the EU and other consumer markets, for example through the integration of the green economy within Trade Needs Assessments — focusing on the identification of barriers and needs for trade in environmental goods and services, through regulatory support to streamline access for green goods and services and related investment, through the facilitation of compliance with EU and third country technical standards for green products, etc.

Case studies presenting lessons learnt and the international dimension of relevant EU policies are available on the EU SWITCH to Green [website](#).

5.3 Promoting green business development

The adoption of environmentally friendly practices by the private sector is increasingly common, as more and more businesses become aware of the associated commercial and economic opportunities, including the rapid growth of the global market for environmental goods and services, premium prices, potential savings from resource efficient production processes, improved reputation, increased security of supply chains resulting from the procurement of sustainably produced raw materials, enhanced viability of businesses stemming from the sustainable management

⁽²⁴⁾ These initiatives have the potential of strengthening existing and creating new ties between the EU and third country institutions in the field of environment, showcasing the EU's efforts/progress to implement the 2030 Agenda and the SDGs as well as supporting green European businesses — especially SMEs — to expand their activities abroad. Since 2016, five missions have taken place: Chile (April 2016), China (November 2016), Iran (February 2017), South Africa (May 2017), and Colombia (October 2017). See European Commission, 'Circular Economy Missions to Third Countries' for further details and updates.

⁽²⁵⁾ Council of the European Union, 'Conclusions on Responsible Global Value Chains'.

of the natural capital⁽²⁶⁾ on which they are based, etc. Relevant private sector initiatives — including the development of Corporate Social Responsibility (CSR) strategies, environmental standards, labelling and certification schemes — are important drivers of the green economy transformation in many countries.

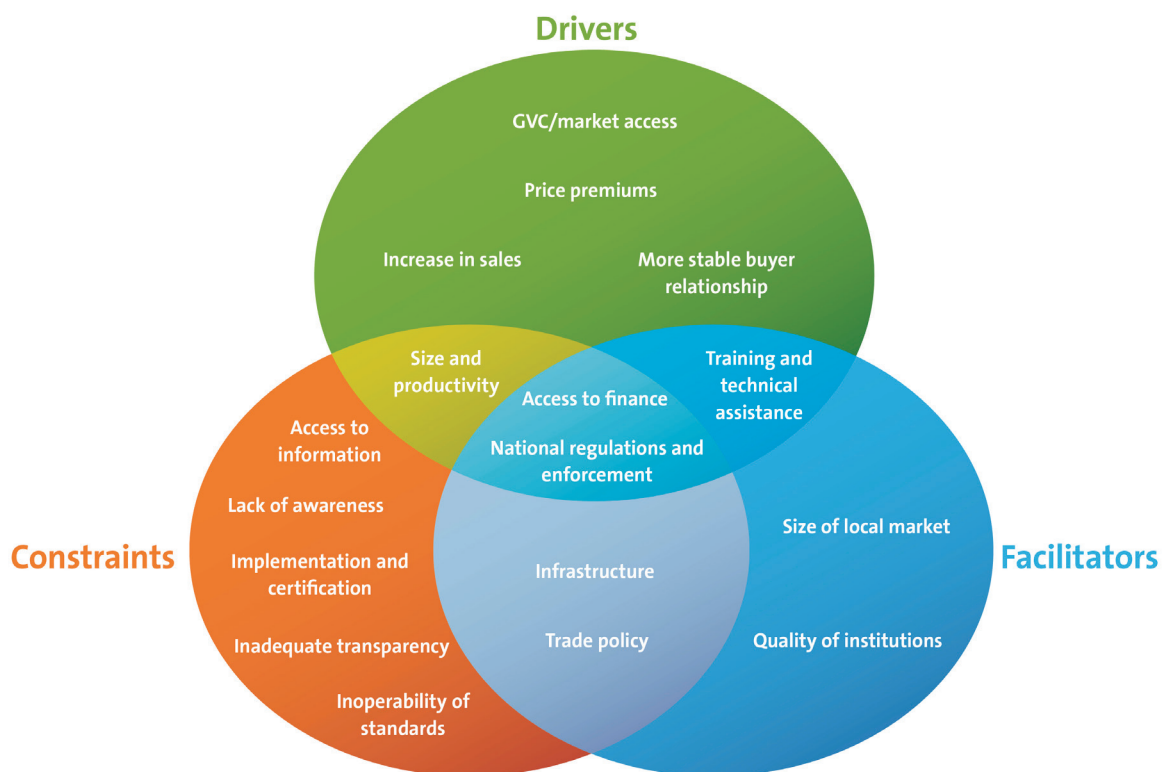
However, significant support is necessary to accelerate the uptake of SCP practices by businesses at the pace that is needed to achieve sustainable growth and job objectives within the planetary boundaries. Figure 5.3 provides an illustration of the main constraints faced

by SMEs to implement sustainability standards, as well as the drivers that motivate them and ‘facilitators’ that can support them.

The EU has provided support targeting MSMEs to address these constraints, reinforce the drivers and build capacities for the adoption of sustainability standards and, more broadly, SCP practices by the private sector for many years. In particular, the SWITCH regional programmes in Asia, the Mediterranean and Africa offer a model that has delivered results (see [Chapter 4](#)) and on which to build for future green business support. A large variety of individual projects in diverse economic sectors have been implemented

⁽²⁶⁾ Companies may assess their impacts and dependency on natural capital using tools like the [Natural Capital Protocol](#), i.e. a framework designed by the Natural Capital Coalition to help generate trusted, credible, and actionable information to inform decisions for business managers.

FIGURE 5.3 Drivers, constraints and facilitators for the implementation of sustainability standards in SMEs



Source: German Development Institute, ‘Drivers and Constraints for Adopting Sustainability Standards in Small and Medium-Sized Enterprises’, Discussion Paper 21/2017.

under these programmes⁽²⁷⁾, supporting the adoption of SCP practices through a wide range of activities including:

- awareness raising, e.g. on SCP practices and associated opportunities;
- support to business/industry associations to deliver better services to their members;
- provision of business development services to MSMEs, e.g. capacity building on SCP practices, skills transfer, business advice for eco-entrepreneurs;
- promotion of business-to-business (B2B) dialogue and exchange of experience, e.g. among EU actors and developing countries' stakeholders, or between producers and consumers committed to sustainable sourcing and the shift to a circular economy;
- support to private sector participation in the development of enabling policy and a regulatory environment for eco-entrepreneurship and SCP practices;
- assistance for MSMEs planning for sustainability, fostering the design of products with lower environmental impact in the entire life-cycle (notably promoting waste prevention) and with poverty reduction potential, at both use and end-of-life stages (e.g. through Eco-design, Design for Recycling, Environmental Footprint methods, Design for the Poor);
- development and upscaling of green certification standards and labels;
- promotion of eco-innovation through research, capacity building and demonstration activities;
- strengthening commitments to sustainable supply chains and developing mechanisms to enhance trade in sustainable commodities;
- encouragement of public-private partnerships (PPPs), e.g. through contributions to a supportive regulatory framework;
- increasing consumer awareness, with actions supporting consumer information, through e.g. eco-labelling, environmental standards and certification, and measures to support green public procurement;
- support to MSMEs on access to finance, e.g. capacity building on the development of bankable projects, matchmaking with financial institutions.

Over the years, support has been delivered in a wide range of sectors and areas, based on their potential for greener practices as well as government priorities, and as illustrated in Box 5.4 presenting examples of relevant projects.

In line with programme experience, recommendations from the 2017 evaluation of EU international cooperation on SCP (see [Chapter 4](#)), and recent developments, several strategic priorities should be considered in the planning of future EU support to green business development. These include:

- **The prioritisation of support in economic sectors with the highest potential in terms of job creation and reflecting EU and global priorities:** This could include waste prevention⁽²⁸⁾ and management, as a priority of the EU CEAP and a contribution to address pollution, which was the priority of the [third UN Environment Assembly](#) in December 2017, or plastics, for which the EU recently adopted a strategy calling for global action — the EU Plastics Strategy⁽²⁹⁾. Consideration of synergies and complementarities with focal sectors under EU bilateral programmes is also key.

⁽²⁷⁾ See 'Map of EU Inclusive Green Economy Projects' on the Switch to Green website.

⁽²⁸⁾ UN Environment and the International Solid Waste Association estimate the potential impact of improved waste management on reducing greenhouse gas emissions across the economy to range between 15 and 20 per cent. See Global Waste Management Outlook, 'Waste — Still a global challenge in the 21st century', and key data available online at 'The GWMO at a Glance'.

⁽²⁹⁾ European Commission, 'A European Strategy for Plastics in a Circular Economy', communication, 2018.

BOX 5.4 Examples of green business projects implemented under the SWITCH-Asia programme

SMART MYANMAR II: SMEs for Environmental Accountability, Responsibility and Transparency

Objective: Contribute to a switch to sustainable garment consumption patterns and promote sustainable growth in Myanmar's garment sector, by institutionalising, up-scaling and replicating successful SCP practices in the garment sector.

Key activities: Training SCP consultants on sustainable production and compliance with international standards; social compliance academies to improve working conditions in garment factories; workshops with banks on green finance; branding and communication initiative 'Made in Myanmar' to inform consumers; capacity-building of female workers to claim their rights; identifying and rewarding good practice companies; initiating public-private dialogues on sustainable public procurement; advocating SCP-related issues with government institutions.

Expected results at SME and consumer levels: (i) increased Myanmar garment exports to the EU by 300 per cent by 2019 (2015 baseline); (ii) raised demand for sustainably produced garments in both Myanmar and the EU; (iii) reduced waste production by 20 per cent, energy consumption by 20 per cent, and water consumption by 15 per cent in 100 garment factories; (iv) improved working conditions in at least 150 factories; (v) 10 new SCP services offered by the Myanmar Garment Manufacturers Association; (vi) a pool of 15 SCP

consultants trained to deliver factory improvement programmes; (vii) participation of up to 30 banks in at least 8 workshops on green finance; (viii) at least 50 SMEs able to apply for loans; (ix) new business opportunities (like joint ventures) between factories from Myanmar and EU brands; (x) 100 public procurers in Myanmar trained on sustainable public procurement.

Policy level results are also expected, with industry wide dialogue being held regularly.

Total budget: EUR 2 777 629 (EU Contribution: 90 per cent).

Partnership: sequa gmbH.(leader), MGMA, Association of Development Financing Institutions in Asia and the Pacific, Foreign Trade Association of German Retail Trade, and Stitching Made-by Label.

More information is available at [SWITCH to Green website](#) and the [Smart Myanmar website](#).

Sustainable freight transport and logistics in the Mekong Region

Objective: Increasing sustainable freight transport and logistics in the Mekong Region mainly through energy efficiency and safety measures in at least 500 SMEs in Cambodia, Lao PDR, Myanmar, Vietnam (CLMV) and Thailand.

Key activities: Increasing fuel efficiency and reducing emissions mainly through defensive and

eco-driving, technology changes and maintenance, freight brokerage, logistics synergies, and the improved financial management of SMEs; promoting safe transport for dangerous goods by implementing the existing ASEAN and GMS protocols based on the EU – Alternative Dispute Resolution; increasing access to finance to invest in more efficient, environmentally sound and safer technologies; and providing policy support and implementing customer awareness measures, such as standards and labelling, economic incentives, regulations and modal shift initiatives, with the latter focusing on Thailand and Vietnam.

Expected results at MSME level:

(i) fuel efficiency is improved in at least 400 MSMEs; (ii) improved transport of dangerous goods via at least 80 SMEs; (iii) increased investment in fuel efficiency and safety measures; (iv) larger SMEs initiating and continuing the process of green freight labelling and improved SCP, thus promoting incentives and regulations in the transport sector.

Total budget: EUR 2 400 000 (EU Contribution: 90 per cent).

Partnership: GIZ (leader), Mekong Institute, Greater Mekong Sub-region Business Council/Greater Mekong Sub-region Freight Transport Association.

More information is available at [SWITCH to Green website](#).

■ **A stronger focus on consumption**, recognising that the demand for sustainably produced goods and services is a key driver of the adoption of green practices by businesses. Experience shows that green business project promoters often focus on greener production practices, without sufficient consideration of consumption aspects. Partnerships with civil society can help to boost responsible consumption and the uptake of the circular economy — e.g. through campaigns and public awareness activities creating demand for better, environmentally friendly products, as experience with the SWITCH programmes has shown.

■ **Further support to partnerships and networking among EU and partner country businesses:** Promoting networking and partnerships with and within the private sector, for example among operators at different levels of supply chains, is an important element of the SWITCH programmes. Support to interaction and dialogue between private sector operators and policymakers is key to allowing best practices from businesses to feed into the development of enabling policy and regulatory frameworks. Further engagement with networks of green enterprises and business development service providers is in line with the EU External Investment Plan, notably Pillar 3, which aims at promoting reforms based on structured dialogue with the private sector. The network of green businesses established under SWITCH Africa Green can particularly contribute to the Sustainable Business for Africa (SB4A) platform that was launched at the EU-Africa Business Forum in Abidjan in November 2017.

