



Chapter 1:

Getting to know the Sustainable Development Goals

An introduction to the SDGs

In September 2015 Heads of State and Government agreed to set the world on a path towards sustainable development through the adoption of the 2030 Agenda for Sustainable Development.¹ This agenda includes 17 Sustainable Development Goals, or SDGs, which set out quantitative objectives across the social, economic, and environmental dimensions of sustainable development – all to be achieved by 2030. The goals provide a framework for shared action “for people, planet and prosperity,” to be implemented by “all countries and all stakeholders,

acting in collaborative partnership.” As articulated in the 2030 Agenda, “never before have world leaders pledged common action and endeavour across such a broad and universal policy agenda.”² 169 targets accompany the 17 goals and set out quantitative and qualitative objectives for the next 15 years. These targets are “global in nature and universally applicable, taking into account different national realities, capacities and levels of development and respecting national policies and priorities.”³ A set of indicators and a monitoring framework will also accompany the goals. The indicators are defined by the Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs), which will present its recommendations to the UN Statistical Commission in March 2016.

Box 1: The Sustainable Development Goals (SDGs)

The 17 Sustainable Development Goals form a cohesive and integrated package of global aspirations the world commits to achieving by 2030. Building on the accomplishments of their predecessors the MDGs, the SDGs address the most pressing global challenges of our time, calling upon collaborative partnerships across and between countries to balance the three dimensions of sustainable development - economic growth, environmental sustainability, and social inclusion[1.i].



Goal 1: End poverty in all its forms everywhere

Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Goal 3: Ensure healthy lives and promote well-being for all at all ages

Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Goal 5: Achieve gender equality and empower all women and girls

Goal 6: Ensure availability and sustainable management of water and sanitation for all

Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all

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

Goal 10: Reduce inequality within and among countries

Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable

Goal 12: Ensure sustainable consumption and production patterns

Goal 13: Take urgent action to combat climate change and its impacts

Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development

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

Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

Goal 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development

The SDGs build upon the success of the 8 Millennium Development Goals agreed upon in 2000 to halve extreme poverty by 2015 as a midpoint towards eradicating poverty in all its forms. The MDGs focused on the many dimensions of extreme poverty, including low incomes, chronic hunger, gender inequality, lack of schooling, lack of access to health care, and deprivation of clean water and sanitation, among others. They achieved some great successes, for example halving the likelihood of a child dying before their fifth birthday (see Box 2). Yet, many countries did not make sufficient progress, particularly on environmental sustainability, and it is now widely recognized that additional work is needed to achieve the ultimate goal of ending extreme poverty in all its forms. Further, there is consensus that the scope of the MDGs needs to be broadened to reflect the challenges the world faces today. Around 700 million people still live below the World Bank's poverty line, and billions more suffer deprivations of one form or another. Many societies have experienced a rise of inequality even as they have achieved economic progress on average. Moreover, the entire world faces dire environmental threats of human-induced climate change and the loss of biodiversity. Poor governance, official corruption, and in dramatic cases overt conflict, afflict much of the world today.

The SDG Agenda responds to these compound challenges, and is therefore broader and more complex than the MDGs. Most importantly, it adopts sustainable development as the organizing principle for global cooperation, meaning the combination of economic development, social inclusion, and environmental sustainability. Hence, the overarching name "Sustainable Development Goals," as the key message to the world community. Furthermore, the SDGs and related agenda apply to all countries, developed and developing alike. The post-2015 agenda calls for actors to move away from business-as-usual (BAU) approaches towards the sustainable use of resources and peaceful and inclusive societies[1.4].

The outcome document for the SDG Agenda synthesizes the breadth of these issues by declaring that the SDG framework will stimulate action on five key themes: people, planet, prosperity, peace, and partnerships, which are described briefly below[1.5].

