

One Planet Living-
The case for Sustainable
Consumption and
Production in the Post- 2015
development agenda

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This paper makes the case for why sustainable consumption and production should be integrated into the post-2015 development agenda, as well as setting out practical proposals for what SCP-related targets might be, divided among the likely themes for post-2015 goals. It is evidence-based, drawing on the latest literature and evidence to explain why achieving sustainable development demands a decisive, global shift to sustainable consumption and production. The paper aims to increase collaboration within civil society and with other actors on this agenda.

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Executive summary

In simple terms, sustainable consumption and production (SCP) is about how people live their lives – what they need, what they consume and what they produce. It is at the heart of sustainable development because it enables people everywhere to live a good quality of life within their fair share of our one planet’s resources.

The UN Secretary-General’s High Level Panel on the Post-2015 Development Agenda concluded that the Millennium Development Goals (MDGs) fell short by ‘not addressing the need to promote sustainable patterns of consumption and production’.¹ We cannot afford to repeat this mistake.

The post-2015 goals – and the accompanying targets and indicators- for sustainable development that will succeed the MDGs must contribute clearly and actively to this global shift to SCP. Similarly, we must ensure the post-2015 goals are people-centred and universal – they need to reach the hearts and minds of people from the UAE to Malawi and from Denmark to Haiti.

This paper sets out proposals for what these practical SCP-related targets and indicators might be, divided among likely key themes for post-2015 goals. If adopted, this would be a powerful way of integrating SCP into the global sustainable development agenda. We want to make SCP less of a talking point and more of a reality amongst the people who will help make it happen- governments, business and civil society.

Business as usual is not an option. Climate change, habitat destruction and over-exploitation of natural resources such as forests and fisheries are now doing great harm to human health, wellbeing and livelihoods, especially among poorer communities. This threatens catastrophic damage for future generations. It is our accelerating production and consumption of goods and services which is mainly to blame. We are reaching and breaching the earth’s limits, as is apparent from the evidence provided by the early stages of work on ecological footprinting and planetary boundaries, and the scientific advice of Intergovernmental Panels.

This paper calls for countries to get a better grasp on how much their citizens are consuming, per capita, of natural resources at the global level, taking into account international supply chains. These carbon, water, land and materials footprints should be compared with estimates of what level of sustainable global per capita consumption these natural resources could supply for the entire human population, with everyone entitled to a fair share.

Under this ‘contraction and convergence’ approach, the poorest developing nations would have headroom in which to increase their consumption, helping to bring their populations out of poverty. Developed countries would have to reduce their consumption of some critical natural resources, and so, eventually, would some nations which are now classed as middle income. There is scope for developing countries to achieve good standards of living by taking far less resource-hungry, wasteful and polluting paths of development than the developed nations did during the previous two centuries.

It will not be easy to reach agreement on such an approach. But we need to avoid short term fixes. Deep rooted systemic and structural renewal is urgently required if we are to achieve a just and fair transition to a more sustainable future. For this reason, we are supportive of new growth models, which go beyond GDP and strive to ensure that people can live happy, healthy lives within their fair share of the earth’s resources – or one planet living.

This over-consumption crisis brings great opportunities for new, global partnerships. Ban Ki Moon’s High Level Panel Chairs spoke of a new principle of “mutual accountability” in a constrained world.² This report looks briefly at the role of business, governments and consumers in achieving the acceleration in SCP we need.

Governments have the greatest power to accelerate this shift. Politicians and governments can create the regulations, policies and market instruments that drive society towards SCP. Governments have a role in guiding our consumption, and many are already trying to learn lessons from the science of behaviour change in order to strengthen their existing levers.

Business must also take a central role. To survive and prosper in the long term, they have to go beyond the profit motive and act as responsible member of communities that are local, national and often international. Some companies are already leading the way, sourcing sustainably and making it easy for their staff and customers to make informed and sustainable choices. We want more businesses to use their power to influence governments and regulation, be more transparent in their reporting, and to shape their consumers tastes and behaviours.

But we also need consumers to act and think like global citizens, adjusting their attitudes, values and behaviours to minimise the risk to future generations. This challenge will only get more pressing as three billion consumers are expected to enter the middle class by 2050, the vast majority from developing countries³. Many consumers are calling for a shift to SCP, organising through social media, unions and civil society organisations, and even showing the way through grassroots initiatives which provide inspiring practical examples of SCP.

In addition to new, global partnerships, achieving genuinely sustainable development will require significant technological innovation and the rapid, widespread transfer and implementation of technologies and know-how. We want to harness human ingenuity – evident in ‘high and hard’ technologies such as smart grids and lower-tech solutions such as bottle lights- for the benefit of all. This will mean building capacity, such as creating strong national systems of innovation and governments setting the right policy environment. Where the solutions are very expensive, or where there is a lack of capacity, developing nations are entitled to help from developed nations.

Like ‘sustainable development’, SCP is an extremely broad and much debated term. The post-2015 goals for sustainable development are likely to be wide ranging, addressing issues such as health, governance and education. However, this report has set out targets and indicators under the following likely key themes for post-2015 goals most closely related to SCP:

- Ending extreme poverty, reducing inequality, securing social justice
- Securing sustainable, clean energy for all with climate protection
- Food security, good nutrition and sustainable agriculture and food production
- Sustainable water consumption and management, achieving universal access to water and sanitation
- Protecting biodiversity and ecosystem services and ensuring sustainable natural resource management

The intention is that the proposed targets could be relevant under a number of different goal headings in a final framework. We hope that our proposals for these SCP-related targets and indicators can be used effectively and become a powerful way of making SCP less of a talking point and more of a reality for all.

Introduction

“To continue on this business-as-usual path would be very dangerous. Changes in consumption and production patterns are essential, and they must be led by the developed countries. Recent food and energy crises, and high prices for many commodities, point to a world where increasing resource scarcity is the norm.”⁴

Report of the High-Level Panel of Eminent Persons on the Post-2015 Development Agenda (2013)

Achieving genuinely sustainable development demands a decisive, global shift to sustainable consumption and production (SCP). Post-2015 goals for sustainable development which succeed the Millennium Development Goals (MDGs)⁵ must contribute clearly and actively to this shift. The same applies to targets and indicators accompanying these goals.

This paper sets out proposals for what these SCP-related targets and indicators might be, divided among likely key themes for post-2015 goals. We are not setting out goals; instead we are using our reading of the debate to anticipate what the likely themes are, then honing in on those most relevant to SCP. If adopted, these SCP targets and indicators would be a powerful way of integrating SCP into the agenda for global development in the period after 2015.

Like ‘sustainable development’, SCP is an extremely broad and much debated term. It has remained under intense international discussion for more than 20 years demonstrating its continued importance and salience. **(Box 1)**

Because its meaning is so broad, there may not need to be a single, explicit SCP goal as part of the collection of post-2015 sustainable development goals. Instead, an agreed set of targets and indicators can start to make SCP an integrated part of the post-2015 agenda. We hope these proposals can help to spark constructive debate leading to global agreement on a set of SCP targets and indicators which government, civil society and other stakeholders will frequently reach for.

Alongside these SCP targets there is, however, a need for any set of post-2015 sustainable development goals to include at least one strong, top-level goal about respecting planetary boundaries and managing natural resources sustainably.

Targets and indicators covering SCP can then chart how all countries and people everywhere can acquire a good quality of life while respecting those boundaries and protecting the natural resources on which we all ultimately rely and which underpin our social and economic wellbeing.

The UN Secretary-General’s High Level Panel on the Post-2015 Development Agenda concluded that the MDGs fell short by ‘not addressing the need to promote sustainable patterns of consumption and production’⁶. A post-2015 framework needs to respond to that challenge and not repeat the same mistake.

Pollution, climate change, habitat destruction and over-exploitation of natural resources such as freshwater and fisheries are now doing great harm to human health, wellbeing and livelihoods, especially among poorer communities, and undermining the prospects for a long-term healthy economy. This threatens catastrophic damage for future generations. It is our accelerating production and consumption of goods and services which is mainly to blame.

Box 1: SCP – now is the time

Sustainable consumption and production (SCP) has been on the global environment and development agenda for more than 20 years. It featured in key texts agreed at the first UN 'Earth Summit' in Rio de Janeiro in 1992 and has reappeared at every major environment and development conference since, including the 2012 UN Conference on Sustainable Development in Rio.