5.4 Boosting green investments and access to finance

Support to investments in the green economy is a clear priority for EU development policy, as explicitly mentioned in the European Consensus on Development, which affirms the commitment of EU and Member States to ‘scaling-up private and public investments in the low-emission, climate-resilient green economy’, including through the European External Investment Plan. At the same time, EU’s experience supporting

green businesses in developing countries has shown that access to finance is essential for the private sector to scale up SCP practices, but it remains a major challenge, particularly for MSMEs seeking to green their practices. Since financial flows to polluting sectors or to investments based on the unsustainable use of resources remain significant and undermine the green economy transformation, there is not only a need to facilitate access to finance for green businesses, but also a need to redirect finance from investments in polluting sectors, for example through support to governments and financial institutions, or through awareness raising and advocacy.

Access to finance for greening MSMEs in developing countries is characterised by a general lack of both bankable projects and tailored financing products for MSMEs implementing SCP practices. Greener MSMEs show a tendency to focus on their core business activities and lack the time and resources to identify and prepare bankable proposals. Local financial institutions, despite being well placed to conduct client credit analysis, are not always equipped to appraise technical projects and tend to perceive green businesses as excessively risky, although there is no evidence that this is the case. Consequently, the majority of MSMEs in developing countries fail to access financing in a way that suits their needs and capacities in terms of SCP implementation. At the same time, many local finance institutions are not aware of relevant business opportunities, and, given the difficulties in appraising individual projects, do not often develop tailored financing products for this target group.

A study commissioned by SWITCH-Asia on SME access to finance for SCP in Asia⁽³⁰⁾ confirms the challenges faced by many businesses willing to integrate environmental sustainability. It concludes that funding for SCP represents only a small fraction of the total commercial lending and financial products available, and entails a premium compared to non-green finance. It confirms that there is a wide variety of structural, supply-side and demand-side barriers to SMEs’ access to green finance, such as higher perception of risk related to green projects and deficiencies in countries’

⁽³⁰⁾ SWITCH-Asia Networking Facility, ‘Enabling SME access to finance for sustainable consumption and production in Asia’, 2015.

enabling environment. It recommends capacity building and awareness, dialogue between SMEs, policy-makers and financiers, as well as government leadership, for example, to establish incentives for banks to overcome inertia and initially higher transaction costs, and to adopt national regulations, such as quotas for commercial lending to SMEs for green projects. The study also notes that credit guarantees have proven to be an effective response to a key challenge — SMEs' lack of collateral.

The EU Action Plan on Financing Sustainable Growth⁽³¹⁾, which aims at (i) reorienting capital flows towards sustainable investment; (ii) managing financial risks stemming from climate change, resource depletion, environmental degradation and social issues; and (iii) fostering transparency and long-term thinking in financial and economic activity, identifies actions that provide illustrations of possible measures that governments can adopt to promote sustainable finance (Box 5.5). This Action Plan is highly relevant in the context of international cooperation: it acknowledges that a coordinated, global effort on sustainable finance is crucial. Through it, the Commission sets a benchmark for sustainable finance policies; it 'calls on other players, including Member States, supervisors, the private sector and major non-EU countries, to take decisive action to promote and lead transformation in their respective areas'; it also provides 'a blueprint for future discussions in international fora to promote a renewed approach to managing the financial system more sustainably'.

The EIP, which supports investment in partner countries in Africa and the European Neighbourhood, aims at addressing these challenges and provides the framework for further cooperation on access to finance and green investments. This Plan is based on three pillars: (i) a new investment fund combining existing blending instruments with a new guarantee to leverage additional financing, in particular from the private sector; (ii) technical assistance to develop financially attractive and mature projects, thus helping to mobilise higher investments; (iii) a range of dedicated programmes combined with structured political dialogue targeted at improving the investment climate

and the overall policy environment in the countries concerned.

There is significant scope to promote the green and circular economy, as confirmed by the scope of the different windows of the Plan⁽³²⁾.

- The window on **MSMEs** is expected to deliver finance to, among others, 'MSMEs working in sustainable agriculture and agribusiness, circular economy, resource efficient and low-carbon climate-resilient technologies, social and digital entrepreneurs'.
- The window on **Sustainable Energy and Connectivity** aims at facilitating access to renewable and sustainable energy, which is 'fundamental in reducing poverty and foster the transformation to competitive low-carbon and climate-resilient green economies'.
- The window on **Sustainable Agriculture, Rural Entrepreneurs and Agribusiness** is based on the recognition that 'particular attention should be paid to deforestation and other land use change with an overall concern to ensure sustainability' and that 'these pressures imply that agricultural production will increasingly need to adopt sustainable and climate-smart and circular production methods which make more efficient use of resources, reduce greenhouse gases emissions and preserve soils and ecosystems'.
- The window on **Sustainable Cities** envisages priority investments as those 'falling within the municipal infrastructure sectors of sustainable urban planning and smart mobility, water, sanitation, waste management, renewable energy services and energy efficiency, resilient infrastructure and buildings'.

Experience with the EU blending facilities provides useful lessons for the planning of new actions. Several projects funded under the facilities target highly relevant issues for the green economy transition, such

⁽³¹⁾ European Commission, 'Action Plan: Financing Sustainable Growth', communication, 2018.

⁽³²⁾ The description of the EIP windows is available online in European Commission, 'EFSD Operational Boards Meeting - 7 November 2017'.

BOX 5.5 Selection of initiatives included in the EU Action Plan: Financing Sustainable Growth

1. Establishing an EU classification system for sustainability activities

- Subject to the results of its impact assessment, Commission legislative proposal on the development of an EU taxonomy for climate change, and environmentally and socially sustainable activities
- Reports of the Commission technical expert group providing a taxonomy for climate change mitigation activities, for climate change adaptation and other environmental activities

2. Creating standards and labels for green financial products

- Report of the Commission technical expert group on a standard for green bonds
- Commission delegated act on the content of the prospectus for green bond issuances
- Assessment of applying the EU Ecolabel to financial products

3. Fostering investment in sustainable projects

- Measures that will improve the efficiency and impact of instruments aiming at sustainable investment support in the EU and in partner countries.

4. Incorporating sustainability when providing investment advice

- Subject to the results of its impact assessment, Commission delegated acts on the suitability assessment
- European Securities and Markets Authority (ESMA) to include sustainability preferences as part of its guidelines on the suitability assessment

5. Developing sustainability benchmarks

- Commission delegated acts on the transparency of the methodology of benchmarks and on the features of the benchmarks
- Subject to the results of its impact assessment, an initiative creating a designated category of benchmarks comprising low-carbon issuers

6. Better integrating sustainability in ratings and research

- Commission services report on progress made on the actions involving credit rating agencies
- ESMA to assess current practices in the credit rating market; ESMA to include environmental, social and governance information in its guidelines on disclosure for credit rating agencies
- Study on sustainability ratings and research

7. Clarifying institutional investors and asset managers' duties

- Subject to the results of its impact assessment, Commission legislative proposal to clarify institutional investors' and asset managers' duties on sustainability and to increase transparency of end-investors, including transparency on their strategy and climate-related exposures

8. Incorporating sustainability in prudential requirements

- Work towards incorporating climate risks into institutions' risk management policies
- Assess the impact of prudential rules for insurance companies on sustainable investment

9. Strengthening sustainability disclosure and accounting rule-making

- Revision of the guidelines on non-financial information as regards climate-related information
- Subject to the result of its impact assessment, proposal requiring asset managers and institutional investors to disclose how they consider sustainability factors in their investment decisionmaking process
- Establishing a European Corporate Reporting Lab as part of European Financial Reporting Advisory Group (EFRAG)
- Commission to systematically ask EFRAG to assess in its endorsement advice the potential impact of new or revised International Financial Reporting Standards (IFRS) on sustainable investments
- Commission request EFRAG to explore sound alternative accounting treatments to fair-value measurements for long-term investment portfolios of equity and equity-type instruments

10. Fostering sustainable corporate governance and attenuating short-term thinking in capital markets

- Assessment of possible ways to promote corporate governance environment that is more conducive to sustainable finance
- European supervisory authorities to collect evidence of undue short-term pressure from capital markets on corporations and consider further steps based on such evidence

as access to finance by businesses willing to become more efficient and to adopt greener behaviour, and provide examples of possible actions that may be further supported (Box 5.6). Overall, funding of projects contributing to the green economy under EU blending facilities in the past years has been significant, but most of these projects have been in the energy sector. A significant number of projects have targeted the private sector, but only a small number have been categorised as environmental projects, including few projects in areas such as biodiversity, forestry or circular economy.

Outside the EU context, it is important to note that various Development Finance Institutions such as the African Development Bank or the Asian Development Bank have also demonstrated their interest in the green economy by actively engaging in green financing schemes, with actions towards both mobilising funds and building the relevant capacity of local finance institutions and other stakeholders. The 2017 UN Environment Inquiry report⁽³³⁾ confirms

⁽³³⁾ UN Environment, *Green Finance Progress Report*, July 2017.

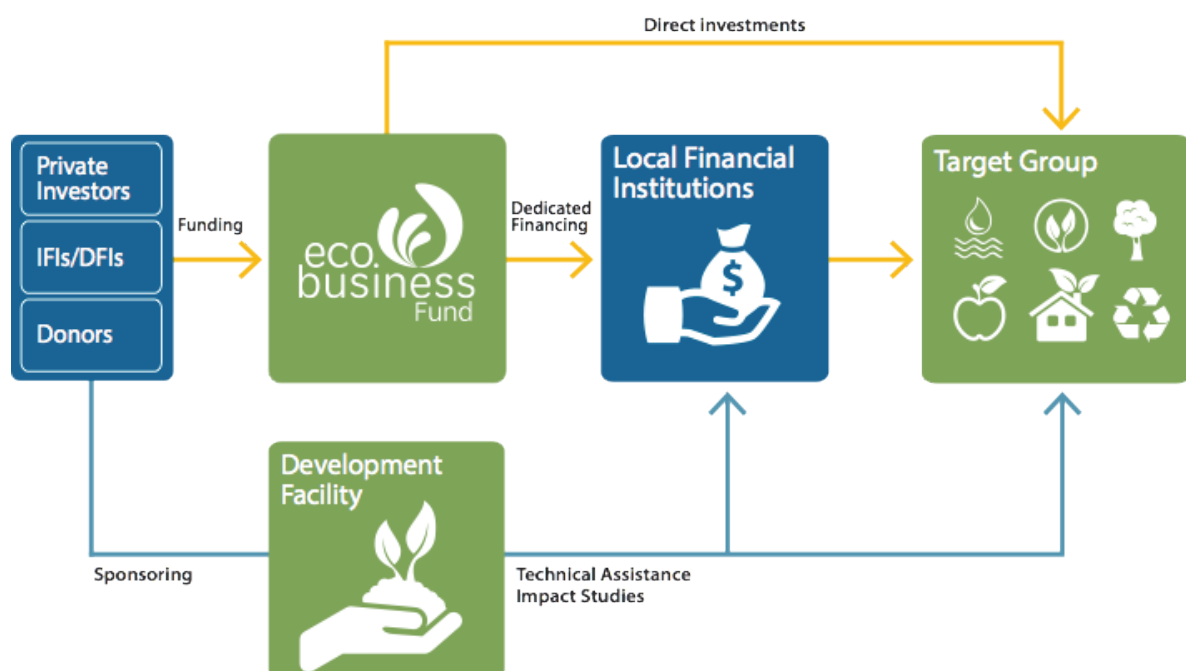
BOX 5.6 Eco Business Fund for Latin America

The Eco Business Fund aims at promoting business and consumption practices that contribute to biodiversity conservation and the sustainable use of natural resources in Latin America. It was initiated by Germany's leading development bank, KfW, Conservation International and Finance in Motion. The Fund provides financing both via direct investments and indirectly via local Partner Finance Institutions.

Investment activities are combined with a strong component of technical assistance (Development Facility), for both the Partner Finance Institutions and their clients, to address the challenge of absorptive capacity in the emerging green markets. The Fund started its activities in Latin America, with an initial focus on some mega-biodiverse countries (Colombia, Ecuador, Peru and Central America). Investments concentrate

in the areas of sustainable agriculture, forestry, fisheries and aquaculture and tourism. EU support has been provided to the Eco Business Fund through the Latin America Investment Facility which contributes to the Fund with junior shares and Technical Assistance.