Box 2: Lessons from the MDGs

The SDGs build on the success of the Millennium Development Goals (MDGs) in mobilizing collective action around a time-bound set of globally agreed goals. The eight MDGs were adopted in 2002 as a framework to operationalize the Millennium Declaration. The Declaration, adopted by Member States of the UN General Assembly in the year 2000, articulated the world's "collective responsibility to uphold the principles of human dignity, equality and equity at the global level" and to eradicate the world's most extreme and deplorable conditions, including poverty and destitution[1.ii]. The MDGs, which conclude at the end of 2015, focus on the most vulnerable populations, and address extreme poverty, hunger, disease, gender equality, education, and environmental sustainability. They mark a historic and effective global mobilization effort to achieve a set of common societal priorities. By packaging these priorities into an easy-to-understand set of eight goals, and by establishing measurable, time-bound objectives, the MDGs promote global awareness, political accountability, improved monitoring, mobilization of epistemic communities, civic participation, and public pressure.

Many countries have made significant progress towards achieving the MDGs. In 1990, the baseline year for measuring MDG progress, almost half of the developing world lived on less than US\$1.25 a day measured in 2005 prices (the World Bank poverty line used during the MDG period). According to new estimates from the World Bank, today less than 10% of the world's population live on less than the equivalent \$1.90 per day measured in 2010 US\$[1.iii]. Furthermore, according to the UN Millennium Development Goals Report 2015, the likelihood of a child dying before age five has been nearly halved, and the global maternal mortality ratio dropped by 45%. Since 1990, nearly 3.3 million deaths from malaria have been averted, and new HIV infections have decreased by 1.4 million cases[1.iv].

Primary school net enrollment in the developing world has reached 91%. Ninety-one percent of the world uses improved drinking water. Additionally, ozone-depleting substances have been almost eliminated, with the ozone layer predicted to recover by mid-century. The MDGs have also provided a galvanizing force and organizing framework for development cooperation. Official development assistance (ODA) has increased by 66% since 2000, providing an additional US\$135.2 billion of support[1.v].

People

"We are determined to end poverty and hunger, in all their forms and dimensions, and to ensure that all human beings can fulfill their potential in dignity and equality and in a healthy environment."[1.6]

The MDGs played an important role in focusing the world's attention on reducing extreme poverty, yet progress has been incomplete. As of 2011, the percent of people in extreme poverty (living on less than \$1.90 a day) in sub-Saharan Africa was 44.3%, and in South Asia was 22.3%[1.7]. In particular, least developed countries, land-locked developing countries, and small-island developing states remain behind, as they face structural barriers to development. In many societies the most vulnerable populations have made little progress. Mass migration, often caused by violence and conflict, has led to massive displacement, instability, and large populations living in dangerously overcrowded refugee camps and informal settlements. Gender inequality remains widespread, as many young girls are deprived of education and forced into early marriages.

Under the MDGs the world has made tremendous progress in reducing child mortality, but six million children still die each year from preventable causes[1.8]. Maternal mortality rates have come down in most countries, but not sufficiently to meet the MDG. Large numbers of people do not have access to affordable primary health care [see Tracking universal health coverage: First global monitoring report], and major efforts are needed to ensure universal access to basic infrastructure, including energy, water, sanitation, and transport. While a lot of progress has been made in increasing primary school enrolment in all countries, completion rates remain low, and far too many children do not complete a full cycle of education from early-childhood development through to secondary school completion. Approximately 800 million people remain chronically undernourished[1.9] and do not have access to sufficient, safe, and nutritious food. Another billion or so face various kinds of micronutrient deficiencies [see The State of Food Insecurity in the World 2015]. For these reasons the SDGs commit to ending extreme poverty in all its forms, including hunger, and call on all people to enjoy universal access to essential social services and basis infrastructure by 2030.