"...the major cause of the continued deterioration of the global environment is the unsustainable pattern of consumption and production, particularly in industrialised countries, which is a matter of grave concern, aggravating poverty and imbalances.⁷"

Agenda 21, UN Conference on Environment and Development (1992)

"...fundamental changes in the way societies consume and produce are indispensable for achieving global sustainable development.⁸"

The Future We Want, UN Conference on Sustainable Development (2012)

World leaders attending the 2012 UN Conference on Sustainable Development in Rio adopted a global 10-year framework of programmes (10YFP) supported by the United Nations Environment Programme to enhance international cooperation and to support regional and national initiatives towards SCP. The setting of targets and indicators across the two frameworks- the proposed post-2015 Sustainable Development Goals and the 10YFP – provides an opportunity for effective and coordinated action on SCP. The 10YFP UN Inter-Agency Coordination Group has an important role in making a success of this process and avoiding the creation of SCP silos⁹.

The phrase was invented to highlight that human societies, particularly those in developed nations, were producing and consuming things in ways which were clearly unsustainable if the entire global population followed them. Two decades ago when those patterns of consumption and production were restricted to less than two billion people, largely in the developed world, severe environmental damage was already being done at the regional and global scale. Since then global GDP has nearly doubled, large middle classes have formed in emerging economies, unsustainable consumption and production have spread and environmental threats have grown. Yet major technological advances, education, improved human rights and participation combined with a new model of economic growth all have the potential to make SCP the reality that people and the planet need it to be.

SCP requires great improvements in the efficiency with which we use natural resources such as fertile land, freshwater, fisheries and biomass, from the point where they are first grown or extracted through to the way consumers use and dispose of the products made from them. It also requires very large reductions in pollutants and greenhouse gas emissions resulting from production and consumption.

While this will depend on major investment in more resource-efficient technologies and large transfers from richer to poorer nations, it also requires wider changes: in the prevailing economic model, in the mindsets of producers and consumers, in politics, policies and regulation and in ways of measuring and seeing goods and services, their impacts on our lives and the planet. SCP is the economic and social transformation required to provide a decent standard of living for all within planetary boundaries. To make progress, SCP must have a central role in the post-2015 development agenda and, equally, in the proposed sustainable development goals now under discussion.

Rapid population growth has been partly responsible for the harm done, but across most of the globe this is now slowing with the total human population of 7 billion projected to reach around 8.4 billion people in 2030 – the likely end year for a set of Sustainable Development Goals¹⁰. A far greater threat comes from the rapid spread of industrialisation and urbanisation, along with lengthening and increasingly global supply chains, bringing mass production and consumption of an ever wider range of goods and services.

In little more than a single generation, resource hungry, unsustainable lifestyles and technologies which were the norm in developed nations have spread, *en masse*, to a huge and fast growing middle class in emerging economies. Accompanied by rapid and sustained economic growth, this great change has transformed lives and lifted many out of poverty – but with great damage to the environment, while leaving many people behind.

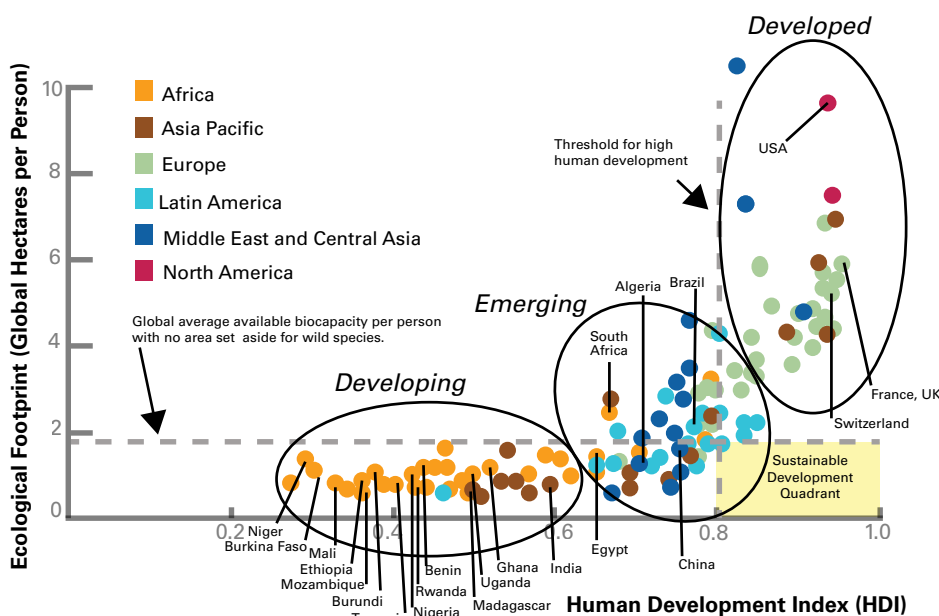
Indeed, the benefits of rapid economic growth and expanding consumption have not been evenly distributed and inequality has grown rather than shrank. The implication is that our current models of economic growth are working neither for the poorest or the planet.

Given our existing governance, technologies and economic management, growing numbers of people consume far more natural resources and do far greater environmental damage than can be sustained without severely undermining the prospects for future generations. Planetary limits are threatened; arguably some have already been breached. **(Box 2)**

Yet alongside these over-consumers there are billions who under-consume, often found living only a few streets away. In a world that is more than half urbanised, everyone should be able to consume a minimum level of basics essential for their wellbeing.

This starts with adequate food, but it includes clean, safe water for drinking and washing close to or in people’s homes. Every family, rural or urban, should be entitled to consume the resources required to give them a safe, weather-proof home. Every adult and child should be able to access essential medicines when they fall ill. Targets and indicators for SCP should help to define a minimum level of consumption essential for human dignity.

This graph shows each nation’s human development index (HDI) score against its ecological footprint per capita (see p 6). The UN’s HDI is a combined measure of a country’s educational attainment, life expectancy and income per capita. Most of the poorer countries, with low HDI scores, have populations living within the earth’s biocapacity but the more developed, wealthier nations are all outside of it, living beyond their planetary means. What is required is for nations to move into the empty quadrant in the right hand bottom corner.



Box 2: Reaching and breaching the earth's limits

One single species' impact on Earth is colossal and unprecedented. So much so that after 12,000 years our planet has now left the Holocene, the relatively benign period during which agriculture, civilisation and industrialisation all flourished, and entered a new, man-made geological era known as the Anthropocene¹¹. Even if humans were to quit the scene, our dominant influence on the biology, chemistry and physics of the Earth will be found in rocks being formed for tens of thousands of years to come.

Humans now take a quarter of all of the planet's primary production – the plant material made from sunlight-powered photosynthesis each year¹². We use more than a third of the earth's entire land area for growing food; that land take increases each year¹³. Once, most of the earth was forested. Today a little less than a third of it is but that total continues to shrink while most of the earth's remaining forest cover has been cleared by humans at least once¹⁴. We are changing the climate, acidifying and overfishing the oceans and causing the highest rate of species extinctions for tens of millions of years.