More details can be found at the Eco Business Fund [website](#).



that ‘momentum is growing in mainstreaming green finance into the architecture and practice of financial and capital markets’, leading in ‘an increased mobilization of green finance’, due to measures such as the provision of policy signals and guidance frameworks, the promotion of voluntary principles for green finance, the expansion of green finance

knowledge and capacity building networks, support in the development of local green bond markets, the facilitation of cross-border investment in green bonds, the facilitation of knowledge sharing on environmental and financial risk management, and the improved measurement of green finance activities and their impact.

ANNEXES

ANNEX 1

SWITCH to Green: EU's flagship initiative on the inclusive green economy

The communication on the role of the private sector in achieving inclusive and sustainable growth in developing countries⁽¹⁾ committed the EU to implement the SWITCH to Green initiative to promote eco-entrepreneurship and green job creation. The 2014–2020 Programme of the Global Public Goods and Challenges (GPGC) programme also announced the initiative, together with other flagship programmes meant to support multi-regional and/or cross-cutting actions, build alliances of relevant stakeholders, create or support existing innovative partnerships and initiatives to promote the transformation towards a green economy, and to deliver greater impact, effective management and EU visibility.

Providing recommendations going in the same direction, the thematic evaluation of the EU support to environment and climate change in third countries for the 2007–2013 period highlighted the need for a strengthening of the links between macro-level initiatives — such as the PAGE — and micro-level interventions — such as the green business component of the SWITCH programmes — in order to reinforce the

synergies and create stronger enabling environments for green economies.

The SWITCH to Green flagship initiative aims at addressing these ambitions and recommendations, and improving the overall coherence, coordination and visibility of the EU's overall support to the green economy transition. It puts relevant EU-supported initiatives, such as the SWITCH programmes in Asia, the Mediterranean and Africa, PAGE, the Green Economy Coalition, and the One Planet Network/10 Year Framework of Programmes on SCP, under the same umbrella (see Table A1.1 for a list of relevant initiatives).

The thematic priorities of SWITCH to Green initiative and its projects reflect those presented in Chapter 5, i.e. [enabling frameworks](#), [green business development](#) and [green investments/access to finance](#).

To make the flagship operational, a number of activities have been launched over the past years, including quality support for project identification and formulation, dialogue and exchange of experiences, as well as knowledge creation and dissemination. Resources have been allocated to the [SWITCH to Green facility](#) to support this endeavour. The table provides an overview of these activities:

⁽¹⁾ European Commission, Communication from the Commission 'A Stronger Role of the Private Sector in Achieving Inclusive and Sustainable Growth in Developing Countries', communication, 2014.

TABLE A1.1 SWITCH to Green support activities

AREAS OF ACTION	SPECIFIC ACTIVITIES
Coordination	Organisation of annual coordination meetings among the main EU-funded initiatives on the green economy, complementing regional and national dialogue and networking forums organised by the SWITCH programmes
	Organisation of joint events among SWITCH and other EU green economy programmes (e.g. on the occasion of the European Development Days and other EU or global events)
	Development of programme information tools (e.g. interactive map of projects supported by the SWITCH programmes)
Quality support	Support to identification and formulation of green economy actions (through on-demand provision of short-term expertise and through the screening of Action Documents)
	Development of a results chain for EU international cooperation on the green economy (see Chapter 5) articulating programme priorities in line with EU policy and building on previous experience
	Development of tools for improved impact monitoring and documentation (e.g. set of indicators — see Annex 2 , impact sheets on green business development)
Knowledge development and management	Organisation of a strategic evaluation on EU international cooperation on SCP (see Chapter 4)
	Production of fact sheets highlighting lessons learnt and the international dimension of selected EU policies and programmes (EU CEAP etc.) to promote best practices and synergies with EU international cooperation on the green economy
Capacity building	Development of green economy training modules and delivery of on-demand tailored trainings for EU staff and development partners at the Commission's offices in Brussels and in partner countries
Communication visibility	Development of a SWITCH to Green communication and knowledge management strategy and visual identity, guiding the production of knowledge and communication products
	Planning and delivery of (e-)publications, including the jointly developed Green Development News , quarterly published on Cap4Dev



ANNEX 2



Guidance on inclusive green economy indicators

This guidance recommends indicators corresponding to the outputs, outcomes and impacts presented in the green economy results chain in [Chapter 5](#). These indicators are intended to help design interventions, improve monitoring and evaluation, and facilitate the






aggregation and reporting of results achieved. To the greatest extent possible, these indicators have been harmonised with indicators used under other relevant frameworks, such as the SDG indicators and those used by 10YFP on SCP.

IMPACT/OUTCOME/OUTPUT	INDICATOR(S)	UNIT	ADDITIONAL INFORMATION	DATA SOURCE(S)
IMPACT: Decoupling of economic growth from environmental degradation	Material Footprint (MF) per unit of value added avoided or reduced	t/\$	<p>Indicator of resource use measuring the global allocation of extracted raw material that is used to support the final demand of an economy.</p> <p>Calculated as raw material equivalent of imports plus domestic extraction minus raw material equivalents of exports.</p> <p>When divided by gross domestic product (GDP) (and measured over time) it provides an indication of how efficient that country is in using resources to generate economic outputs.</p> <p>Can be calculated at country level or by sector.</p>	<p>Multiple sources including UN Environment Live platform, EUROSTAT, UN Environment Office for Asia and the Pacific and OECD exist at country-level</p> <p>Consolidated data available from Weidman et al., 'The material footprint of nations' on the Proceedings of the National Academy of Sciences website</p> <p>Data on the MF avoided may be calculated at the project/programme level</p>
	Increase in water productivity	\$/m ³	<p>Provides a measure of the efficiency that a country's economy (as a whole or by sector) has in using freshwater for production activities (thus indirectly measures the amount of water use reduced or avoided per unit of value added).</p> <p>Measured as GDP (usually in constant USD prices) divided by annual total freshwater withdrawal (measured in cubic meters per year).</p>	<p>World Bank WDI (World Development Indicators) provides country-level data using FAO Aquastat data on water use and GDP data from the World Bank's national accounts files</p> <p>See World Development Indicators Table 3.5 and the Aquastat database</p>
	CO ₂ emission per unit of value added avoided or reduced	t CO ₂ /\$	<p>CO₂ emission per unit of value added is a ratio indicator between the carbon emissions and the value added of an economy (or a given sector).</p> <p>Carbon emission per unit of value added is a universal indicator for measuring the impact of industrial production on environment. It captures the intensity of energy use, energy efficiency of production technology and the use of fossil fuels. According to the UNIDO definition used for SDG indicator 9.4.1, carbon emission is estimated from the data on energy consumption.</p> <p>Can be calculated at country level or by sector.</p>	<p>WB (World Development Indicators) reports country level data (derived from original data sources from IEA and UNIDO)</p> <p>See World Development Indicators CO₂ emissions by country and UN data on CO₂ emissions</p> <p>Data on the emissions avoided may be calculated at the project/programme level</p>
	Waste generated (per capita or sector or MSMEs) and treated by type of waste and treatment type	kg per capita per year	<p>Measures the amount of waste (hazardous and non-hazardous, but excluding radioactive waste) generated per capita (in kg per capita per year), sector (NACE classification) or MSMEs, including waste from waste treatment.</p> <p>It is a key indicator to provide indication of end-of-pipe sustainability of human production activities. It includes SDG indicator 12.4.2 'Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment'</p>	<p>Country level data available from EUROSTAT and OECD.</p> <p>Data at the MSME level may be measured at project/programme level</p>
	Contribution of targeted sectors/sub-sectors to GDP	Percentage	<p>Share, in %, of a country's GDP accounted for by a specific sector or sub-sector of the economy for a given accounting year.</p> <p>As GDP represents the sum of value added by all its producers, this indicator is also referred to as value added by sector (% of GDP)</p>	<p>World Bank provides results by ISIC sections: Agriculture (ISIC sectors 1–5), Industry (ISIC sectors 10–14 plus 40–45), Manufacturing (ISIC sectors 15–37) and Services (50–99); see World Development Indicators Table 4.2#</p> <p>Detailed sector-specific data may be provided by national statistical offices</p>

IMPACT/OUTCOME/OUTPUT	INDICATOR(S)	UNIT	ADDITIONAL INFORMATION	DATA SOURCE(S)
IMPACT: Human well-being	Employment rate by gender in the targeted sectors	Percentage	Measures the number of people employed, disaggregated by sex and age — as share of the total employment in a country's economy and/or in the sector(s) targeted by projects/programmes. Employed people are people of working age who, during the reference period, were in the following categories: a) paid employment (whether at work or with a job but not at work); or b) self-employment (whether at work or with an enterprise but not at work).	ILO provides aggregated data for world countries; see ILOSTAT . More detailed data might be available from national statistical offices
	Mean nominal monthly earnings of workers of MSMEs supported by gender	Local currency	The concept of earnings, as applied in wages statistics, relates to gross remuneration. Earnings exclude employers' contributions in respect of their employees paid to social security and pension schemes as well as the benefits received by employees under these schemes. Earnings also exclude severance and termination pay.	See ILOSTAT, Mean nominal monthly earnings of employees by sex and economic activity
	Net additional income of workers of MSMEs supported by gender	EUR or USD	Change in net income of direct and indirect beneficiaries as a result of a project intervention between two points in time (i.e., two distinct years). For a firm, net income is defined as gross sales minus cost of sales, including cost of goods sold. For an individual, net income includes total wages/salaries or profit from self-employment.	Project M&E system (a global database for this indicator does not exist; data has to be calculated at project/programme level)
 OUTCOME: Enabling frameworks for green economy in place in target countries (i.e. ensuring coherence between economic and environmental policies across relevant areas such as the business environment, finance and investments, employment)	Number of green economy policy instruments adopted/implemented	Number of policy instruments	Measures the number of new or existing policy instruments (economic tools, regulations, etc.) that were adopted/implemented due to direct interventions by the project. Policy instruments should aim at promoting the green economy.	Project M&E system (to be measured at the project/programme level)
	SPP/GPP as a percentage of total public procurement by sector	Percentage	Measures the share of a country's total national public procurement spending that is governed by Sustainable Public Procurement (SPP) and/or Green Public Procurement (GPP) policies (measured by monetary value). This is a key indicator to track enabling conditions in the public sector to favour SCP actions.	Project M&E system (data should be available from national governments; sectoral level data might have to be measured at project/programme level)
 OUTPUT: Improved awareness and capacities of policymakers and stakeholders on green economy issues	Number of green economy policy related events organised by the project	Number of events		Project M&E system
	Number of green economy knowledge products and tools developed with project support	Number of knowledge products/tools	'Number' refers to 'types' of knowledge products/tools as opposed to 'copies' of the same product/tool, e.g. if 300 copies of a book or manual have been printed by the project, then the indicator should take the value of 1 (rather than 300).	Project M&E system
	Number of actors whose awareness/abilities on green economy issues have been raised by the project (disaggregated by sex)	Number of actors	The term 'actors' refers to organisations.	Project M&E system (pre- and post-training or event assessment)

IMPACT/OUTCOME/OUTPUT	INDICATOR(S)	UNIT	ADDITIONAL INFORMATION	DATA SOURCE(S)
 <p>OUTPUT: Improved institutional coordination on economic, business and environmental policies</p>	Number of institutional coordination mechanisms on the green economy established with project support and number of actors engaged in these mechanisms (disaggregated by sex)	Number of mechanisms/actors engaged	The term 'actors' refers to organisations.	Project M&E system
 <p>OUTPUT: Improved stakeholder participation in green economy policy development</p>	Number of dialogue mechanisms on the green economy supported by the project and number of actors attending them	Number of dialogue mechanisms/actors attending		Project M&E system
	Number of policy inputs (e.g. position papers) produced by stakeholders on green economy policies	Number of policy inputs		Project M&E system
 <p>OUTCOME: Uptake of SCP practices by MSMEs supported</p>	Number of MSMEs reporting the adoption of SCP practices	Number of MSMEs	Number of MSMEs receiving support by an EU programme or project that have adopted SCP practices (resource efficient practices, green procurement, green product design, etc.) in their operations.	Project M&E system
	Number of MSMEs that obtain firm-specific sustainability standards certification	Number of MSMEs	Measures the number of MSMEs in a particular value chain intervention that meet agreed sustainability standards and obtain formal certification in sustainability practices. These can be at the national or international level (e.g., ISO, organic, fair-trade, FSC). This is a Donor Committee on Enterprise Development (DCEd) standard indicator. Further details available at DCEd, ' Evidence framework '.	Project M&E system
 <p>OUTCOME: Improved business performance of MSMEs supported</p>	Number of full-time (equivalent) green jobs sustained/created	Number of jobs	Measures the number of (green) jobs sustained/created in the sector, value chain or company targeted by the intervention at the end of the intervention period, converted to full-time equivalent. This includes individuals employed by target companies (direct jobs) as well as jobs indirectly related to the intervention (impact on indirect beneficiaries). This is based on a DCEd standard indicator. Further details available at DCEd, ' Evidence framework '.	Project M&E system
	Number of MSMEs reporting increased turnover as a direct result of support received	Number of MSMEs	Measures the number of MSMEs receiving direct assistance from an EU programme or project that have increased the volume of their turnover.	Project M&E system
	Amount of savings generated from improved resource (material, energy, water) efficiency	EUR or USD	Compared to the pre-intervention baseline, this indicator measures direct changes in the energy, water and material resources' costs incurred by MSMEs as a result of project/programme interventions. This indicator provides an indication of the extent to which implementing SCP practices contributes to sustainable economic development.	Project M&E system