Planet

"We are determined to protect the planet from degradation, including through sustainable consumption and production, sustainably managing its natural resources and taking urgent action on climate change, so that it can support the needs of the present and future generations."[1.10]

The scale of human impact on the physical Earth has reached dangerous levels, which threatens long-term

progress against poverty and the well-being of rich and poor countries alike. The world economic system is already "trespassing" on the Earth's "planetary boundaries," [see Planetary boundaries: Guiding human development on a changing planet; Big World, Small Planet. Abundance within Planetary Boundaries]. Many natural resources and ecosystems essential for human and societal well-being are being threatened or destroyed, such as loss of biodiversity, air pollution, water shortages and pollution, deforestation and grasslands degradation, and soil contamination. Climate change is no longer a future threat but a stark current reality. We are already seeing the consequences of rising carbon dioxide concentrations and higher global temperatures, such as changes to the intensity and duration of extreme weather events and ocean acidification[1.11]. With the scale of global economic activity doubling roughly every generation we must change how the economy functions or the environmental consequences of growth will become overwhelming and indeed devastating.

The SDGs commit to protect the planet from degradation, including through sustainable production and consumption and the sustainable management of natural resources (including terrestrial and marine ecosystems), as well as taking urgent action to tackle climate change.

Prosperity

"We are determined to ensure that all human beings can enjoy prosperous and fulfilling lives and that economic, social and technological progress occurs in harmony with nature."[1.12]

The world must shift to sustainable consumption and production patterns that do not deplete natural resources for future generations, and that promote prosperity for all. Unless this shift occurs, continued population and economic growth will further increase planetary pressures and exacerbate social exclusion and inequality. The sustainable development framework places a central emphasis on decoupling economic growth from unsustainable resource use and pollution, and offers unprecedented opportunities for low-income countries to join an international production system. Additionally, rapid technological change and globalization are driving a rise in global incomes but also a rise in inequality among and within countries. Current growth patterns are not providing enough decent work, especially for young people without adequate skills and training, and are leading to widespread unemployment. Women continue to be economically undervalued and excluded in many countries and regions. Rapid population aging can leave the elderly in dire conditions unless appropriate policies are in place. And vulnerable groups such as the disabled and indigenous populations remain marginalized and excluded from full socioeconomic participation[1.13].

Peace

"We are determined to foster peaceful, just and inclusive societies, which are free from fear and violence. There can be no sustainable development without peace and no peace without sustainable development."[1.14]

In an age of globalization, governance within and among countries is becoming more diffuse and complex. Critical steps for sustainable development include promoting good governance, rule of law, human rights, fundamental freedoms, equal access to fair justice systems, as well as combatting corruption and curbing illicit financial flows. Effective and inclusive institutions are necessary to prevent all forms of abuse, exploitation, trafficking, torture, and violence. Most important, enhanced global cooperation through the UN Security Council and other UN institutions is necessary to prevent the spread of wars and extreme violence as is now afflicting many countries in the Middle East, North Africa, and Western Asia. Collaborative partnerships of all kinds will be essential to build effective, accountable and inclusive institutions at all levels. [1.15]

Partnerships

"We are determined to mobilize the means required to implement this Agenda through a revitalised Global Partnership for Sustainable Development, based on a spirit of strengthened global solidarity, focused in particular on the needs of the poorest and most vulnerable and with the participation of all countries, all stakeholders and all people."[1.16]

The SDG Agenda calls for a renewed global partnership, indeed many partnerships at all levels, with all countries and stakeholders working in solidarity to achieve the goals. Today's governments must coordinate with a broad spectrum of actors, such as multinational businesses, local governments, regional and international bodies, and civil society organizations. Accountability and transparency will be increasingly important at all levels of society, with revised regulatory mechanisms needed to ensure human, civil, and environmental rights. [1.17].

The benefits of goal-based planning

Why do we need Sustainable Development Goals? Do global goals matter? The evidence from the MDGs is powerful and encouraging. Global goals such as the MDGs and the SDGs complement international conventions and other tools of international law by providing a globally shared normative framework that fosters collaboration

across countries, mobilizes all stakeholders, and inspires action. Well-crafted goals are able to accomplish the following[1.18]:

- Provide a shared narrative of sustainable development and help guide the public's understanding of complex challenges. The SDGs will raise awareness and educate governments, businesses, civil society leaders, academics, and ordinary citizens about the complex issues that must be addressed. Children everywhere should learn the SDGs as shorthand for sustainable development.
- Unite the global community and mobilize stakeholders. Community leaders, politicians, government ministries, academics, nongovernmental organizations, religious groups, international organizations, donor organizations, and foundations will be motivated to come together for a common purpose around each SDG. The shared focus on time-bound quantitative goals will spur greater mobilization, promote innovation, and strengthen collaboration within epistemic communities or networks of expertise and practice. The experience in public health under the MDGs provides a powerful illustration of how communities can mobilize around time-bound goals.
- Promote integrated thinking and put to rest the futile debates that pit one dimension of sustainable development against another. The challenges addressed by the SDGs are integrated and must be pursued in combination, rather than one at a time. As a result, SDGs cannot be ordered by priority. All are equally important and work in harmony with the others. Each goal should be analyzed and pursued with full regard to the three dimensions of sustainable development (economic, social, and environmental).
- Support long-term approaches towards sustainable development. The goals, targets, and indicators will allow public and private actors to identify what is needed and chart out long-term pathways to achieve sustainable development, including resources, timelines, and allocation of responsibilities. This long-term perspective can help to insulate the planning process from short-term political and business imperatives.
- Define responsibilities and foster accountability. In particular, the goals can empower civil society to ask governments and businesses how they are working towards every one of the new goals. Timely, accurate data on progress is crucial for effective accountability. The SDGs must drive improvements in data and monitoring systems, which look to capitalize on the "data revolution," i.e. significant improvements in local, national, and global data collection, processing, and dissemination, using both existing and new tools.

New opportunities for sustainable development

As noted, the SDG framework has been designed to address today's challenges. While some trends, such as human-induced climate change or social exclusion, are moving in the wrong direction, other development trends offer reasons for hope. We live in an "a time of immense opportunity,"[1.19] with the end of extreme poverty in sight. There have been tremendous technological advances that have led to improved development outcomes, particularly in the key fields of health, energy, nanotechnologies, systems design, and especially information and communications technologies (ICTs), which have dramatically improved global interconnectedness and opened vast new opportunities for productivity advances across the world economy. The SDG agenda sets out five key opportunities for development that is (i) inclusive, (ii) universal, (iii) integrated, (iv) locally-focused, and (v) technology-driven.

Inclusive Development

"[A]ll stakeholders, acting in collaborative partnership, will implement this plan [SDG Agenda]." [1.20] The SDGs will engage multiple stakeholders at all levels of society to actualize the agenda. No one is left behind or left out, as "governments, international organizations, the business sector and other non-state actors and individuals must contribute." [1.21] Participatory processes will allow stakeholders to give voice to the needs and interests of the people they represent, enabling better-planned and better-informed initiatives.

Universal Development

The MDGs set out goals mainly for developing countries, to which rich countries added assistance through finances and technology. In contrast, the SDGs are "universal goals" that apply to all countries and "involve the entire world, developed and developing countries alike" [1.22], "taking into account different national realities." [1.23] Countries are asked to build on current policy instruments and frameworks to meet the goals and targets, taking into account differences in national contexts and development levels. Achievement of any of the SDGs will require concerted global efforts to achieve all of them. The 2030 Agenda is not about what the rich should do for the poor, but what all countries together should do for the global well-being of this generation and those to come.

Box 3: A Brief History of Sustainable Development

The SDGs are part of a history of multilateral efforts to shift the world onto a sustainable and resilient pathway. Intergovernmental efforts formally began with the 1972 UN Conference on the Human Environment. The phrase "sustainable development" was adopted and popularized in 1987, in the report of the United Nations Commission on Environment and Development, known widely by the name of its chairwoman, Norwegian Prime Minister Gro Harlem Brundtland. The Brundtland Commission provided a definition of sustainable development that was used for the next 25 years: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." [1.vi] This intergenerational concept of sustainable development was adopted at the 1992 UN Conference on Environment & Development in Rio de Janeiro. Over time, the definition of sustainable development has evolved to capture a more holistic approach, linking the three dimensions of sustainable development: economic development, social inclusion, and environmental sustainability. This three-part vision of sustainable development was emphasized at the 2012 Rio+20 Conference. The SDGs aim to provide a global framework for cooperation to address the three dimensions of sustainable development within an ethical framework based on: (i) the right to development for every country, (ii) human rights and social inclusion, (iii) convergence of living standards across countries, and (iv) shared responsibilities and opportunities [1.vii].