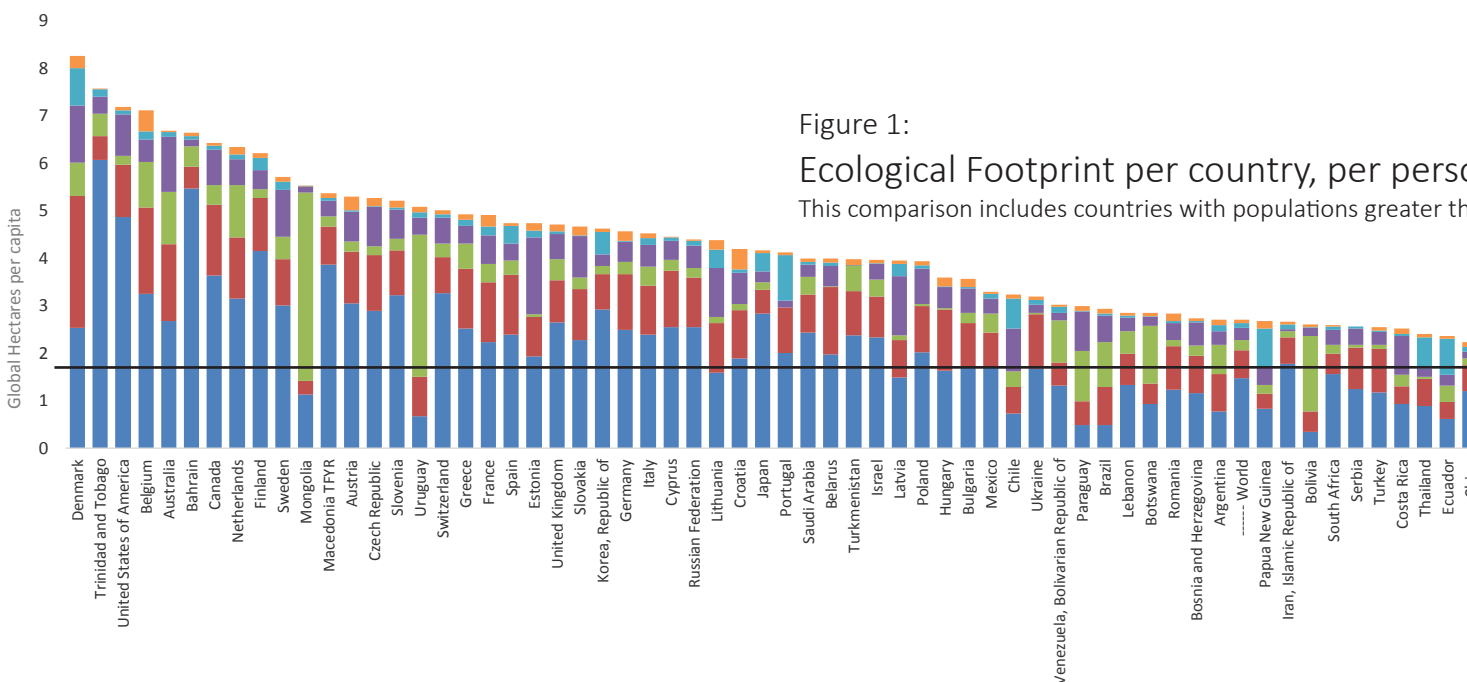
Ecological footprinting (Figure 1) is one way of demonstrating that humanity is overstressing the earth's ability to provide renewable natural resources and safely handle the wastes, pollution and climate changing gases we produce. It

estimates the total area of land and sea required to support these pressures in the long term¹⁵.

The Global Footprint Network estimates that our global footprint is about one and a half times the Earth's total area of land and sea¹⁶. To sustain us in the long term we would need one and a half planets. If everyone lived in the same way as people in the average developed nation, we would need three planets¹⁷. But more than a billion of the earth's poorest people lack a basic level of human needs and if all humanity lived in this way, we would be consuming less than a third of our planet's resources every year.

Another approach is to chart planetary boundaries based on "tipping points" for planetary parameters which humanity is influencing, and estimate where the earth currently stands with respect to those boundaries. When these are crossed, humanity runs very high risks of irreversible and catastrophic environmental change. Stockholm University's Stockholm Resilience Centre brought 28 leading scientists together to propose a set of nine boundaries, summarised in the table right¹⁸. Three have already been breached. Two have yet to be determined.

Both ecological footprinting and the planetary boundaries approach are at an early stage. They will continue to be debated and developed while other ways of looking at humanity's impacts on planetary life support systems may emerge. Both approaches are shining a powerful spotlight on the great risks now being run.



Planetary Boundaries

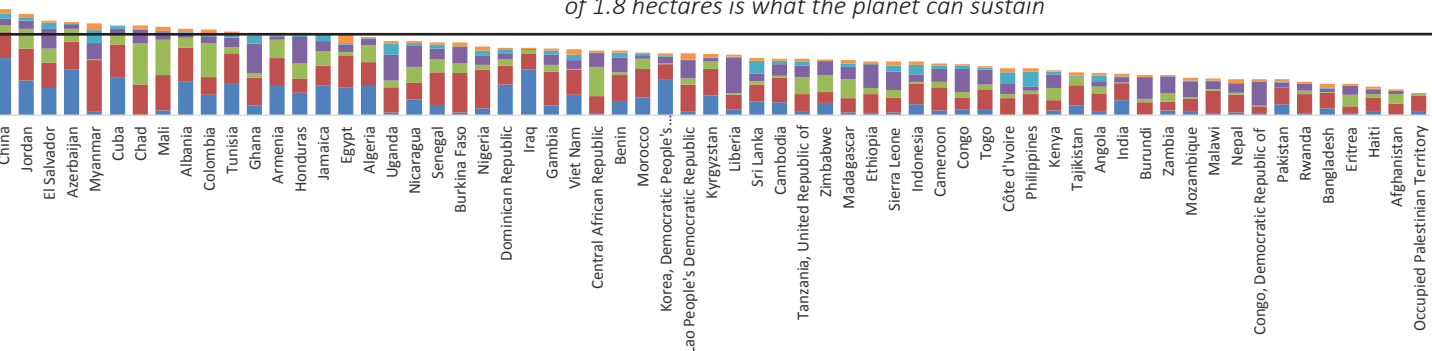
Earth-system process	Proposed boundary	Current status and threat
Climate change	Atmospheric concentration of CO ₂ 350 ppm, change in radiative forcing of 1 watt per square metre	Significantly breached
Rate of biodiversity loss	10 species per million species becoming extinct per annum	Significantly breached
Nitrogen cycle	35 million tonnes of nitrogen removed from the atmosphere per annum for human use	Significantly breached
Phosphorus cycle	11 million tonnes per annum of phosphorus flowing from land into the oceans	Could be breached during this century
Stratospheric ozone depletion	276 Dobson units – a measure of ozone density in a column of the atmosphere	Came near to being breached, but now in recovery
Ocean acidification	2.75 global mean saturation state of aragonite in surface sea water	Likely to be breached this century on current trends
Global freshwater use	4,000 cubic kilometres of freshwater consumed by humans per annum	Could be breached during this century
Change in land use	15% of earth's total land area converted to crop land	Could be breached during this century
Atmospheric aerosol loading	Boundary yet to be determined- overall particulate concentration in the atmosphere, on a regional basis	
Chemical pollution	Boundary yet to be determined- amount emitted into, or concentration of, persistent organic pollutants, plastics, endocrine disrupters, heavy metals and nuclear waste in, the global environment – or a measure of overall effects on ecosystems	

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on, 2009.
 an 1 million for which complete data are available (Global Footprint Network, 2011).

- Built-up land
- Fishing grounds
- Forest land
- Grazing land
- Cropland
- Carbon

With the current global population, an average of 1.8 hectares is what the planet can sustain



With the World Bank estimating that 1.2 billion people (one in six of the earth's population) still live – or subsist- on incomes of less than \$1.25 a day, economic growth is conventionally seen as essential for meeting the goal of ending absolute poverty²⁰. Yet on current trends, continued economic growth on a 'business-as-usual' trajectory will see hundreds of millions remaining in extreme poverty and will be accompanied by dangerous climate change, conflicts over dwindling resources and local and regional ecosystem collapses which will harm local – and often poor and vulnerable – communities. It will also pose wider threats to our one planet's life support systems.

To take one example, in the first decade of this century total global emissions of carbon dioxide, the most important greenhouse gas, rose by almost 3% a year, in line with global GDP growth and much faster than global population growth.²¹ Each passing year of growing emissions commits the earth to larger changes in climate and further ocean acidification.

Decoupling, footprinting, contraction and convergence

Sustainable production and consumption would see economic growth decoupled from rising resource consumption and worsening environmental damage²². Combined with equity and good governance, SCP is the means by which the entire human population could have the chance of decent lives, with dignity and within planetary boundaries.

It is possible to "get more from less" by cutting waste, improving processes and introducing new technologies in manufacturing and service industries. Many businesses have succeeded in this in their own operations. But these steady gains in efficiency have not added up to give an overall, economy-wide decoupling of natural resource use from GDP and population growth. This can be seen by considering countries' material footprints.

A nation's materials footprint is the combined weight of all the basic raw materials it uses (biomass, construction materials, fossil fuels and metal ores). It includes all the raw materials used to make those goods the nation imports, even though these materials were extracted or grown overseas (these

raw materials weigh three times as much, overall, as the actual goods imported). However, the materials footprint excludes all the domestically produced raw materials that go into nation's exports. It is arguably the best measure of a country's global requirement for natural resources.

A recent analysis of material footprints for 186 nations found these are very strongly coupled with economic growth, including in developed countries. As they become wealthier countries generally consume more and more biomass, construction materials, fossil fuels and metal ores, albeit that a growing share of these raw materials come from the developing world and emerging economies.²³

"Humanity is using natural resources at a level never before seen. The total volume of 70 billion tonnes of raw material extraction is unprecedented and per capital levels of resource consumption are at their highest level in history (10.5 tonnes per person per year in 2008). These numbers are predicted to rise unless stringent reduction targets and policies are put in place."