IMPACT/OUTCOME/ OUTPUT	INDICATOR(S)	UNIT	ADDITIONAL INFORMATION	DATA SOURCE(S)
 OUTCOME: Increased market demand for environmental goods and services	Percentage of sales of certified products of total sales by MSME	Percentage	Measures the total amount of sales for certified products divided by total sales of all products sold by an entity. Data can relate to either specific firms targeted in the intervention or to the market share of certified products in a targeted value chain.	Project M&E system
 OUTPUT: Improved capacities of Business Development Services (BDS) to promote SCP practices by MSMEs	Number of BDS providers and MSMEs supported	Number of BDS providers/MSMEs		Project M&E system
	Number of SCP scaling-up mechanisms established (e.g. technical tools, voluntary agreements, codes of conducts, standards and labels)	Number of scaling-up mechanisms		Project M&E system
	Number of sectors/supply chains where SCP has been supported	Number of sectors/supply chains		Project M&E system
 OUTPUT: Increased networking among green businesses	Number of networking events organised by the project and number of actors attending them	Number of events/actors	The term 'actors' refers to organisations.	Project M&E system
 OUTPUT: Improved capacities of workers in green sectors	Number of individuals (students, MSMEs staff) trained by the project on SCP practices, disaggregated by sex	Number of individuals		Project M&E system
	Number of training schemes/programmes developed	Number of training schemes/programmes		Project M&E system
 OUTPUT: Improved awareness of consumers on the impact of the products they buy	Number of consumer awareness activities (e.g. campaigns) run with project support	Number of campaigns		Project M&E system
	Number of green procurement tools created with project support	Number of tools		Project M&E system

IMPACT/OUTCOME/OUTPUT	INDICATOR(S)	UNIT	ADDITIONAL INFORMATION	DATA SOURCE(S)
 OUTCOME: Improved access to finance for green MSMEs	Number of MSMEs that obtain financial services	Number of MSMEs	Measures the total number of beneficiaries — MSMEs — applying for AND obtaining financial services of any type as a result of an intervention. Financial services can include loans and other forms of credit, savings/deposit accounts, transfers, or insurance products. This is a DCED standard indicator. Further details available at DCED, 'Evidence framework'.	Project M&E system
	Number and amount of outstanding loans to MSMEs	Number of loans/currency	Measures the number and total amount of outstanding loans that have been provided to MSMEs, by examining the number and amount of outstanding loans in the portfolio of relevant financial intermediaries at the end of their fiscal year and the number and annual volume of new loans disbursed/made during the year. This is based on a DCED standard indicator. Further details available at DCED, 'Evidence framework'.	Project M&E system
 OUTCOME: Increased investments in green sectors	Amount of green investments in targeted sectors	Currency	Measures the amount of money invested in green projects by MSMEs or other investors, as a result of project/programme interventions at the end of the intervention period. This indicator is related to the above indicator 'Amount of savings generated from reduced energy and material consumption by targeted MSMEs' as well as to the impact indicators 'Material Footprint (MF) per unit of value added avoided or reduced (t/\$)' and 'CO ₂ emission per unit of value added avoided or reduced (t CO ₂ /\$)'.	Project M&E system
 OUTPUT: Improved capacities of financial institutions to assess green projects	Number of relevant actors (e.g. financial institutions and their staff) whose awareness/abilities have been raised with project support	Number of actors		Project M&E system — surveys at the beginning and end of the project
	Number of relevant knowledge products and tools developed with project support	Number of knowledge products/tools		Project M&E system
 OUTPUT: Increased availability of green financial products and services for MSMEs	Number of green financial schemes established/supported by the project	Number of financial schemes		Project M&E system
 OUTPUT: Improved capacities of green businesses to develop bankable projects	Number of MSMEs/staff trained by the project in access to finance (disaggregated by sex)	Number of MSMEs/staff		Project M&E system
	Number of business plans for SCP investments elaborated with project support	Number of business plans		Project M&E system

ANNEX 3

Key messages on the links between the inclusive green economy and key sectors









In its 2011 report ‘Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication’⁽¹⁾, UN Environment links the green economy transition with key sectors derived from both the natural and the built environments, and discusses related accelerators like financing, enabling conditions and modelling global green investment scenarios. The report highlights trends that characterise the process of greening the economy, including ‘increasing human well-being and social equity, and reducing environmental risks and ecological scarcities’, and ‘(generating) consistent and positive outcomes for increased wealth, growth in economic output, decent employment and reduced poverty’.

The report formulates key messages on the links between the green economy and the following key sectors, which are summarised below⁽²⁾:

Investing in natural capital

-  Agriculture
-  Fisheries
-  Water
-  Forests

Investing in energy and resource efficiency

-  Renewable energy
-  Manufacturing
-  Waste
-  Buildings
-  Tourism
-  Transport
-  Cities
-  Finance

⁽¹⁾ UN Environment, 2011, ‘Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication’.

⁽²⁾ The report also highlights key messages related to enabling conditions and to modelling global green investment scenarios.



AGRICULTURE

1. Feeding an expanding and more demanding world population in the first half of this century, while attending to the needs of nearly 1 billion people who are presently undernourished and addressing climate change, will require managed transitions away from ‘business-as-usual’ (BAU) in both conventional and traditional farming. In different ways and in varying degrees, current farming systems deplete natural capital and produce significant quantities of global greenhouse gases (GHG) and other pollutants, which disproportionately affect the poor. The economic cost of agricultural externalities amounts to billions of US dollars per year and is still increasing. A package of investments and policy reforms aimed at greening agriculture will offer opportunities to diversify economies, reduce poverty through increased yields and the creation of new and more productive green jobs — especially in rural areas, ensure food security on a sustainable basis, and significantly reduce the environmental and economic costs associated with today’s industrial farming practices.

2. Green agriculture is capable of nourishing a growing and more demanding world population at higher nutritional levels up to 2050. During the transition to a greener agriculture, food production in high-input industrial farming may experience a modest decline, while triggering significant positive responses in more traditional systems run by small farmers in the developing world, and producing the majority of staple crops needed to feed the world population. Public, private and civil initiatives for food production and social equity will be needed for an efficient transition at farm level, and to assure sufficient quality nutrition for all during this period.

3. Green agriculture will reduce poverty ... and environmental degradation ... by increasing farm yields and return on labour, while improving ecosystem services (on which the poor depend most directly for their food and livelihoods). For example, estimates suggest that for every 10 per cent increase in farm yields, there has been a 7 per cent reduction in poverty in Africa, and more than 5 per cent in Asia. Evidence shows that the application of green farming practices has increased yields, especially on small farms, by between 54 and 179 per cent.

4. Reducing waste and inefficiency is an important part of the green agriculture paradigm. Crop losses due to pests and hazards, combined with food waste in storage, distribution, marketing and at the household level, account for nearly 50 per cent of the human edible calories that are produced. The Food and Agriculture Organization of the United Nations (FAO) suggests that a 50 per cent reduction of losses and wastage in the production and consumption chain is a necessary and achievable goal. Addressing some of these inefficiencies — especially crop and storage losses — offers opportunities that require small investments in simple farm and storage technology on small farms, where it makes the most material difference to smallholder farmers.



AGRICULTURE *(continued)*

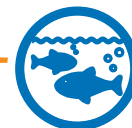
5. Greening agriculture requires investment, research and capacity building ... in the following key areas: soil fertility management, water use, crop and livestock diversification, biological plant and animal health management, mechanisation, storage facilities especially for small farms and building upstream and downstream supply chains for businesses and trade.

Capacity building efforts include expanding green agricultural extension services and facilitating improved market access for smallholder farmers and cooperatives. The aggregate global cost of investments and policy interventions required for the transition towards green agriculture is estimated to be USD 198 billion per year from 2011 to 2050. The value added in agricultural production increases by 9 per cent, compared with the projected BAU scenario. Studies suggest that 'Return on investments (ROI) in agricultural knowledge, science and technology across commodities, countries and regions on average are high (40–50 per cent) and have not declined over time. They are higher than the rate at which most governments can borrow money'. In terms of social gains, the Asian Development Bank Institute concluded that the investment needed to move a household out of poverty, in parts of Asia, through engaging farmers in organic agriculture, could be as little as USD 32 to USD 38 per capita.

6. Green agriculture has the potential to be a net creator of jobs that provides higher return on labour inputs than conventional agriculture. Additionally, facilities for ensuring food safety and higher quality of food processing in rural areas are projected to create new better quality jobs in the food production chain. Modelled scenarios suggest that investments aimed at greening agriculture could create 47 million additional jobs in the next 40 years, compared with the BAU scenario.

7. A transition to green agriculture has significant environmental benefits. Green agriculture has the potential to: rebuild natural capital by restoring and maintaining soil fertility; reduce soil erosion and inorganic agrochemical pollution; increase water-use efficiency; decrease deforestation, biodiversity loss and other land use impacts; and significantly reduce agricultural GHG emissions.

8. Green agriculture will also require national and international policy reforms and innovations. Such policy changes should focus particularly on reforming environmentally harmful subsidies that artificially lower the costs of some agricultural inputs and lead to their inefficient and excessive use. In addition, they should promote policy measures that reward farmers for using environmentally friendly agricultural inputs and farming practices and creating positive externalities such as improved ecosystem services. Changes in trade policies that increase the access of green agricultural exports, originating in developing countries, to markets in high-income countries, are also required, along with reforms of trade distorting production and export subsidies. These will facilitate greater participation by smallholder farmers, cooperatives and local food processing enterprises in food production value chains.



FISHERIES

1. The world's marine fisheries are socially and economically vital, providing animal protein and supporting food security to over 1 billion people.

An estimated half of these people live in close proximity to coral reefs, relying on them not just for fish, but also for their livelihoods — from small-scale fishing to tourism. Currently, the world's fisheries deliver annual profits of about USD 8 billion to fishing enterprises worldwide and support 170 million jobs, directly and indirectly, providing some USD 35 billion in household income a year. When the total direct, indirect and induced economic effects arising from marine fish populations in the world economy are accounted for, the contribution of the sector to global economic output amounts to some USD 235 billion per year.

2. Global marine fisheries are currently underperforming in both economic and social terms.

Society at large receives negative USD 26 billion a year from fishing, when the total cost of fishing (USD 90 billion) and non-fuel subsidies (USD 21 billion) are deducted from the total revenues of USD 85 billion that fishing generates. This negative USD 26 billion corresponds roughly to the estimated USD 27 billion in subsidies a year (including USD 21 billion in non-fuel subsidies), the latter of which contributes directly to overfishing and the depletion of fish stocks.

3. Investing to achieve sustainable levels of fishing will secure a vital stream of income in the long run.

Greening the sector requires reorienting public spending to strengthen fisheries management, and finance a reduction of excess capacity through de-commissioning vessels and equitably relocating employment in the short-term. Thus, measures to green the sector will contribute to replenishing overfished and depleted fish stocks. The present value of benefits from greening the fishing sector is about 3 to 5 times the necessary additional costs. In a scenario of larger and deeper spending of 0.1 to 0.16 per cent of GDP over the period 2010–2050, to reduce the vessel fleet, relocate employment and better manage stocks to increase catch in the medium and longer term, 27 to 59 per cent higher employment would be achieved, relative to the baseline, by 2050. In this same scenario, around 70 per cent of the amount of fish resources in 1970 would be available by 2050 (between 50 and 90 million tonnes per year), against a mere 30 per cent under a BAU scenario, where no additional stock management activities are assumed.

4. Greening the fisheries sector would increase resource rent from global fisheries dramatically.

Results outlined in this chapter indicate that greening world fisheries could increase resource rents from negative USD 26 to positive USD 45 billion a year. In such a scenario, the total value added to the global economy from fishing is estimated at USD 67 billion a year. Even without accounting for the potential boost to recreational fisheries, multiplier and non-market values that are likely to be realised, the potential benefits of greening fisheries are at least four times the cost of required investment.

5. A number of management tools and funding sources are available that can be used to move the world's fisheries sector from its current underperforming state to a green sector that delivers higher benefits.

Aside from removing environmentally harmful subsidies, a range of additional policy and regulatory measures can be adopted to restore the global potential of fisheries. Economic studies generally demonstrate that marine protected areas (MPAs), for example, can be beneficial under specific conditions as an investment in the reproductive capacity of fish stocks. Currently, MPAs comprise less than 1 per cent of the world's oceans.



