

GRO 2019 Annotated Key Messages

1. The use of natural resources has more than tripled from 1970 and continues to grow.

Global population has doubled and global gross domestic product has grown fourfold since the 1970s. This has been fuelled by an ever-increasing supply and extraction of materials, thereby intensifying pressure on land and water. From 1970 to 2017, the annual global extraction of materials grew from 27 billion tons to 92 billion tons, while the annual average material demand grew from 7 tons to over 12 tons per capita.¹

2. Historical and current patterns of natural resource use are resulting in increasingly negative impacts on the environment and human health.

The extraction and processing² of materials, fuels and food make up about half of total global greenhouse gas emissions (not including climate impacts related to land use) and more than 90 per cent of biodiversity loss and water stress. Agriculture is the main driver of biodiversity loss and water stress, while all types of resources carry a significant share of the climate change and health impacts from particulate matter. In emerging economies, the build-up of infrastructure plays an important role in resource-related climate change impacts.

3. The use of natural resources and the related benefits and environmental impacts are unevenly distributed across countries and regions.

The material footprint³ of high-income regions is greater than their domestic material consumption, indicating that consumption in these countries relies on materials from other countries through international supply chains. Material footprints in high-income countries are around 27 tons per person; 60 per cent higher than the upper-middle income group in 2017; and more than 13 times the level of the low-income group. Per capita impacts of consumption in high-income countries are, depending on the impact category, between three and six times larger than those of low-income countries.

4. In the absence of urgent and concerted action, rapid growth and inefficient use of natural resources will continue to create unsustainable pressures on the environment.

A scenario developed by the International Resource Panel on *Historical Trends* of material use shows that, unless a fundamental change drives natural resource use away from the status quo, this use will continue to grow to 190 billion tons and over 18 tons per capita by 2060. Moreover, under *Historical Trends* greenhouse gas emissions increase by 43 per cent from 2015 to 2060, industrial water withdrawal increases by up to 100 per cent from 2010 levels, and the area of agricultural land increases by more than 20 per cent in that time, reducing forests by over 10 per cent and other habitat (such as grasslands and savannahs) by around 20 per cent.

5. The decoupling of natural resource use and environmental impacts from economic activity and human well-being is an essential element in the transition to a sustainable future.

Decoupling occurs when resource use or a pressure on the environment or human well-being grows at a slower rate than the activity causing it (relative decoupling) or declines while the economic activity continues to grow (absolute decoupling). A relative decoupling of resource-related environmental impacts from GDP and a relative decoupling of impacts from extracted mass of resources has occurred since the year 2000. However, impacts still increased on an absolute scale. Absolute decoupling in high-income countries can

¹ Materials include biomass, fossil fuels, metals and non-metallic minerals, while natural resources encompass all materials plus water and land. Material use can be measured by domestic material consumption or through the material footprint.

² The focus is on resource extraction and processing up to “ready-to-use” materials and fuels (including waste disposal processes in the extraction and processing phase). This is also termed ‘cradle-to-gate’.

³ Material use can be measured by domestic material consumption or through the material footprint. Domestic material consumption is a direct measure of the materials that are consumed in a national economy, while the material footprint attributes all of the material resources mobilized globally to the final domestic demand of a country.

lower average resource consumption, distribute prosperity equally and maintain a high quality of life. Relative decoupling in developing economies and economies in transition can raise average income levels and eliminate poverty, while still increasing levels of natural resource consumption until a socially acceptable quality of life is achieved.

6. Achieving decoupling is possible and can deliver substantial social and environmental benefits, including repair of past environmental damage, while also supporting economic growth and human well-being.

The *Towards Sustainability* scenario developed for this report shows that global resource use can slow down, while continuing to grow in emerging and other developing countries to meet their sustainable development needs. Well-being indicators grow faster than resource extraction, with improved resource productivity and a relative decoupling of well-being from resource use. Moreover, environmental pressures fall, achieving an absolute decoupling of environmental impacts from economic growth and resource use. This is feasible through absolute reductions in high-income countries. The *Towards Sustainability* scenario assumes implementation of a combination of resource efficiency policies across different time frames, based on scientific research and development, climate mitigation and carbon removal policies, as well as widespread biodiversity protection measures. These policy packages are complemented by societal change, marked by healthier diets and reduced food waste.

7. Policymakers and decision makers have tools at their disposal to advance worthwhile change, including transformational change at local, national and global scales.

Decoupling will not happen spontaneously, but will require well-designed and concerted policy packages. Well-chosen and coordinated sustainability actions – particularly resource efficiency, sustainable consumption and production and circular economy⁴ policies – can achieve decoupling. The context and scope of the set of instruments required will depend in on the national situation. These include setting targets and indicators, developing national plans for a sustainable use of natural resources, using existing or feasible technologies to improve natural resource use and management, as well as embracing emerging business models and leapfrogging technologies. In all cases, multiple benefits can be achieved by coordinating national plans for decoupling the use of natural resources with plans for climate change mitigation and adaptation, as well as with national plans for the protection, conservation and sustainable use of biodiversity.

8. International exchanges and cooperation can make important contributions to achieving systemic change.

Decoupling environmental impacts and resource use from economic activity and human well-being is required to achieve the Sustainable Development Goals while remaining inside the planetary boundaries. This further contributes to the achievement of the UNFCCC Paris Agreement, the Aichi Targets of the UNCBD and the Land Degradation Neutrality Objectives of the UNCCD. International exchanges and cross-country cooperation can accelerate transitions towards sustainable natural resource use, support national decision-making and create a level playing field for goods and services from different countries. While it is clear that decoupling should be an internationally pursued effort with the involvement of all countries, due consideration will have to be given to the different responsibilities and capabilities of individual countries. Agreed international guidelines may support the process of finding solutions to these global challenges. These different aspects call for a global discussion.

⁴ The circular economy promotes value-retention and environmental impact reduction while simultaneously reducing costs and creating economic opportunities.