The material footprint of nations, Wiedmann et al.²⁴

Decoupling to date remains very far from achieving the global scale and pace required. We have to go further and faster, using new (but also some time honoured and indigenous) technologies, changes in consumer and producer attitudes and values, regulation and good governance to move us towards SCP.

All countries need to know how much their citizens are consuming, per capita, of critical natural resources at the global level, taking international supply chains into account. They should ascertain the per capita footprints for natural resources such as freshwater, forests, farmland, fisheries, raw materials and climate stability (i.e. per capita carbon emissions on a consumption basis).

These footprints should be compared with estimates of what level of *sustainable* global per capita consumption these resources could supply for the projected population of 8.4 billion in 2030, with everyone entitled to an equal share. Where country footprints significantly exceed this equal share, governments – alongside business and civil society – should adopt policies and programmes which bring consumption down in an equitable way, protecting those who have the lowest incomes and are most vulnerable.

Under this “contraction and convergence” approach, the poorest developing nations would have headroom in which to increase their consumption, helping to bring their populations out of poverty. Developed countries and growing middle classes in developing countries would have to reduce their consumption of natural resources.

There are major obstacles to agreeing such an approach. The lack of progress in reaching an effective global agreement that can even prevent greenhouse gases from rising, let alone shrink them, demonstrates this.

But consider the alternative. It is a future in which critical natural capital shrinks rapidly and the wealthier nations and global corporations compete to secure the remaining stocks. Resource conflicts and land grabs become more likely, prices of basic commodities soar while the poor are left even

further behind. Natural resources are the lifeblood of the economy and in a future of unsustainable consumption the depletion and degradation of those resources will jeopardise the health and growth of future economies.

To adopt such a global footprinting approach, there would have to be agreement about the maximum safe rates at which natural resources could be exploited globally, compatible with planetary boundaries. This is no simple matter; any estimates can be contested and a degree of precaution ought to be built in.

Growing awareness of planetary limits and the harm being done to communities by over-exploitation and environmental damage will, however, push governments towards such an approach. In the meantime, discussion about consumption footprints and broad support for targets and indicators based on them can help pave the way for effective agreements.

Before setting out our proposals for targets and indicators, we briefly consider the roles of industry and commerce, government and consumers in achieving the acceleration in SCP which is urgently required. We also look at how technology can contribute to this great shift, which will be as important to humanity’s future as the origins of farming, cities and mass production once were.

Role of governments

The transition to sustainable consumption and production can only happen if governments and other state authorities in developed and developing nations can ensure all of the basics of good governance; economic and fiscal competence, security and the rule of law, basic freedoms and the absence of corruption.

But they must also provide leadership. If the targets and indicators we propose for SCP are to have any traction then governments will have to endorse them. They will then have to articulate and campaign for them in their nations and change regulation, policy and programmes to achieve real progress towards the targets.

It is universally accepted that markets and trade must be regulated to some degree and that destructive market failures can result if they are not. Many products and services are marketed under extensive restrictions and amid controversy, or simply outlawed – for example credit, tobacco, alcohol, gambling and illegal drugs. Developed and some developing countries are now struggling with obesity epidemics, leading governments to challenge food and drink manufactures to take a more responsible attitude to what they sell.

This challenge and scrutiny around responsible marketing now needs to be enlarged, covering all goods and services with damaging environmental and social impacts. Governments, along with civil society and business, can use SCP targets and indicators to help make this change.

The most important and cross-cutting types of measure governments must take are to:

Support large and rapid improvements in resource efficiency and energy efficiency by producers and challenge unsustainable production: Governments can support research and development in sustainable production and drive improvements through regulation and standards, voluntary agreements and changes in subsidies and taxation.

Shift government procurement towards SCP: Understand and measure the footprints of the products and services procured by government

and other state organisations and local authorities. Specify products with the lowest impacts and the greatest benefits, giving due weight to the social and environmental aspects of sustainability alongside value for money.

Provide policy stability: Short political cycles often lead to an unstable policy environment for investors and businesses. For example, investors in environmentally sound technologies, such as solar and wind power, have found that changes to government subsidies undermine their long-term business models. Governments need to find ways to overcome these barriers. The Netherlands created the Social and Economic Council of the Netherlands (SER), an advisory and consultative body of employers' and trade union representatives and independent experts which aims to overcome 'short termism' by helping to create social consensus on major national and international socio-economic issues.

Help consumers towards sustainability and challenge unsustainable consumption: This can include 'nudge'-type policies, information campaigns and fiscal incentives and disincentives which encourage people to buy more sustainable products and services. State subsidies for unsustainable products should be withdrawn. This also requires political leadership which asks people to be global citizens as well as domestic consumers.

To that end, we would like to see governments agree on a holistic, easy to understand set of sustainable development goals – and targets attached to them – which can be used to engage citizens in sustainable living, including changing their consumption choices as individuals and as collaborating communities. The One Planet Living framework, based on ten principles of sustainable living, is an example of this kind of framework.²⁵

Align infrastructure investment with SCP: Governments may not always own or build the infrastructure their nations need, but they are key players in deciding what gets built and where. As such, governments must avoid "locking in" prolonged environmental damage and high levels of natural resource waste and degradation when they appraise

projects and issue consents, setting sustainability standards instead. This applies particularly to new housing and urban growth, energy and water supply, transport infrastructure, waste handling infrastructure and extractive industries.

Change measurement and accounting systems:

Governments should develop accounting systems which measure critical natural capital, weighing up losses and gains when appraising policies and programmes, and use a wide range of sustainability indicators. They should give measures of human development, equity and wellbeing equal weight to GDP growth. Governments also need to work with business to measure the footprints of products and services taking global supply chains into account. The System of Environmental-Economic Accounts promoted and developed by the UN Statistics Division can assist governments in this.²⁶

Reduce inequalities, increase equality of

opportunity: Pressures to consume, which drive up the overall level of consumption, may be reduced when there is a less of a gulf between rich and poor. Large elites using their wealth and high income to consume far more than a fair and sustainable share of natural resources only makes it harder to secure the consensus required for more globally responsible consumption.

The governments of developed nations face an additional responsibility. They have pioneered and embedded an economic system which, were everyone to adopt it, would catastrophically breach planetary limits doing great harm to humanity. Having caused most of the accumulated damage while enjoying more than a century of rapid progress, these advanced nations have both the resources and the obligation to lead a global transition to SCP.

“There is an urgent need for developed countries to re-imagine their growth models²⁷”

Report of the High-Level Panel of Eminent Persons on the Post-2015 Development Agenda (2012)

Whether it takes the form of private sector investments, demand for sustainable products or overseas development assistance, developed countries should ensure the financial transfers required to enable developing nations to adopt SCP.

Role of business

Businesses exist to provide products and services people want, making money for their owners in the process. But that is not the whole story. To survive and prosper in the long term, businesses have to go beyond the short term profit motive, act as responsible members of communities that are local, national and sometimes global and avoid doing harm to people and the environment.

They must be motivated to take a central role in the transition to sustainable consumption and production. Increasing size and global reach bring increasing responsibility. The largest multi-national corporations have enormous power to influence governments and regulation, to shape livelihoods through their investment decisions and employment practices, and to influence consumer tastes and behaviour. Unilever has argued that “for businesses to achieve scale, companies must move beyond corporate social responsibility and address issues of poverty and sustainability as part of their core business strategies²⁸.”

Sooner or later, major businesses in all sectors will have to decide whether to lead on SCP or be led towards it – by governments and regulators, activist shareholders, customers, competitors and key suppliers. There is also scope for small and medium sized enterprises and start ups to grow vigorously by developing the sustainable products and services which will make the unsustainable variety obsolescent.

If adopted, the SCP targets and indicators we propose here can put pressure on producers to do more with less, to focus on reducing waste and on moving towards closed loop manufacturing. Many jobs can be created or secured in this transition towards a greener, more resource efficient economy.

The most important types of cross-cutting changes that businesses of all sizes need to make are to:

Seek business opportunities from SCP:

Research, develop and build markets for the new products and services which meet sustainability criteria and supply basic needs to people who lack them. Plan to move out of business areas that are fundamentally unsustainable.