WATER

1. Water, a basic necessity for sustaining life, goes undelivered to many of the world's poor.

Nearly 1 billion people lack access to clean drinking water; 2.6 billion lack access to improved sanitation services; and 1.4 million children under five die every year as a result of lack of access to clean water and adequate sanitation services.

2. The existing inadequacies in the provision of water and sanitation services generate considerable social costs and economic inefficiencies.

When people do not have access to water, either large amounts of their disposable income have to be spent on purchasing water from vendors or large amounts of time, in particular from women and children, have to be devoted to carting it. This erodes the capacity of the poor to engage in other activities. When sanitation services are inadequate, the costs of water-borne disease are high. Cambodia, Indonesia, the Philippines and Vietnam, for instance, together lose about USD 9 billion a year because of poor sanitation — or approximately 2 per cent of combined GDP. Access to reliable, clean water and adequate sanitation services for all is a foundation of a green economy.

3. Continuing current practices will lead to a massive and unsustainable gap between global supply and demand for water withdrawal.

This is exacerbated by failure to collect and treat used water to enable subsequent uses. With no improvement in the efficiency of water use, water demand is projected to overshoot supply by 40 per cent in 20 years time. Historical levels of improvement in water productivity, as well as increases in supply (such as through the construction of dams and desalination plants as well as increased recycling) are expected to address 40 per cent of this gap, but the remaining 60 per cent needs to come from investment in infrastructure, water-policy reform and in the development of new technology. The failure of such investment or policy reform to materialise will lead to the deepening of water crises.

4. The availability of an adequate quantity of water, of sufficient quality, is a service provided by ecosystems.

The management of, and investment in, ecosystems is therefore essential to address water security for both people and ecosystems in terms of water scarcity, the over-abundance of water (flood risk) and its quality.

5. Accelerated investment in water-dependent ecosystems, in water infrastructure and in water management can be expected to expedite the transition to a green economy.

With an annual investment of USD 198 billion on average over the next 40 years, water use can be made more efficient, enabling increased agricultural, biofuel and industrial production. By 2030, the number of people living in a water-stressed region is 4 per cent less than under BAU and up to 7 per cent less by 2050.

6. When investment is coupled with improvements in institutional arrangements, entitlement and allocation system, the expansion of Payments for Ecosystem Services (PES), and the improvement of water charging and finance arrangements, the amount that needs to be invested in water can be reduced significantly.

Moreover, a significant proportion of water management policies and measures in other sectors such as input subsidies are undermining opportunities to improve water management. Resolving global water supply problems is heavily dependent upon the degree to which agricultural water use can be improved. Irrigated land produces 40 per cent of the world's food and, as populations grow, a significant proportion of this water will need to be transferred to urban, commercial and industrial uses.



FORESTS

1. Forests are a foundation of the green economy, sustaining a wide range of sectors and livelihoods. Forest goods and services support the economic livelihoods of over 1 billion people, most of whom are in developing countries and are poor. Public goods derived from forest ecosystems have substantial economic value estimated in the trillions of dollars. Forests sustain more than 50 per cent of terrestrial species, regulate the global climate through carbon storage and protect watersheds. The products of forest industries are valuable, not least because they are renewable, recyclable and biodegradable.

2. Short-term liquidation of forest assets for limited private gains threatens this foundation and needs to be halted. Deforestation, although showing signs of decline, is still alarmingly high at 13 million hectares per year. Although net forest area loss amounts to five million hectares per year, this is a result of new plantations that provide fewer ecosystem services than natural forests. High rates of deforestation and forest degradation are driven by demand for wood products and pressure from other land uses, in particular cash crops and cattle ranching. This 'frontier' approach to natural resources — as opposed to an investment approach — means that valuable forest ecosystem services and economic opportunities are being lost. Stopping deforestation can therefore be a good investment: ... the global climate regulation benefits of reducing deforestation by 50 per cent exceed the costs by a factor of three.

3. International and national negotiations of a REDD+ regime may be the best opportunity to protect forests and ensure their contribution to a green economy. Such a regime promises to tip the finance and governance balance in favour of longer-term sustainable forest management (SFM)⁽¹⁾ — which would be a real breakthrough where the viability of SFM has been elusive in many countries. Management for forest public goods would then open up the prospect of new types of forest related jobs, livelihoods and revenues — where local people can be guardians of forests and forest ecosystem services. It will require REDD+ standards as well as effective systems for local control of forests, and transfer of revenue, to ensure these livelihood benefits are realised.

⁽¹⁾ Sustainable forest management may be defined as 'the stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfil, now and in the future, relevant ecological, economic and social functions, at local, national, and global levels, and that does not cause damage to other ecosystems' (FAO 2005, State of the world's forests).



FORESTS (continued)

4. Tried and tested economic mechanisms and markets exist which can be replicated and scaled up. There are enough existing glimpses of green economy forestry to warrant more serious policy attention, including certified timber schemes, certification for rainforest products, payments for ecosystem services, benefit-sharing schemes and community based partnerships. They need to be catalogued, assessed for the ecosystem services they offer, promoted widely and scaled up.

5. Investments in natural forests and plantations can deliver economic benefits. Modelling for the Green Economy Report suggests that an investment of just USD 40 billion per year over 2010 to 2050 in reforestation and paying landholders to conserve forests could raise value added in the forest industry by 20 per cent, compared to BAU. In addition, it could increase carbon stored in forests by 28 per cent, compared with BAU. Provided investments are also made in sustainable productivity-enhancing improvements in agriculture, this expansion in forest plantations need not threaten food production. However, tree planting would have to be carefully targeted to ensure that it does not displace poor farmers, who have ill-defined tenure; tree planting should also provide another livelihood option in rural areas.

6. Legal and governance changes are needed to tip the balance towards sustainable forestry, which is not yet at scale, and away from unsustainable practice, which is entrenched in both the forest sector and competing sectors. Well-managed forests are the cornerstone of ecological infrastructure; as such, they need to be recognised as an ‘asset class’ to be optimised for its returns, ... largely public goods and services, such as carbon storage, biodiversity and water conservation and need to be better reflected in national accounting systems. Private forest goods can also have significant economic and social benefits if sustainably produced. Yet, expansion of SFM and green investment face competition from unsustainable and illegally sourced wood and fibre products, as well as policy biases towards competing land uses e.g. pasture, agriculture and mining. Both carrots (support for skills training, independent verification of SFM and preferential government procurement) and sticks (tightening up laws and enforcement against illegal logging and marketing) are needed. Also necessary is a revision of policies favouring other sectors, which can erode forest benefits, notably the costs and benefits of agricultural subsidies.



RENEWABLE ENERGY

1. Investments in renewable energy have grown considerably with major emerging economies taking the lead. The growth is increasingly taking place in non-OECD countries, especially the large emerging economies of Brazil, China and India.

2. Renewable energy can make a major contribution to the twin challenges of responding to a growing global demand for energy services, while reducing the negative impacts associated with current production and use. Investments in renewable energy are making a growing contribution towards mitigating climate change, but to stay below a 2°C increase in average global temperature, these developments need to be significantly enhanced. Renewable energy has other social and environmental benefits, including mitigating or avoiding many health problems and impacts on ecosystems caused by the extraction, transportation, processing and use of fossil fuels.

3. Renewable energy can help enhance energy security at global, national and local levels. Most of the future growth in energy demand is expected to occur in developing countries, and against a background of rising fossil fuel prices and resource constraints; this raises serious concerns about energy security. In off-grid areas, renewable energy sources can ensure a more stable and reliable supply of energy. Examples include local mini-grids and household level photovoltaic or biogas systems.

4. Renewable energy can play an important role in a comprehensive global strategy to eliminate energy poverty. In addition to being environmentally unsustainable, the current energy system is also highly inequitable, leaving 1.4 billion people without access to electricity and 2.7 billion dependent on traditional biomass for cooking. Many developing countries have a rich endowment of renewable energy that can help meet this need.

5. The cost of renewable energy is increasingly competitive with that derived from fossil fuels. Improved cost-competitiveness is due to rapid R&D progress, economies of scale, learning effects through greater cumulative deployment and increased competition among suppliers.



RENEWABLE ENERGY *(continued)*

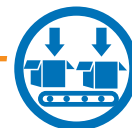
6. Renewable energy services would be even more competitive if the negative externalities associated with fossil fuel technologies were taken into account. These include both the current and future health impacts of various air pollutants, as well as the costs necessary to adapt to climate change and ocean acidification resulting from CO₂ emissions. The existing evidence clearly shows that the external costs from fossil fuel technologies are substantially higher than those of most renewable energy alternatives.

7. Substantially increasing investments in renewable energy can be part of an integrated strategy to green the path of global economic development. The Green Economy Report projects that an average annual investment of approximately USD 650 billion over the next 40 years in power generation, using renewable energy sources and second-generation biofuels for transport, could raise the share of renewable energy sources in the total energy supply to 27 per cent by 2050, compared with less than 15 per cent under a BAU scenario. Increased use of renewable energy sources could contribute more than one-third of the total reduction in GHG of 60 per cent achieved by 2050, relative to BAU.

8. A shift to renewable energy sources brings many new employment opportunities, but not without transitional challenges. Due to the higher labour intensity of various renewable energy technologies compared with conventional power generation, increased investment in renewable energy will add to employment, especially in the short term.

9. Policy support will need to be expanded considerably to promote accelerated investment in renewable energy. These investments carry enhanced risks, such as those typically associated with the development and diffusion of new technologies, exacerbated by high upfront capital costs. A range of public support mechanisms have been developed to mitigate risks and to enhance returns.

10. Government policy to support increased investment in renewable energy needs to be carefully designed in an integrated manner; there is no one-size-fits-all approach. The range of regulatory policies, fiscal incentives and public financing mechanisms to support renewable energy is broad and can be complemented with support to R&D as well as other measures, such as those to stimulate investments in adapting grid infrastructure.



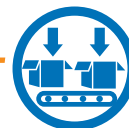
MANUFACTURING

1. As currently configured, manufacturing has a large material impact on the economy, environment and human health. Manufacturing is responsible for around 35 per cent of global electricity use, over 20 per cent of CO₂ emissions and over a quarter of primary resource extraction. Along with extractive industries and construction, manufacturing currently accounts for 23 per cent of global employment. It also accounts for up to 17 per cent of air pollution-related health damage. Estimates of gross air pollution damage range from 1 to 5 per cent of global GDP.

2. Key resource scarcities — including easily recoverable oil reserves, metal ores and water — will challenge the sector. As industries resort to lower-grade ores, more energy is required to extract useful metal content. Improved recovery and recycling will increasingly become a decisive factor for both economic performance and environmental sustainability. The same applies to water use by industry, which is expected to grow to over 20 per cent of global total demand by 2030.

3. Win-win opportunities exist, if manufacturing industries pursue life-cycle approaches and introduce resource efficiency and productivity improvements. This requires supply and demand side approaches, ranging from the re-design of products and systems to cleaner technologies and closed-cycle manufacturing. If the life of all manufactured products were to be extended by 10 per cent, for example, the volume of resources extracted could be cut by a similar amount. The costs of end-of-pipe pollution control can be reduced by cleaner production approaches in management, cleaner raw material selection, and cleaner technologies that reduce emissions and integrate by-products into the production value chain. With the use of alternative production equipment, processes and inputs, returns on investment can be substantial and have relatively short payback periods.

4. Key components of a supply-side strategy include re-manufacturing — for example of vehicle components — and the recycling of heat waste through combined heat and power installations. Closed-cycle manufacturing extends the life-span of manufactured goods, making revamped goods available for re-use, and reduces the need for virgin materials. Repair, reconditioning, re-manufacturing and recycling are fairly labour-intensive activities, requiring relatively little capital investment. Re-manufacturing operations worldwide already save about 10.7 million barrels of oil each year, or an amount of electricity equal to that generated by five nuclear power plants.



MANUFACTURING (continued)

5. While direct job effects of greening manufacturing may be neutral or small, the indirect effects are significantly higher. Manufacturing has become increasingly automated and efficient, which has been accompanied by job losses. This can be countered by life-cycle approaches and secondary production, for example, in the form of recycling, to secure jobs, for which safe and decent working conditions are of paramount importance.

6. Green-investment-scenario modelling for manufacturing suggests considerable improvements in energy efficiency can be achieved. By 2050, projections indicate that industry can practically ‘decouple’ energy use from economic growth, particularly in the most energy-intensive industries. Green investment will also increase employment in the sector. Tracking progress will require governments to collect improved data on industrial resource efficiency.

7. Innovation needs to be accompanied by regulatory reform, new policies and economic instruments in order to enable energy and broader resource-efficiency improvements. Environment-related levies, including carbon taxes, will be required to ensure producers include the cost of externalities in their pricing calculations. Mindful that manufacturing is not a uniform industry, governments need to consider approaches that meet the realities of specific industries and their value chains that often stretch across national economies. Governments are also challenged to find mixes of policies and regulatory mechanisms that best suit national circumstances. Developing countries have a strong potential to leapfrog inefficient technologies by adopting cleaner production programmes, particularly those that provide support to smaller companies, many of which serve global value chains. Of special importance to manufacturing is the introduction of recognised standards and labels, backed by reliable methodologies.



WASTE

1. The increasing volume and complexity of waste associated with economic growth are posing serious risks to ecosystems and human health. Every year, an estimated 11.2 billion tonnes of solid waste are collected worldwide and decay of the organic proportion of solid waste is contributing to about 5 per cent of global GHG emissions. Of all the waste streams, waste from electrical and electronic equipment containing new and complex hazardous substances presents the fastest-growing challenge in both developed and developing countries.

2. The growth of the waste market, increasing resource scarcity and the availability of new technologies are offering opportunities for greening the waste sector. The global waste market, from collection to recycling, is estimated at USD 410 billion a year, not including the sizable informal segment in developing countries. Recycling is likely to grow steadily and form a vital component of greener waste management systems, which will provide decent employment. These gains, implying the development and expansion of new market opportunities, would be achieved through the doubling of the recycling rate of industrial waste (an increase from 7 to 15 per cent), near full recycling of e-waste (from a current estimated level of 15 per cent), and an increase of about 3.5 times over the current recycling rate of Municipal Solid Waste ..., from 10 to 34 per cent. Furthermore, by 2050, effectively all organic waste would be composted or recovered for energy, compared with 70 under a BAU scenario.

3. There is no one-size-fits-all when it comes to greening the waste sector, but there are commonalities. Most of the waste management related standards are national or local; however, as a common feature, greening the waste sector includes, in the first instance, the minimisation of waste. Where waste cannot be avoided, the recovery of materials and energy from waste, as well as re-manufacturing and recycling waste into usable products should be the second option. The overall goal is to establish a global circular economy in which material use and waste generation is minimised, any unavoidable waste is recycled or re-manufactured, and any remaining waste is treated in a manner least harmful to the environment and human health, or even in a way which generates new value, e.g. energy recovery.

4. Investing in greening the waste sector can generate multiple economic and environmental benefits. Recycling leads to substantial resource savings. For example, ... by recycling each tonne of aluminium, the following resource savings could be accrued: 1.3 tonne of bauxite residues, 15 m³ of cooling water, 0.86 m³ of process water and 37 barrels of oil. These are in addition to the avoidance of 2 tonnes of CO₂ and 11 kg of SO₂ released. In terms of new products, the Waste to Energy (WtE) market was already estimated at USD 19.9 billion in 2008 and projected to grow by 30 per cent by 2014. In terms of climate benefits, between 20 to 30 per cent of projected landfill methane emissions for 2030 can be reduced at negative cost and 30 to 50 per cent at costs of less than USD 20/tCO₂-eq/yr.



WASTE (continued)

5. Recycling creates more jobs than it replaces. It is one of the most important sectors in terms of employment creation and ... employs 12 million people in just three countries — Brazil, China and the United States. Sorting and processing recyclables alone sustain 10 times more jobs than land filling or incineration on a per tonne basis. While higher rates of recycling may reduce employment opportunities in the extraction of virgin materials and related activities, the overall net employment is positive.

6. Improving labour conditions in the waste sector is imperative. The activities of collecting, processing and redistributing recyclables are usually done by workers with few possibilities outside the sector. Thus, despite the potentially significant contribution to employment creation, not all of the recycling and waste management related jobs can be considered green jobs. To be green jobs they also need to match the requirements of decent work, including the aspects of child labour, occupational health and safety, social protection and freedom of association.

7. Greening of the waste sector requires financing, economic incentives, policy and regulatory measures and institutional arrangements. Improved waste management and avoided environmental and health costs can help reduce the financial pressure on governments. Private sector participation can also significantly reduce the costs, as well as enhance service delivery. Micro-financing, other innovative financing mechanisms and international development assistance may, in addition, be tapped to support operational costs for waste treatment. A range of economic instruments can serve as incentives to green the sector (such as taxes and fees on waste, recycling credit and other forms of subsidies). Their use could be combined with policies and regulations such as targets for the minimisation, reuse, recycling and displacement of virgin materials in products; regulations relevant to the waste management market; and land-use policies and planning and regulations to set minimum safety standards that protect labour.



BUILDINGS

1. The buildings sector of today has an oversized ecological footprint. The buildings sector is the single largest contributor to global GHG, with approximately one-third of global energy end use taking place within buildings. Furthermore, the construction sector is responsible for more than a third of global resource consumption, including 12 per cent of all fresh water use and significantly contributes to the generation of solid waste, estimated at 40 per cent of the total volume. Therefore, the building sector is central to any attempt to use resources more efficiently.

2. Constructing new green buildings and retrofitting existing energy- and resource-intensive buildings stock can achieve significant savings. There are significant opportunities to improve energy efficiency in buildings, and ... to reduce global GHG emissions. Various projections indicate that investments, ranging from USD 300 billion to USD 1 trillion (depending on assumptions used) per year to 2050, can achieve savings of about one-third in energy consumption in buildings worldwide. In addition, these investments can significantly contribute to the reduction in CO₂ emissions needed to attain the benchmark 450 ppm concentration of GHGs.

3. Greening buildings also brings significant health and productivity benefits. The increased productivity of workers in green buildings can yield savings higher than those achieved from energy-efficiency. In residential buildings in many developing countries, indoor pollution from poorly combusted solid fuels (e.g. coal or biomass), combined with poor ventilation, are a major cause of serious illness and premature death. Lower respiratory infections such as pneumonia and tuberculosis linked to indoor pollution are estimated to cause about 11 per cent of human deaths globally each year. Women and children tend to be most at risk due to their daily exposure. Improved access to water and basic sanitation are other significant benefits that come with green building programmes.

4. Greening the building sector can lead to an increase in jobs. Investments in improved energy efficiency in buildings could generate additional employment in developed countries where there is little growth in building stock. It is estimated that every USD 1 million invested in building efficiency retrofits creates 10 to 14 direct jobs and 3 to 4 indirect jobs. If the demand for new buildings that exists in developing countries is considered, the potential to increase the number of green jobs in the sector is still higher. Greening the building industry also provides an opportunity to engage the informal sector and improve working conditions across the industry, by implementing training programmes targeting new skill requirements and improving inspection approaches.



BUILDINGS *(continued)*

5. Developing countries have the opportunity to lay the foundation of energy-efficient building stocks for decades to come. Significant new construction is expected in the developing world in order to provide adequate housing for over 500 million people, while providing access to electricity for some 1.5 billion people. In developing countries, taking into account sustainable building considerations at the time of design and construction makes good economic sense. Green retrofitting at a later stage invariably carries higher costs, both financially and environmentally, than integrating sustainability considerations at the early stages of design and construction. For developed countries, which account for the majority of the existing building stock, the priority is to put in place measures and incentives that will enable large-scale investments in retrofitting programmes.

6. The role of public policy and leadership by example is vital in triggering the greening of the building sector. A life-cycle approach is required covering the building design, the manufacturing of material supplies, the construction process, buildings operation and maintenance as well as the disposal, recycling and reuse of building, construction and demolition waste. Considering, in particular, the hidden costs and market failures that characterise the building industry, regulatory and control measures are likely to be the most effective and cost-efficient in bringing about a green transformation of the sector. These need to be combined with other pricing instruments for greater impact, given realities such as the level of development of the local market and household income-levels. Additionally, government-owned buildings such as public schools, hospitals and social housing units are ideal locations to begin implementing greener building policies, including green public procurement. At the same time, the role of progressive private sector actors organised, for example, through Green Building Councils can drive the transition to lower carbon and more resource-efficient buildings.



TOURISM

1. Tourism has significant potential as a driver for growth for the world economy. The tourism economy represents 5 per cent of world GDP, while it contributes to about 8 per cent of total employment. International tourism ranks fourth (after fuels, chemicals and automotive products) in global exports, with an industry value of USD 1 trillion a year.

2. The development of tourism is accompanied by significant challenges. The rapid growth in both international and domestic travel, the trends to travel farther and over shorter periods of time, and the preference given to energy-intensive transportation are increasing the non-renewable energy dependency of tourism, resulting in the sector's contribution of 5 per cent to global GHG emissions, which is expected to grow substantially under a BAU scenario. Other challenges include excessive water consumption ..., discharge of untreated water, the generation of waste, the damage to local terrestrial and marine biodiversity and the threats to the survival of local cultures, built heritage and traditions.

3. Green tourism has the potential to create new, green jobs. Travel and tourism are human-resource intensive, employing directly and indirectly 8 per cent of the global workforce. The greening of tourism, which involves efficiency improvements in energy, water and waste systems, is expected to reinforce the employment potential of the sector with increased local hiring and sourcing and significant opportunities in tourism oriented toward local culture and the natural environment.

4. Tourism development can be designed to support the local economy and reduce poverty. The local economic effects of tourism are determined by the share of tourism spending in the local economy as well as the amount of the resulting indirect economic activities. Increasing the involvement of local communities, especially the poor, in the tourism value chain can, therefore, contribute to the development of the local economy and to poverty reduction. The extent of direct benefits to communities and poverty reduction will largely depend on the percentage of tourism needs that are locally supplied, such as products, labour, tourism services, and increasingly 'green services' in energy and water efficiency and waste management. There is increasing evidence that more sustainable tourism in rural areas can lead to more positive poverty-reducing effects.

5. Investing in the greening of tourism can reduce the cost of energy, water and waste and enhance the value of biodiversity, ecosystems and cultural heritage. Investment in energy efficiency has been found to generate significant returns within a short payback period. Improving waste management is expected to save money for tourism businesses, create jobs and enhance the attractiveness of destinations. The investment requirement in conservation and restoration is small relative to the value of forests, mangroves, wetlands, and coastal zones, which provide ecosystem services essential for the foundation of economic activities and for human survival; the value of ecosystems for tourists remains undervalued in many cases. Investment in cultural heritage—the largest single component of consumer demand for sustainable tourism—is among the most significant and usually profitable investments.



TOURISM (continued)

6. Tourists are demanding the greening of tourism. More than a third of travellers are found to favour environmentally friendly tourism and be willing to pay between 2 and 40 per cent more for this experience. ... ecotourism, nature, heritage, cultural and 'soft adventure' tourism are taking the lead and are predicted to grow rapidly over the next two decades.

7. The private sector, especially small firms, can, and must be mobilised to support green tourism. The tourism sector involves a diverse range of actors. The awareness of green tourism exists mainly in a selection of larger-scale firms. Smaller firms are mostly outside this sphere and diverse supplier groups may not be connected at all. Specific mechanisms and tools to educate small and medium-sized tourism related enterprises are critical and are most effective when they are accompanied by actionable items. The promotion and widespread use of recognised standards for sustainable tourism, such as the Global Sustainable Tourism Criteria (GSTC), can help businesses improve sustainability performance, including resource efficiency, and assist in attracting additional investment and customers.

8. Much of the economic potential for green tourism is found in SMEs, which need better access to financing for investing in green tourism. Governments and international organisations can facilitate the financial flow to these important actors with an emphasis on contributions to the local economy and poverty reduction. Public-private partnerships can spread the costs and risks of large green tourism investments. Besides reducing administrative fees and offering favourable interest rates for green tourism projects, in-kind support such as technical, marketing or business administration assistance, could also help.

9. Destination planning and development strategies are the first step towards the greening of tourism. In developing tourism strategies, local governments, communities and businesses need to establish mechanisms for coordinating with ministries responsible for the environment, energy, labour, agriculture, transport, health, finance, security and other relevant areas. Clear requirements are needed in such areas as zoning, protected areas, environmental rules and regulations, labour rules, agricultural standards and health requirements particularly related to energy, emissions, water, waste and sanitation.

10. Government investments and policies can leverage private sector actions on green tourism. Government spending on public goods such as protected areas, cultural assets, water conservation, waste management, sanitation, public transport and renewable energy infrastructure can reduce the cost of green investments by the private sector in green tourism. Governments can also use tax concessions and subsidies to encourage private investment in green tourism. Time-bound subsidies can be given, for example, on the purchase of equipment or technology that reduces waste, encourages energy and water efficiency, the conservation of biodiversity and the strengthening of links with local businesses and community organisations. At the same time, resource and energy use as well as waste generation need to be correctly priced to reflect their true cost to society.