Source and procure sustainably: Understand the social and environmental impacts of all the raw, processed and manufactured materials in supply chains, reduce the harm to people and the environment and increase the benefits, secure the business against resource scarcity by developing sustainable alternatives²⁹.

Radically increase resource efficiency: Reduce or eliminate wastage of natural resources and energy by reusing or recycling, taking more responsibility for the impacts of products and services once they reach the consumer. Shift towards longer-lived, repairable or refurbishable products, or from products towards services (such as renting a product rather than buying one).

Provide integrated and transparent reporting:

Provide timely, accurate information on social and environmental impacts as well as financial performance. This includes publishing information on the water, land, carbon and materials footprints of particular products and the business overall.

Help consumers towards sustainability: Businesses must engage with their customers, building understanding of and enthusiasm and demand for sustainable products and services. The power of advertising and marketing needs to be focussed on this, rather than endlessly creating demands for novel products which signify status or difference³⁰. Businesses can also “choice edit”, not selling products and services with the worst performance in sustainability terms.

Bring employees, suppliers and other stakeholders on the journey:

Staff, and the employees of suppliers, should earn a ‘living wage’ and have decent working conditions while the growing gulf in salary levels between the lowest paid staff and the most senior executives needs to be contained. Sustainability requires equity; when this is combined with education about and support for the employer’s sustainability goals, employees can become informed advocates boosting its reputation and its staff retention.

Role of consumers

Changes in the production of goods and services cannot do all of the heavy lifting required to make the SCP transition. Changes in the attitudes, values and behaviour of consumers will matter too.

We need more consumers who think and act like global citizens, who care about their carbon, water and land footprints and about what happens at the far end of long supply chains- and who make their purchasing decisions accordingly.

Greater awareness and responsibility among consumers will put pressure on producers to move their own operations and their suppliers towards sustainability. It will also give politicians and governments the political space to bring in the regulations, policies and market instruments that drive society towards SCP.

The number of consumers with enough disposable income to make a real impact on sustainability through purchasing decisions is huge and growing – half or more of the earth’s population. They comprise the great majority of people living in the developed world and a large and fast growing proportion in the developing world³¹.

Changing the hearts, minds and behaviour of such a huge body of people seems a daunting task. It must be shared between civil society, government and enlightened business. And not every consumer will have to be persuaded. The challenge is to change enough of them to make sustainable consumption a social norm; many of them have already begun, or want to begin, the journey.

In developed countries, almost all consumers must reduce their carbon, water, land and materials footprints in order for the earth’s entire population to have the chance of achieving a good standard of living within planetary boundaries³². That implies a reduction in the total volume of products they buy and a shift towards purchasing low impact, small footprint services instead.

This challenges today’s global growth model in which an ever-increasing volume and variety of products and services is seen as integral to economic growth. Advertising and marketing ceaselessly

encourage people to consume more, to want new products and to signify status and wealth through consumption. “Winners take all” societies in which the gap between the richest and poorest grows ever-wider only intensify the pressure to consume. The world’s wealthiest nations continue to prioritise the maximisation of economic growth largely because their governments rely on it to deal with many of the tensions and social problems arising from growing inequality.

Consumer societies are now well established in many middle income nations, embracing hundreds of millions of newly middle class families³³. Their footprints must also be constrained as part of the sustainable consumption and production shift.

Rapid and sustained improvement in the resource efficiency of producers – of both goods and services – is required, but on its own this is unlikely to be up to the task of preventing footprints from enlarging. The reductions it delivers will struggle to outpace the footprint expansions caused by the growth in national economies and household incomes. Furthermore, the financial savings achieved through large improvements in resource efficiency may only end up enabling consumers to purchase more – the so-called “rebound effect”³⁴.

Governments and business can use knowledge from psychology, behavioural science and behavioural economics to help nudge people in the right direction, making it easy or rewarding for people to reduce their footprints and more difficult, inconvenient or expensive to carry on expanding them³⁵

But a deeper, broader change is required in the values and attitudes which drive increasing mass consumption – one involving more solidarity, responsibility and sense of community and less individualism. Civil society, including trade unions, has a crucial role to play here.

Many developed world consumers are also investors, and they can use their investment choices in pension funds to favour enterprises which are moving towards SCP.

Technology and innovation

Achieving genuinely sustainable development demands that we harness human ingenuity for the benefit of all. Technology does not offer us a 'silver bullet' for achieving sustainable consumption and production, and on its own it will not counter the growth in natural resource consumption driven by growth in economies and populations. However, new technologies, the dispersion and development of existing technologies and 'home-grown' innovations can make a powerful contribution alongside wider efforts from industry and commerce, government and consumers.

We require significant technological innovation and the rapid, widespread transfer and implementation of technologies and know-how in a range of sectors such as energy, transport, construction, water, agriculture and fisheries, forestry, waste and pollution control.

We will need to encourage a diversity of pathways necessary for technological innovation and dissemination, enabling both 'high and hard' technologies and low-tech, Intellectual Property Right-free solutions which meet local needs, such as the plastic bottle light that began in Brazil and is now found in millions of homes around the world³⁶. The spread of SCP technologies will also involve innovation by a variety of actors at different scales, from civil society organisations working with the poor to small and medium sized enterprise and governments to large corporations, as well as international South-South and North-South-South collaboration.

Fostering trade and innovation in sustainable products and production methods will allow developing nations to benefit from 'leapfrogging'; industrialising and urbanising using advanced, cleaner technologies thereby avoiding much of the damage to environment and human health which occurred during industrialisation in today's most developed nations. Information technology, particularly the World Wide Web and mobile telecommunications, has already quickened progress in ways which were inconceivable just 20 years ago³⁷.

Products and services based on these new technologies can be considerably cheaper, either

up front or over their useful lifetimes, than the obsolescent, dirtier technologies they have replaced, usually because they are far less wasteful or make use of free renewable resources such as solar energy. But where they are more expensive, or where there is a lack of capacity, developing nations require assistance in deploying them.

We do not have a good grasp of how much technology is successfully transferred annually, although it is taking place in the sense that companies are selling products internationally³⁸. To take one example, Philips Africa is launching a new stove for the African market³⁹. We need better indicators and data to quantify the level and flows of environmentally sound technology (EST) in order to give countries better information on which to base their decisions.

There are, however, formidable obstacles in the way of technology transfer and innovation⁴⁰. Technological innovation must occur fast enough and continue over a period of time to meet the great challenges posed to poverty and planetary limits by climate change and the growth in economies and population. Where necessary, developing nations need access to massive capital flows required to invest in 'high and hard' technologies.

Getting the balance right between accessibility of technology geared to helping the poorest, and rewards for the creativity of technology innovators remains a fundamental challenge. All countries should promote intellectual property rights and licences in such a way that innovation is fostered and R&D investment rewarded, while avoiding misapplication which may impede diffusion of technologies⁴¹.

The most important types of cross-cutting changes that all decision-makers – particularly governments and businesses – need to make are as follows:

Build capacity: human and organisational as well as information assessment and monitoring capacity. For example, the transfer of many 'high' technologies requires a wide range of technical, business and management skills. 'Low' technology solutions also require capacity-building albeit of a different nature,

focused on the promotion of local innovation by investments in domestic education and industry, as well as access to information and investments which enable citizens and users to engage in the innovation system as users, creators and inventors⁴².

Create effective multi-stakeholder partnerships:

We require new international, multi-stakeholder partnerships with economic actors at different scales. This includes effective international research exchanges such as the SCORE project undertaken in partnership with four UK universities and an NGO (Practical Action) to create a clean stove that also generates electricity⁴³.

Build a coherent enabling legal, policy, financial and institutional environment for private and public sector innovation and technology transfer:

National science, technology and innovation policies and systems “need to be designed within the context of national strategies and action plans for sustainable development; they must be strategically linked to education policy, intellectual property and trade policies⁴⁴.”

Promote open-access to knowledge: All countries should promote open access to knowledge in order to “maximise the potential of scientists [and others] to bridge knowledge gaps...facilitate economic growth, social cohesion, and promote good governance⁴⁵”. One example of this is the Honey Bee Network in India which links grassroots entrepreneurs – such as inventors of a bicycle-powered washing machine – to a form of open source information sharing which allows people to gain access to and build on product development⁴⁶. Another is the movement to make, often taxpayer funded, academic research freely available. Examples of this are the well-respected publications of the Public Library of Science (PLOS).