TRANSPORT

1. Present patterns of transportation — based mainly on petrol- and diesel-fuelled motor vehicles — generate serious social, environmental and economic damage and are highly unsustainable. Transportation consumes more than half of global liquid fossil fuels; emits nearly a quarter of the world's energy-related CO₂; generates more than 80 per cent of the air pollution in cities in developing countries; results in more than 1.27 million fatal traffic accidents per year; and produces chronic traffic congestion in many of the world's urban areas. These costs to society, which can add up to more than 10 per cent of a country's GDP, are likely to grow, primarily because of the expected growth of the global vehicle fleet.

2. BAU will significantly enlarge vehicle fleets and exacerbate their costs to society. If we continue on a BAU path, the global vehicle fleet is set to increase from around 800 million to between 2 and 3 billion by 2050. Most of this growth will take place in developing countries. Aviation growth is expected to increase exponentially in the coming decades, fuelled largely by income growth in developing countries. Carbon emissions from shipping could also grow by up to 250 per cent.

3. A three-pronged investment strategy is needed to transform this sector: promote access instead of mobility; shift to less harmful modes of transportation; and improve vehicles towards lower carbon intensity and pollution. A fundamental shift in investment patterns is needed, based on the principles of avoiding or reducing trips through integrating land use and transport planning and enabling more localised production and consumption. Shifting to more environmentally efficient modes, such as public and non-motorised transport (for passenger transport) and to rail and water transport (for freight), is recommended. Investment in public transport and infrastructure that promotes walking and cycling generates jobs, improves well-being and can add considerable value to regional and national economies. Improving vehicles and fuels is a priority in order to reduce urban air pollution and GHG. Green transport policies will also reduce road accidents and alleviate poverty by improving access to markets and other essential facilities.

4. Investment in public transportation and vehicle efficiency improvements generates exceptional economic returns. Several scenarios show that a green, low-carbon, transport sector can reduce GHG emissions by 70 per cent without major additional investment. A reallocation of just 0.34 per cent of global GDP in support of public transport infrastructure and efficiency improvements to road vehicles would reduce the expected increase in travel volume of road vehicles by around one-third by 2050. It would diminish the use of oil-based fuel by up to one-third and promote strong and sustainable employment in the sector.

5. Enabling conditions for green transportation have to be wide-ranging in order to be effective. Such investments, among other measures, should be enabled via policies, including land use planning to promote compact or mass-transit corridor-based cities; regulation of fuel and vehicles; and the provision of information to aid decisions by consumers and industry. In addition, shifting financing priorities towards public transport and non-motorised transport, coupled with strong economic incentives such as taxes, charges and subsidy reform will also send a strong signal. Finally, developing and widely applying green transport technology; as well as setting up and building the capacity of institutions to foster greener transport will help ensure close cooperation with other key sectors.



CITIES

1. Urban development will have to fundamentally change to facilitate the transition towards a green economy. Urban areas are now home to 50 per cent of the world's population but they account for 60–80 per cent of energy consumption and a roughly equal share of carbon emissions. Rapid urbanisation is exerting pressure on fresh water supplies, sewage treatment, the living environment and public health, which affect the urban poor most. In many cases, urbanisation is characterised by urban sprawl and peripheralisation — which is not only socially divisive, but also increases energy demand, carbon emissions and puts pressure on ecosystems.

2. Unique opportunities exist for cities to lead the greening of the global economy. There are genuine opportunities for national and city leaders to reduce carbon emissions and pollution, enhance ecosystems and minimise environmental risks. Compact, relatively densely populated cities, with mixed-use urban form, are more resource-efficient than any other settlement pattern with similar levels of economic output. Integrated design strategies, innovative technologies and policies are available to improve urban transport, the construction of buildings and the development of urban energy, water and waste systems in such a way that they reduce resource and energy consumption and avoid lock-in effects.

3. Green cities combine greater productivity and innovation capacity with lower costs and reduced environmental impact. Relatively high densities are a central feature of green cities, bringing efficiency gains and technological innovation through the proximity of economic activities, while reducing resource and energy consumption. Urban infrastructure including streets, railways, water and sewage systems comes at considerably lower cost per unit as urban density rises. The problem of density-related congestion and associated economic costs can be addressed and offset by developing efficient public transport systems and road charges.

4. In most countries, cities will be important sites for the emerging green economy. This is for three main reasons. First, the proximity, density and variety intrinsic to cities deliver productivity benefits for companies and help stimulate innovation. Second, green industries are dominated by service activity — such as public transport, energy provision, installation and repair — which tends to be concentrated in urban areas where consumer markets are largest. Third, some cities will also develop high-tech green manufacturing clusters in or close to urban cores, drawing on knowledge and skill spillovers from universities and research labs.

5. Introducing measures to green cities can increase social equity and quality of life. Enhancing public transport systems, for example, can reduce inequality by improving access to public services and other amenities, and by helping to relieve vehicle congestion in poorer neighbourhoods. Cleaner fuel for transport and power generation can reduce both local pollution and health inequality. Reducing traffic and improving conditions for pedestrians and cyclists can help foster community cohesion, an important aspect of quality of life, which also has positive impacts on economic resilience and productivity. Evidence shows that children who live in close proximity to green space are more resistant to stress, have a lower incidence of behavioural disorders, anxiety, and depression, and have a higher measure of self-worth. Green space also stimulates social interaction and enhances human well-being.



CITIES *(continued)*

6. Only a coalition of actors and effective multilevel governance can ensure the success of green cities. The most important fundamental enabling condition is a coalition of actors from the national and local state, civil society, the private sector and universities who are committed to advancing the green economy and its urban prerequisites, placing it centrally within the top strategic priorities for the city. The central task of this coalition is to promote the idea of a long-term strategic plan for the city or urban territory. Equally, it is crucial to develop strategic frameworks not just at the local and urban level, but also at regional and national levels, ensuring coordinated design and implementation of policy instruments.

7. Numerous instruments for enabling green cities are available and tested but need to be applied in a tailored, context-specific way. In contexts with strong local government it is possible to envisage a range of planning, regulatory, information and financing instruments applied at the local level to advance green infrastructure investments, green economic development and a multitrack approach to greater urban sustainability. In other contexts, local governments, in a more pragmatic approach, could target a few key sectors such as water, waste, energy and transport and commit those to a limited number of specific goals as a point of departure for greening urban sectors.



FINANCE

1. A global green economy transformation will require substantial financial resources. Indicative figures such as those from the International Energy Agency's (IEA) scenarios for halving worldwide energy-related CO₂ emissions by 2050 and on modelling, in this report, show additional investments required will likely be in the range of 1 to 2.5 per cent of global GDP per year from 2010 to 2050. A considerable amount of investment will be needed in energy supply and efficiency, particularly in greening the transport and buildings sectors.

2. Financial investment, banking and insurance are the major channels of private financing for a green economy. The financial services and investment sectors control trillions of dollars that could potentially be directed towards a green economy. More importantly, long-term public and private institutional investors, banks and insurance companies are increasingly interested in acquiring portfolios that minimise environmental, social and governance risks, while capitalising on emerging green technologies. Microfinance has a potentially important role at the community and village level to enable the poor to invest in resource and energy efficiency as well as increase their resiliency to risk.

3. Opportunities exist to meet the financing needs of a green economy. The rapid growth and increasingly green orientation of capital markets, the evolution of emerging market instruments such as carbon finance and microfinance, and the green stimulus funds established in response to the economic slowdown of recent years, are opening up space for large-scale financing for a global green economic transformation. But these flows are still small compared to investment needs and must be scaled up quickly if the transition to a green economy is to jump-start in the near term. Concentrated pools of assets, such as those controlled by pension systems and insurance companies, the USD 39 trillion-plus controlled by the high net worth community and the growing assets of sovereign wealth funds will need to support the green economy in coming decades.

4. Advances in disclosure and sustainability reporting are increasing transparency and driving change. In 2009, the global market size for institutional assets was estimated at just over USD 121 trillion. Of the actively managed components of these assets, controlled by a broad range of large institutional investors, some 7 per cent was subject to the integration of environmental, social and governance (ESG) considerations. Considering the environmental costs attributable to business and human activity — estimated at more than USD 6 trillion in 2008 — much more transparency is needed. Scaling up resources for investment adhering to ESG principles is urgent and will require innovation and leadership by business and industry, collective action and public-private approaches as well as supportive regulatory frameworks.

5. The role of the public sector is indispensable in freeing up the flow of private finance towards a green economy. Governments should involve the private sector in establishing clear, stable and coherent policy and regulatory frameworks to facilitate the integration of ESG issues into financial and investment decisions. In addition, governments and multilateral financial institutions should use their own resources to leverage financial flows from the private sector and direct them towards green economic opportunities.

6. Public finance is important for triggering a green economic transformation, even if public resources are significantly smaller than those of private markets. The role of public development finance institutions (DFIs) in developed and developing countries in supporting the transition to a green economy could be strengthened further. DFIs can adopt the goal of supporting the development of the green economy, allocate significant proportions of their new lending towards financing green economy transition projects and link it to specific targets such as reduction in GHG emissions, access to water and sanitation, biodiversity promotion and poverty alleviation. Policies can be designed to improve the 'green efficiency' of their portfolios, for example, by examining the carbon and ecological footprints of their investment portfolios. In addition, DFIs can jointly define protocols for green due diligence, as well as standards and goals for sectors in which they have a major influence, such as transport, energy and municipal finance.

ANNEX 4

Links to resources

Project databases

- [SWITCH to Green interactive map of EU green economy projects](#). An interactive map providing information on green economy related initiatives (including their objectives, implementation status, results, partners, funders and budgets) implemented with EU support. It gives a comprehensive picture of the SWITCH regional projects in Asia, the Mediterranean and Africa, which are presented for the first time side by side. Each individual project or programme is linked to its related SDG(s) and 10YFP programme, highlighting concrete contributions by the EU to the SCP-related objectives of the 2030 Agenda.
- [SWITCH-Asia project database](#). A database providing information on all SWITCH-Asia projects (including project partners, objectives, results and outputs, duration, budget and contact details), filtered by country, sector and SCP practice.
- [SWITCH Africa Green project database](#). A database providing information on all SWITCH Africa Green projects (including project partners, objectives, activities, duration and budget), filtered by country and sector.
- [Global SCP initiatives database](#). A database providing information on selected SCP initiatives from across the globe and sectors, filtered by region, country, implemented level, sector of activity, sustainability theme, type of initiative, and type of lead actor.
- [Green Growth Knowledge Platform projects](#). A project database allowing users to browse

on-the-ground initiatives to promote green growth, being led by GGKP partners and other organisations.

E-libraries

- [SwitchMed e-library](#). An e-library that includes a collection of technical reports, toolkits, brochures, factsheets, e-newsletters, reports, conference papers and technical articles on the circular economy, resource efficiency, sustainable consumption and production, and related topics.
- [Green Growth Knowledge Platform Resource Library](#). An e-library that provides information on research and analysis publications on green growth topics, filtered by sector, theme, region, country and organisation.
- [SCP Clearinghouse knowledge hub](#). An e-library that specialises in all matters related to SCP, with material — project documents, publications, guidelines, and more — being added by SCP Clearinghouse partner organisations and stakeholders from around the world.
- [GGGI Library](#). A library that presents all GGGI's published materials that have been delivered in partnership with government bodies, international organisations, academic institutions and the private sector, filtered by thematic area (Green cities; Water and sanitation; Sustainable landscapes; Sustainable energy; and Cross-cutting issues).

Case studies

- [SWITCH to Green EU case studies](#). A series of case studies on EU experience in promoting the green

economy domestically, notably through its environmental policy and the Europe 2020 growth strategy, focusing on thematic issues that are also prioritised in international cooperation on the green economy, such as green jobs, green SMEs, SCP, eco-innovation, and resource efficiency. It offers scope for synergies, as well as lessons that can contribute to international cooperation actions on the green economy.

- **The SWITCHERS Platform.** A platform that tells stories of sustainable transformation and change by the Switchers, i.e. a community of inspiring green entrepreneurs and changemakers in the Mediterranean region (individuals, enterprises or civil society organisations implementing innovative and ecological solutions that contribute to sustainable and fair consumption and production models; they are active in a variety of fields, such as organic farming, green tourism, renewable energy, and waste management). It contributes to a more differentiated picture of the Mediterranean region, and sheds light on the people working on a greener economy.
- **Green Growth Knowledge Platform Case Studies.** A best practice database providing with real-world examples of the development and implementation of green growth policies and practices. Case studies included in this database are typically focused on specific sectors, themes, or countries.

Links to data

- **Green Growth Knowledge Platform Data Explorer.** A data visualisation tool that may be used to explore historical data trends (date range: 2000–2013) across countries and indicators in the following categories: Socio-Economic Context; Natural Asset Base; Environmental and Resource Productivity; Environmental Quality of Life; Policies and Economic Opportunities; Wealth Changes. Display options include line charts, bubble charts and tables.
- **UN Environment Environmental Data Explorer.** An online source for data sets used by UN Environment and its partners in the Global Environment Outlook (GEO) report and other integrated environment

assessments, with over 500 variables, in national, subregional, regional and global statistics or in geospatial data sets (maps), covering themes like Freshwater, Population, Forests, Emissions, Climate, Disasters, Health and GDP. Display options include maps, graphs and data tables.