Create awareness about environmentally sound technologies and provide trustworthy standards:

Countries should create awareness about products, processes and services that use ESTs through means such as eco-product labelling, product standards, industry codes and community education. Standards need to be context specific – they should not price products out of the reach of those at the bottom of the pyramid.

Promote fair, competitive and open markets for ESTs:

Developed countries should promote competitive and open markets for ESTs. Developing countries should stimulate fair competition in EST markets by discouraging restrictive business practices⁴⁷.

Target funding at ESTs: Governments must use their leverage to strengthen Multilateral Development Banks (MDB) programmes to account for the environmental consequences of their lending and encouraging MDBs to participate in National Innovation Systems partnerships⁴⁸. MDBs and donor governments could also step up efforts to encourage private sector investments by offering risk-mitigating assistance such as loan guarantees.

There are three main institutional sources of support for developing countries; Official Development Assistance (ODA); the Global Environment Facility, an operating entity of the UNFCCC Financial Mechanism; and the MDBs. Private sector investment in developing countries is increasingly important but is currently not transferred to the poorest countries, the ones being left furthest behind. Hence ODA remains an important catalyst because the private sector tends to be selective and volatile; for example, private sector flows are comparatively low in sectors such as forestry and coastal zone management.

Countries may also wish to consider increasing public funding for R&D in cleaner technologies to reflect the high rate of social return and augment their funding by entering into co-operation with developing countries and international research institutions in R&D partnerships⁴⁹.

Promote participatory approaches: These approaches to innovation have been found to successfully link science and technology with the interest of excluded communities. To take one example from a recent University of Sussex paper, participatory approaches to plant breeding start with the concerns of the most routinely marginalised, such as women, involving them in designing and implementing the selection and testing of different plant varieties⁵⁰. Whilst such bottom-up initiatives do not present panaceas, far more serious attention to these kinds of innovation is required in order to address the challenge of social justice.

Targets and indicators for integrating SCP in a post-2015 framework

A new set of agreed Sustainable Development Goals (SDGs) has the potential to dominate the global sustainable development agenda in much the same way that the Millennium Development Goals (MDGs) have dominated discourse on international development since 2000.

We have analysed where SCP is- and is not-addressed in key post-2015 texts and processes and drawn on a wide range of thinking on targets and indicators concerning sustainable development, reviewing the reports and papers listed in **Annex 1**. We have also relied on the expertise and experience of leading civil society organisations involved in the post-2015 sustainable development agenda.

We have selected five goal areas that are particularly relevant for sustainable consumption and development and that are each highly likely to feature in an individual goal. These are:

1. Ending extreme poverty, reducing inequality, securing social justice
2. Securing sustainable, clean energy for all with climate protection
3. Food security, good nutrition and sustainable agriculture and food production
4. Sustainable water consumption and management, achieving universal access to water and sanitation
5. Protecting biodiversity and ecosystem services and ensuring sustainable natural resource management

We are not proposing these as definitive goals, although there are strong arguments for each of them. Rather, we are identifying them as themes for post-2015 SD goals.

An alternative approach is to press for a single, specific post-2015 goal devoted entirely to SCP, but we feel more progress can probably be made by pushing for agreements on strong SCP targets and indicators under likely SD goals. The arguments are well set out in a recent paper by the Institute for Global Environmental Strategies⁵¹.

For each of these five themes, we propose between two and eight targets that bear directly on sustainable consumption and production of products and services we all rely on – including some ecosystem services we obtain for free. We summarise the key sustainability challenges in each of these five areas before setting out the proposed SCP targets with one or more measurable indicators for each⁵².

Some of these targets concern over-consumption. Others are about under-consumption, recognising that more than a billion people are unable to consume sufficient to guarantee them the most basic level of wellbeing and dignity.

Given the cross cutting nature of issues relating to SCP, several of our targets can be related to more than one goal area. Some are global while some refer to developed or developing nations. Individual nations can elaborate on their own target ambition, adding more precision and number values.

Where the targets include a number, we have left it unspecified in most cases recognising that this will be a matter of debate and negotiation. These targets can be realistic yet ambitious enough to make major progress towards SCP over the period 2015-30. If these, or targets like them, were adopted this would be a big step forward in integrating SCP into the post-2015 sustainable development agenda.

We recognise that there are likely to be some further sustainable development goals adopted beyond these five areas which are critical for securing sustainable development, for example concerning health and wellbeing, education and lifelong learning and employment opportunities. There may be scope for further SCP-related targets beneath these goals.

We would also warmly welcome the adoption of SDGs concerning peace and security and good governance, human rights, transparency and participation. Without these fundamentals it would be very difficult for any society or nation to make long term progress towards sustainable development and SCP. We hope these illustrative goal areas and the accompanying targets and indicators will encourage further discussion and analysis in the post-2015 process.

Goal Area 1: Ending extreme poverty, reducing inequality, securing social justice

Key SCP challenges:

Social injustice: We live in a time when natural resources and our existing knowledge and technology could enable everyone to live a good life, and a better life than ever before in human history. Yet some two billion people live in, or near to, extreme poverty which compromises their health and lifespans, denies them comfort and security and leaves the great majority unable to fulfil their potential⁵³. These under-consumers are denied their fair share of resources.

Over-consumption imposes increasing risks on the poor: in a resource constrained world, wealthy elites and nations may use their purchasing power to seize resources and deny access to those in poverty, leaving them further and further marginalised⁵⁴. Their demand can also push up prices of food, worsening poverty.

Extreme poverty can harm the environment: poor people's limited consumption can be unsustainable because they are driven to over-exploit local natural resources in order to meet their most basic needs, such as felling trees for fuel wood. Poverty leaves them unable to secure more sustainable alternatives. It can also be associated with high population growth in resource-constrained regions.

In this goal area, an SCP target around ending absolute poverty and severe relative poverty aims to give every family a minimum level of consumption, with the indicator set in dollar terms (at purchasing power parity) because almost every human society uses money.

Achieving this, however, depends on much more than consumption – it requires essentials such as good governance, employment and universal access to education so that people everywhere are given the life chances required to escape poverty.

An SCP target of reducing inequalities recognises that lower income households in developed and developing countries may be loathe to engage with sustainable consumption if they see large, wealthy elites with high consumption lifestyles.

The wealthiest 20% of the world's population receive 70% of global income while the poorest 20% receive just 2%, adjusted for purchasing power parity. The division in consumption of natural resources between the richest and poorest fifths of the global population is about as unequal.⁵⁵

Target	Indicators
Guarantee everyone a minimum level of consumption compatible with human dignity by ending extreme poverty and severe relative poverty by 2030	<ul style="list-style-type: none"> • % of population living on less than \$xx (at purchasing power parity) per day. This figure should be significantly higher than the World Bank's extreme poverty line of \$1.25 per person per day (in 2005 PPP prices) and the \$2 a day poverty line (in 2005 PPP \$), the median (average) poverty line for all developing countries. • Population living on less than median income in countries with a Gini coefficient exceeding 0.35 <p>Other non-monetary measures related to human development – adequate nutrition, longevity, literacy, access to safe drinking water and sanitation, access to education, levels of employment and unemployment, measures of good governance.</p>
Significantly reduce inequalities within and between nations by 2030	<ul style="list-style-type: none"> • Gini coefficient • Gulf in GDP per capita between the richest and poorest nations, each group having 10% of earth's total human population. • Gulf in household income, at PPP, between richest and poorest quintiles of human population

Goal Area 2: Securing sustainable, clean energy for all with climate protection

Key SCP challenges:

Climate change: rising consumption of finite fossil fuels leads to emissions of greenhouse gases which are causing dangerous and escalating climate change⁵⁶.

Air pollution, indoors and outdoors: growing fossil fuel combustion in road vehicles, power stations and manufacturing causes air pollution which shortens hundreds of millions of lives in developed and developing countries, causes massive ill health and damages ecosystems and buildings. In developing countries many households still rely on biofuels such as charcoal and animal dung for cooking in or just outside their homes, exposing them to dangerous air pollution⁵⁷.

Lack of access to secure, affordable electricity: Electric power is, or should be, a universal staple giving people clean, artificial light at night, refrigeration and access to learning and modern communications, whether they live in towns or rural areas. In remote areas, it may be locally generated rather than supplied by a grid. Yet over a billion people lack access to electricity, mostly in sub-Saharan Africa or developing Asia⁵⁸.