- **UN Environment, Environment Live.** An online source providing open access to information and knowledge on the environment at the global, regional and national levels, for citizen-science and communities of practice. It includes impact stories and case studies on the environment and people, foresight, outlooks and assessments.
- **The World Bank open data.** A database providing free and open access to global development data, filtered by country or indicator, including in the following categories: Agriculture and Rural Development; Aid Effectiveness; Climate Change; Economy and Growth; Education; Energy and Mining; Environment; External Debt; Financial Sector; Gender; Health; Infrastructure; Poverty; Private Sector; Public Sector; Science and Technology; Social Development; Social Protection and Labour; Trade; and Urban Development.

Links to tools

- **Partnership for Action on Green Economy Resources.** A set of toolkits, each addressing one of the following five categories:
 - Macroeconomic policymaking, including technical documents (green economy monitoring and measurement frameworks), an [e-learning course on Green fiscal policy](#), a video on 'Informing Green Economy Policy Making', two webinars on 'PAGE's Green Economy Modelling' and on 'PAGE's Indicators for Green Economy Policymaking', training material on 'Understanding and Operationalizing Green Economy into National Development Planning in the Caribbean Context', and a [country starter kit](#) with three guidance manuals on green economy policy assessment, indicators and policymaking;

- Green jobs, including an on-line course on ‘[Green jobs for sustainable development](#)’ and a [green jobs training guidebook](#);
 - Inclusivity and poverty reduction, including a report on ‘[Integrated Planning and Sustainable Development: Challenges and Opportunities](#)’;
 - Green industrial policy and trade, including a report on ‘[Green industrial policy: Concept, policies, country experiences](#)’, a [tool-box on Green industrial policy and trade](#) (focusing on policies for Border measures, Support schemes, Standards, Sustainable public procurement and manufacturing, Provisions in trade agreements reserving or promoting green industrial policy, and Employment-related schemes), e-learning courses on ‘[Successful Organic Production and Export](#)’ and on ‘[Green Economy and Trade](#)’, and a [Practitioner’s Guide to Strategic Green Industrial Policy](#);
 - Green economy learning, including a [Community of Trainers](#) that supports learning for an Inclusive Green Economy, a Guidance Note on ‘[Learning for an Inclusive Green Economy](#)’, a [Resource Guide of Green Economy Learning Institutions](#), an e-learning course on ‘[Introduction to Green Economy: Concepts and Applications](#)’, [advanced learning materials on Green economy](#), and a free network announcement and e-mail based coordination list for practitioners active in learning for an inclusive green economy called the ‘[LearnGreenEconomy](#)’ Mailing List.
- **Green Growth Knowledge Platform Expert Connect.** A platform providing policymakers direct access to world-leading technical and policy experts for quick and tailored guidance on a range of green growth topics. It facilitates the provision of assistance by specialised experts on a broad range of green growth issues, including fiscal reform, access to finance, indicators and metrics, natural capital approaches, sustainable trade, and government procurement. Relevant assistance by experts may include the review of draft strategies, the analysis of policy options, sharing of experiences from other countries, and networking facilitation. The platform is made available free of charge to government agency representatives from developing countries and supporting technical institutes. Assistance is also provided by GGKP in the formulation of specific requests for expert support.
- **DEVCO Inclusive Green Economy training course.** A training course on inclusive green economy lasting one to four days (depending on possible field visits and additional modules on mainstreaming the integration of environmental issues into other actions). It aims at developing the capacity of participants to: (i) understand the green economy concept, scope and transformation process, including the opportunities to address environmental challenges, generate growth, create quality jobs and help reduce poverty; (ii) be acquainted with green economy key principles in EU development cooperation; (iii) link EU programmes supporting green economy with global policy priorities, notably the SDGs and the 10YFP, touching upon the issues of poverty, private sector development and civil society support; (iv) jointly explore ways to promote the green economy in focal sectors of EU development cooperation; (v) facilitate integration of the green economy approach into actions formulated/implemented within their sector of expertise; and (vi) contribute to knowledge generation through sharing own views and experiences, in particular with regard to their sector of expertise. The course is facilitated by specialised trainers. It is also tailored to specific local needs and offered as a weekly seminar, together with Technical Assistance on green economy action identification and formulation by the SWITCH to Green Facility (e.g. [Uganda Inclusive Green Economy workshop 24–27 April 2017](#)).

ANNEX 5

Global Green Economy Index

The Global Green Economy Index (GGEI)⁽¹⁾ is a tool used for country-wide integrated green economy performance assessments. It provides a snapshot of the state and progress of the global green economy transition, based on an analysis of data on climate change, the environment, efficiency sectors and investments in 80 countries and 50 cities, as well as on expert practitioners' ranking of country performance (perception survey). GGEI frames the level of progress of selected countries in the green economy transition process, indicating to the countries what can be improved in the future. The performance index of the 2016 GGEI addresses four key dimensions of the green economy transition, namely leadership and climate change; efficiency sectors; markets and investment; and the environment, and is defined by 32 underlying indicators and datasets, as shown below (percentages in brackets provide the weight of each indicator within the measured dimension):

■ **Leadership and climate change measured by:** (i) Head of State's advocacy for green issues (20 per cent); (ii) positive media coverage of national green economy (10 per cent); (iii) national positions and statements in international forums (20 per cent); and (iv) performance on climate change (emissions per capita, emissions per unit GDP, emissions per unit primary energy) (50 per cent)

■ **Efficiency sectors measured by:** (i) Leadership in Environmental Design (LEED) certification of commercial buildings (20 per cent), (ii) renewable electricity as a percentage of national total (20 per cent), (iii) ranking of national tourism ministry efforts (20 per cent), (iv) emissions from transport and 10-year trend (20 per cent), and (v) national recycling rates (20 per cent)

■ **Markets and investment measured by:** (i) country attractiveness for renewable energy investment (25 per cent), (ii) business climate for cleantech innovation (25 per cent), (iii) adoption of sustainability reporting by top 3 national companies (market capitalisation) (25 per cent), and (iv) national efforts to facilitate green investment (25 per cent)

■ **Environment measured by:** (i) policies related to the effects of intensive agriculture, specifically nitrogen use efficiency and nitrogen balance (17 per cent); (ii) population weighed exposure to fine particulate matter and percentage of the population burning solid fuel for cooking (17 per cent); (iii) quality of treatment of wastewater from households and industrial sources before being released back into the environment (17 per cent); (iv) level of protection of terrestrial and marine areas as well as of threatened or endangered species (17 per cent); (v) quality of fishing practices in terms of both the use of heavy equipment and the size of the catch (17 per cent); and (vi) loss in forest area from 2000 to present (17 per cent)

⁽¹⁾ The [Global Green Economy Index™](#): Measuring National Performance in the Green Economy, 5th Edition, September 2016.

The GGEI is published by Dual Citizen LLC, a private U.S.-based consultancy.

Perception Rank	Country	Score	Performance Rank	Country	Score
1	Germany	97.74	1	Sweden	77.61
2	United States	94.70	2	Norway	69.11
3	Denmark	93.84	3	Finland	67.83
4	Sweden	93.65	4	Switzerland	67.63
5	Norway	88.95	5	Germany	66.01
6	Canada	85.59	6	Austria	65.23
7	United Kingdom	82.73	7	Iceland	63.68
8	Netherlands	77.58	8	Zambia	62.00
9	Japan	75.94	9	Denmark	61.84
10	Finland	74.47	10	Brazil	60.29
11	France	72.66	11	Costa Rica	58.69
12	China	72.10	12	Canada	58.00
13	Costa Rica	69.79	13	France	56.76
14	Switzerland	69.55	14	Ethiopia	56.46
15	New Zealand	69.24	15	Italy	56.21
16	Australia	62.82	16	Portugal	55.86
17	Iceland	61.76	17	Netherlands	55.61
18	Brazil	59.66	18	Colombia	55.00
19	India	58.03	19	Uruguay	54.70
20	South Africa	53.18	20	Cambodia	54.10
21	Austria	51.80	21	Spain	53.88
22	Spain	51.36	22	Slovenia	53.76
23	South Korea	49.62	23	Rwanda	53.18
24	Israel	47.55	24	New Zealand	53.03
25	Kenya	45.88	25	United Kingdom	52.96
26	Ireland	41.81	26	Hungary	52.75
27	Colombia	41.65	27	Philippines	52.60
28	UAE	41.57	28	Luxembourg	52.18
29	Italy	41.33	29	Peru	51.60
30	Chile	41.31	30	United States	51.53
31	Mexico	38.82	31	Kenya	51.25
32	Belgium	38.20	32	Chile	51.11
33	Peru	37.01	33	Ireland	50.93
34	Indonesia	36.97	34	Japan	50.60
35	Morocco	36.77	35	Morocco	50.35
36	Mauritius	36.42	36	Croatia	50.32
37	Portugal	36.22	37	Belgium	50.23
38	Thailand	36.14	38	Thailand	49.89
39	Ghana	35.71	39	Panama	49.65
40	Philippines	35.13	40	Turkey	49.63

Perception Rank	Country	Score	Performance Rank	Country	Score
41	Senegal	34.96	41	Lithuania	49.62
42	Malaysia	34.77	42	Greece	49.47
43	Bangladesh	34.61	43	Nigeria	48.76
44	Slovenia	34.33	44	Mexico	48.63
45	Burkina Faso	34.19	45	UAE	48.50
46	Tanzania	34.18	46	South Korea	48.41
47	Rwanda	33.94	47	Taiwan	48.37
48	Argentina	33.42	48	Latvia	47.45
49	Nigeria	33.37	49	Mozambique	47.14
50	Jordan	32.72	50	Malta	46.64
51	Russian Federation	32.59	51	Burkina Faso	46.43
52	Uruguay	32.57	52	Bulgaria	45.78
53	Ethiopia	32.56	53	Tanzania	45.75
54	Turkey	32.28	54	Senegal	44.36
55	Greece	32.14	55	Australia	44.28
56	Poland	32.13	56	Israel	44.20
57	Qatar	31.79	57	Azerbaijan	43.73
58	Luxembourg	31.77	58	Ghana	43.28
59	Slovak Republic	31.72	59	South Africa	42.86
60	Mozambique	31.28	60	Jordan	42.59
61	Taiwan	31.23	61	Czech Republic	42.39
62	Saudi Arabia	31.20	62	Slovak Republic	42.11
63	Vietnam	31.08	63	Cyprus	41.99
64	Cambodia	30.90	64	China	41.77
65	Oman	30.63	65	Malaysia	41.31
66	Panama	30.58	66	Vietnam	41.30
67	Mongolia	30.57	67	Mauritius	40.51
68	Croatia	30.29	68	India	40.43
69	Malta	30.22	69	Romania	40.04
70	Estonia	30.17	70	Poland	39.35
71	Czech Republic	30.13	71	Argentina	39.23
72	Kuwait	30.07	72	Oman	39.19
73	Hungary	29.82	73	Bangladesh	39.09
74	Lithuania	29.78	74	Russian Federation	38.08
75	Latvia	29.66	75	Indonesia	37.73
76	Azerbaijan	29.25	76	Estonia	37.09
77	Bulgaria	28.88	77	Kuwait	36.45
78	Romania	28.87	78	Qatar	36.33
79	Zambia	28.84	79	Mongolia	35.01
80	Cyprus	28.50	80	Saudi Arabia	31.34

Getting in touch with the EU

In person

All over the European Union there are hundreds of Europe Direct information centres. You can find the address of the centre nearest you at: https://europa.eu/european-union/contact_en

On the phone or by email

Europe Direct is a service that answers your questions about the European Union. You can contact this service:

- by freephone: 00 800 6 7 8 9 10 11 (certain operators may charge for these calls),
- at the following standard number: +32 22999696 or
- by email via: https://europa.eu/european-union/contact_en

Finding information about the EU

Online

Information about the European Union in all the official languages of the EU is available on the Europa website at: https://europa.eu/european-union/index_en

EU publications

You can download or order free and priced EU publications at: <https://publications.europa.eu/en/publications>. Multiple copies of free publications may be obtained by contacting Europe Direct or your local information centre (see https://europa.eu/european-union/contact_en).

EU law and related documents

For access to legal information from the EU, including all EU law since 1952 in all the official language versions, go to EUR-Lex at: <http://eur-lex.europa.eu>

Open data from the EU

The EU Open Data Portal (<http://data.europa.eu/euodp/en>) provides access to datasets from the EU. Data can be downloaded and reused for free, for both commercial and non-commercial purposes.