*Some 40% of the world's population currently rely on wood, coal, charcoal, or animal waste to cook their food breathing in toxic smoke that causes lung disease and kills an estimated four million people a year, most of them women and children.*⁵⁹

Alongside a huge expansion in energy access in the developing world, we need a rapid global transition to cleaner, climate-friendly energy sources. But, as importantly, we need a large and sustained increase in the rate at which energy efficiency improves everywhere, because all energy sources – including renewables – consume resources at some stage and can have damaging environmental impacts. Continued rapid expansion of some sectors reliant on fossil fuels, such as aviation, is incompatible with SCP.

The targets set out here would transform energy consumption and production worldwide, containing the risks of dangerous climate change while giving everyone access to safe, secure and clean energy sources. They are compatible with the three objectives set out in the UN and World Bank's Sustainable Energy for All initiative – universal access to modern energy services, doubling the global rate of improvement in energy efficiency and doubling the share of renewable energy in the global energy mix⁶⁰.

Target	Indicators
Universal access to electricity from national/regional grids or more local supplies, with xx % of global electricity generated from clean, renewable resources by 2030	<ul style="list-style-type: none"> • % of households with access to electricity • % of public buildings (e.g. schools, clinics) with electricity • % of electricity generated from renewable sources • Ratio of median annual cost of electricity per household to median national household income
Universal access to clean cooking fuels by 2030, with zero reliance on solid fuels combusted in ways which cause health hazards	<ul style="list-style-type: none"> • % of households with access to clean cooking fuel • Ratio of median annual cost of clean cooking fuel per household to median household national income
Radically increase the rate of energy efficiency improvement in buildings, industry, agriculture and transport globally. Energy consumption per capita to fall in the developed world by xx% by 2030, energy consumption per unit of GDP to fall by xx% by 2030 in the developing world.	<ul style="list-style-type: none"> • Energy consumption per unit or per unit of production/output in buildings, industry, agriculture and transport. • Overall energy consumption per capita and per unit of GDP
Universal phase out of fossil fuel subsidies by 2020 and xx % of total energy use to be supplied by renewable sources by 2030	<ul style="list-style-type: none"> • % of subsidy in overall fossil fuel sales • % of total energy demand met by renewable sources
Global carbon dioxide emissions from fossil fuel use to peak by 2020 and fall thereafter; the peak and rate of fall consistent with holding the increase in global average temperature below 2 degrees C above pre industrial levels. Developed countries to lead, with reductions of xx % per annum from now	<ul style="list-style-type: none"> • Total national annual CO₂e emissions from fossil fuel consumption • Total national annual CO₂ emissions accounting for embodied emissions in exports and imports • Total annual CO₂e per capita and per unit of GDP from fossil fuel consumption
Reduce, year on year, the global morbidity and mortality due to air pollution, halving the health burden by 2030	<ul style="list-style-type: none"> • Exposure levels for indoor and outdoor air pollutants most dangerous to human health, parts per million. • Estimates of life years lost due to indoor and outdoor air pollution
Double investment in clean energy and energy efficiency innovation globally by 2030, including in research and development, with emphasis on tackling energy poverty in developed and developing world	<ul style="list-style-type: none"> • % of GDP and % of ODA

Goal Area 3: Food security, good nutrition and sustainable agriculture and food production

Key SCP challenges:

Under consumption of food: A total of 842 million people, or one in eight of the earth's population, are estimated to be suffering from chronic hunger, regularly not getting enough food to conduct an active life⁶¹. They cannot afford to give themselves and their families a healthy diet or even enough calories to keep hunger at bay. Lack of food and poor nutrition can do permanent damage to health and development and exerts an enormous toll on wellbeing.

Over consumption of food: The obesity epidemic afflicting many developed countries and causing great and costly harm to health has now spread to many emerging economies. A third of the earth's adults are now overweight or obese⁶². As incomes rise, people demand more calorie-rich food and their diets also shift towards eating more meat and dairy – which in turn requires more crops to feed livestock and poultry. Global demand for all foods is expected to grow by 60% between 2006 and 2050, and by 75% for meat, pushing up global food prices and leaving hundreds of millions suffering severe hunger.⁶³

Increasing production sustainably: Already, food production is becoming increasingly unsustainable. The big increase in global output required to match the rise in demand flowing from increased household incomes, changing diets and population growth threaten to exacerbate the situation. So, too, does man-made climate change. The most important issues to address are:

- Loss of productive farmland and soil fertility due to unsustainable irrigation, soil erosion, overgrazing and other poor management, loss of land to urbanisation and to non-food crops including biofuels. A lack of diversity among food crops is also a threat.
- Damage to ecosystems, biodiversity and water resources, and the critical services they provide to farmers, through conversion of natural and semi-natural areas to intensively used farmland, poor use of pesticides and fertiliser run off⁶⁴
- High levels of food loss and wastage – this tends to be 'downstream' in developed nations, largely by retailers and consumers, and 'upstream' in developing countries, where food is destroyed by pests or rots in storage before it reaches consumers⁶⁵.

Yet throughout the developing world, there is huge untapped potential for yield growth in small-scale agriculture. With the right kind and level of support and investment, combined with human rights protection for small scale land users, this potential can be realised, helping to meet the sustainable production challenges while delivering agricultural development for poor communities whose livelihoods depend on farming⁶⁶.

About 1/3 of food is lost in developing countries because it cannot get to market on time; about 1/3 of food in rich countries is wasted, largely because consumers throw it away⁶⁷.

Target	Indicators
End hunger, ensure every adult and child receives adequate nutrition, with a focus on local and regional food security	<ul style="list-style-type: none"> • % of children suffering from stunting, wasting, anaemia • Average calorie intake of lowest decile/quintile by income • Ratio of average annual price of food staples per household to median household income • % of locally and regionally grown food in diets
Reduce obesity and the resulting toll on public health and health systems	<ul style="list-style-type: none"> • % of adult, child population obese
Prevent the proportion of meat and dairy in diets from exceeding globally sustainable levels	<ul style="list-style-type: none"> • % of meat and dairy in average diet
<p>Increase the rate of improvement in agricultural productivity by sustainable means (or increase agricultural productivity by xx% by 2030 by sustainable means):</p> <ul style="list-style-type: none"> • using fertiliser and pesticide inputs more efficiently • improving land management and access to improved technology • recovering degraded land, protecting soil, ending desertification • protecting the ecosystem services agriculture relies on • providing the resources that developing nations require to make these changes 	<ul style="list-style-type: none"> • Efficiency of artificial (nitrogen, phosphorus) and organic fertiliser use, tonnes used per unit of output • Efficiency of irrigation, cubic metres of water used per unit of output • Level of access to sustainable, affordable irrigation - % of farmers and smallholders with access • Total area of farmland significantly degraded by arable and livestock farming, including area degraded by unsustainable irrigation • Extent and rate of desertification • Levels of air and water soil erosion, megatonnes per annum • Abundance of natural pollinators
End overfishing, rebuild over-fished stocks by 2030	<ul style="list-style-type: none"> • Number of stocks over-fished, degree of overfishing • % of total fish caught thrown back into the sea
Reduce food loss and food waste along the chain by xx % by 2030, from post-harvest losses to consumer waste. Zero landfilling of food waste	<p>% of food wasted or lost:</p> <ul style="list-style-type: none"> • post harvest and in storage • in manufacturing and processing • in distribution and retail • by final consumers

Goal Area 4: Sustainable water consumption and management, achieving universal access to water and sanitation

Key SCP challenges:

Lack of access to clean water and sanitation: A total of 768 million people – almost one in ten – of the earth’s population still lack access to clean, reliable and affordable water for drinking, food preparation and washing close to where they live and work. Some 2.5 billion people – more than a third – lack adequate sanitation, with nearly 700 million having to use facilities which fail to meet minimum hygiene standards⁶⁸. In the 21st century this represents the most abject under-consumption, second only to hunger

Increasing water use sustainably: As with food production, humanity is already facing major problems and running increasing risks in meeting its current needs for water – yet on current trends we will need much more in the coming decades. Nearly three billion people are now estimated to live in areas where the regional demand for water outstrips supply and half a billion people live in countries

which are chronically short of water⁶⁹. Freshwater is often used very wastefully, surface water sources are carelessly polluted and groundwater reserves are increasingly mined, extracting water which cannot be replenished naturally for many thousands of years⁷⁰.

The spending power of affluent consumers now stretches hundreds or thousands of miles along global supply chains. Much of the food and clothing they purchase has a large water footprint and can contribute to water stresses in distant countries. Rising water consumption is linked to economic and population growth; agriculture, fossil fuel-based energy supply and many types of manufacturing and services have a heavy demand for water. Climate change is likely to worsen water shortages in many nations⁷¹.

The challenge is to shrink water footprints per capita in developed nations, while developing nations need a sustained and rapid increase in the efficiency with which they use water.

Target	Indicators
<p>Universal access to safe drinking water and sanitation inside or adjacent to everyone’s home, school and workplace by 2030, with an end to open defecation.</p>	<ul style="list-style-type: none"> • % of homes, schools, workplaces with safe drinking water source on the premises or within 10 metres • % of homes, schools, workplaces with sanitation on the premises or within 10 metres • Estimates of mortality/morbidity due to unsafe drinking water
<p>By 2030 recycle or treat all municipal and industrial wastewater prior to discharge</p>	<ul style="list-style-type: none"> • % of municipal and industrial wastewater discharged without treatment • Levels of faecal coliforms in rivers, coastal waters
<p>Cut water wastage and improve water efficiency, year on year, so as to end over-abstraction of freshwater supplies by 2030, consistent with maintenance of biodiversity in all surface waters and long term sustainability of groundwater supplies, and start recovery of over-exploited aquatic ecosystems</p>	<ul style="list-style-type: none"> • Total freshwater abstraction per unit of GDP and per capita • % of freshwater abstracted as a % of total local, regional and national renewable water resource • % of water put into supply that is wasted • Rates of groundwater depletion • Health of aquatic ecosystems • Length of major rivers suffering from over-abstraction
<p>Reduce, year on year, the water footprint per unit of output in sectors which consume most freshwater taking account of global supply chains – heavy industry, power generation, paper and pulp, irrigation-based agriculture for food and fibre</p>	<p>Cubic metres of freshwater consumed per unit of output in:</p> <ul style="list-style-type: none"> • Iron and steel making and other heavy industry • Power generation • Paper and pulp making • Irrigation-based agriculture for food and fibre
<p>Reduce overall water footprint per capita in developed nations by xx % by 2030</p> <p>Reduce overall water footprint per unit of GDP in developing nations by xx % by 2030</p>	<ul style="list-style-type: none"> • Global water footprint per capita for each nation • Global water footprint per unit of GDP for each nation

Goal Area 5: Protecting biodiversity and ecosystem services and ensuring sustainable natural resource management

Key SCP challenges:

Reducing biodiversity and habitat loss: Human activity has resulted in a growing loss of biodiversity and natural and semi-natural habitats, bringing about the highest extinction rate for 66 million years and generating dangerous levels of greenhouse gas emissions. Natural and semi-natural habitats provide humanity with a wide range of ecosystem services, some local, some global, and their loss is shrinking the earth's capacity to support people and other living things⁷².

Achieving sustainable natural resource management: This is arguably the greatest of all SCP challenges. The key challenge for governments is to go beyond GDP measurement and place a value on natural resources, both outside and inside their national borders, so that unsustainable exploitation becomes much more difficult or impossible. An

essential first step is to end all state subsidies which encourage unsustainable exploitation of natural resources. Nations should agree accounting systems which weigh up different kinds of natural capital and accurately record losses and gains. These valuations and accounts must then influence a wide range of policies, programmes and regulation, flowing through into fiscal and economic policy. This demands collaboration between nations; it will be difficult for any one country to make these kinds of changes in isolation⁷³.

Nations also need to set aside significant areas of natural and semi-natural habitat on land and in marine environments for effective, long term protection, recognising the needs of their human inhabitants. Transfers from developed to developing nations are required to help this to happen.

Target	Indicators
Reduce the annual rate at which natural and semi-natural habitats are being converted to farmland, urban land and other uses that compromise or diminish ecosystem services by xx % by 2030	<ul style="list-style-type: none"> • Rate of land use change
By 2030, no nation to have a global cropland footprint above 0.20 hectare per capita ⁷⁴	<ul style="list-style-type: none"> • National cropland footprints at the global level, taking into account exports and imports of food/fibre/biofuels
Reduce global deforestation to zero by 2030, increase reforestation and afforestation rates by xx % per annum, and ensure timber extraction takes place only in managed forests and plantations with replacement planting.	<ul style="list-style-type: none"> • Rate of deforestation • Rate of reforestation • Rate of afforestation
Ensure xx % of global land and sea area providing key ecosystem services and/or that are rich in biodiversity has secured full protection by 2030. Each country to have its own land and marine (for non-landlocked nations) targets for extent of protected areas, based on its level of development, its natural endowment and support committed by developed nations.	<ul style="list-style-type: none"> • Extent of terrestrial areas protected by law and effective voluntary agreements/community or public ownership • Extent of marine areas protected by law and effective voluntary agreements/community or public ownership • Measures of effectiveness of protection in securing biodiversity and ecosystems

Target	Indicators
<p>Social and environmental accounting to be adopted by all governments and major corporations with market capitalization over \$3bn by 2020, with natural capital accounts, regularly updated sustainability indicators and regulation and policy based on charging for environmental damage.</p>	<ul style="list-style-type: none"> • % of nations to have adopted appropriate methodologies, conventions, regulation and policy • % of corporations with market capitalization over \$3bn integrating material sustainability issues throughout their report and accounts⁷⁵
<p>Government, local government and major public services in all developed nations/all nations with per capita annual GDP above \$xx to have sustainable procurement policies in place by 2020, taking full account of environmental damage and use of natural resources along supply chains</p>	<ul style="list-style-type: none"> • % of national governments to have mandated sustainable procurement policies
<p>All developed nations/all nations with annual per capita GDP above \$xx make year on year progress in transforming their economies towards radically improved resource and material efficiencies, reducing material footprints (MF) per capita by xx% by 2030</p>	<ul style="list-style-type: none"> • MF of nations as a national total, per capita and per unit of GDP. MF is the total weight of raw materials extracted/grown to meet national needs; it includes raw materials extracted/grown overseas and excludes domestically extracted/grown raw materials that go into exports • Energy consumption per unit of GDP • Individual nations' global per capita footprints in terms of CO₂ emissions, water, farmland, timber and raw materials • Total post-consumer waste generated per capita, in tonnes per annum
<p>Resource efficiency is increased by xx % by 2030 in the non-agricultural upstream sectors with the heaviest land takes and biodiversity/ecosystem impacts including:</p> <ul style="list-style-type: none"> • Construction • Pulp and paper manufacturing <p>Note: A target for improved resource efficiency and productivity in agriculture is proposed in Goal Area Three</p>	<ul style="list-style-type: none"> • Total waste generated, in tonnes per annum, along supply chains per unit of output • Land, raw material and water footprints per unit of output

End notes

1. High-Level Panel of Eminent Persons on the Post-2015 1. Development Agenda (2013), *A New High-Level Panel of Eminent Persons on the Post-2015 Development Agenda (2013), A New Global Partnership: Eradicate Poverty and Transform Economies Through Sustainable Development*
2. See note 1
3. World Economic Forum (2013), *Engaging Tomorrow's Consumers*
Available at: <http://www.weforum.org/reports/engaging-tomorrow-consumers>
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Beyond2015

Beyond 2015 is a global civil society campaign, pushing for a strong and legitimate successor framework to the Millennium Development Goals. The campaign, created in 2010, is built on a diverse, global base. It ranges from small community based organisations to international NGOs, academics and trade unions. A founding principle of the campaign is that it is a partnership between civil society organisations from the 'North' and the 'South' – bringing together groups from developing, emerging and developed economies. The campaign brings together more than 900 Civil Society Organisations from over the world. Whilst Beyond 2015 participating organisations have a range of views regarding the content of a post-2015 framework, the campaign is united in working to bring about the following outcome:

- A global overarching cross-thematic framework succeeds the Millennium Development Goals, reflecting Beyond 2015's policy positions.
- The process of developing this framework is participatory, inclusive and responsive to voices of those directly affected by poverty and injustice.

www.beyond2015.org

BOND

Bond is the UK membership body for organisations working in international development or supporting those that do through funding, research, training and other services.

www.bond.org.uk

BioRegional

BioRegional is a charity which works with partners around the world to demonstrate that a sustainable future is attractive, affordable and achievable. We call our approach One Planet Living. BioRegional is the Sustainable Consumption and Production Focal Point for both Beyond2015 and the UN Environment Programme's 10 Year Framework of Programmes (10YFP).

www.bioregional.com

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