Integrated Development

The SDG Agenda moves away from siloed approaches to development and promotes the integration of the economy, environment, and society. The SDGs are "integrated and indivisible and balance the three dimensions of sustainable development." [1.24] The success of one leads to the success of all. Included in this is the need for good governance and strong social networks, which translates into a framework focused on "people, planet, prosperity, peace and partnerships" [1.25]. For example, a country's ability to combat hunger is directly connected to its agricultural system, its strategy for rural development, economic and income growth, management of natural resources, level of infrastructure, natural disaster mitigation plans, and the health of its population, requiring that many actors work together across and outside of government.

Locally-Focused Development

Local authorities and communities are responsible for the realization of the goals at local scales, recognizing in particular interdependent relationships between urban, peri-urban, and rural areas. The Rio+20 follow-up document, Key Messages and Process on Localizing the SDG Agenda, notes that “many of the critical challenges of implementing the SDG Agenda will depend heavily on local planning and service delivery, community buy in and local leadership, well-coordinated with the work of other levels of governance.”[1.26] A bottom-up approach can be successful in achieving transformational sustainable pathways through direct contact with communities, which informs national-level policy decisions. Cities will be particularly important to this process. By 2050, the world’s urban population is projected to grow by 2.5 billion people, to over 70% of the world living in cities, with approximately 90% of the growth expected to be in the developing regions of Asia and Africa[1.27]. Cities are the locus of worldwide consumption and production. The contribution of cities to global output is expected to rise to three-quarters in 2050[1.28]. Placing attention, investment, and innovation in cities will bring the world closer to the SDGs.

Technology-driven Development

Rapid technological change, particularly in ICT and data, but also in material science, manufacturing (e.g. 3D printing), genomics, and other areas, is deepening the integration of the world economy and enabling breakthroughs in productivity across the economy, with a significant potential to speed the pace of global development and economic convergence. Of great note for the SDGs is the current “data revolution,” characterized by an explosion of available data resources and rapidly evolving technologies for analyzing those data. One key lesson learned from the MDGs is that a lack of reliable data can undermine governments’ ability to set goals, optimize investment decisions, manage development processes, and measure progress. Drawing from this MDG experience, in 2014 UN Secretary-General Ban Ki-moon advocated for the harnessing of the current data revolution in support of sustainable development[1.29]. New technologies also offer tremendous opportunities to deliver public services, including healthcare, education, and basic infrastructure to more people at lower cost. E-government can offer new approaches to manage the complex and dynamic relationships between institutions and stakeholders with diverse objectives and competencies, assess and integrate initiatives at different governance levels, and support synergies to meet different goals.

What is Next?

The following chapters of this guide set out practical guidance on how to get started with implementing the 2030 Agenda. They explore how to take stock of a country’s current performance on sustainable development, how to convene a multi-stakeholder dialogue, prepare a roadmap for the design of SDG strategies, and finally, provide a set of tools to support the design of sector and goal-based strategies.

The background is a solid green color with a pattern of overlapping circles. Each circle is divided into several radial segments by thin white lines, creating a sunburst or gear-like effect. The circles are of varying sizes and are positioned such that they overlap each other, creating a layered, geometric pattern.

Chapter 2:

Preparing for implementation

Taking stock and identifying priorities for implementation

Before embarking on SDG implementation, stakeholders should take stock of where their country, sector, region, or city stands with regards to achieving all seventeen goals. A quick 'temperature check' of the key dimensions of sustainable development, including economic development, social inclusion, and sustainable environmental management, can help develop a shared understanding of priorities for implementation. In this way, national and local government actors and other key stakeholders can commence a dialogue on implementation of the SDGs with a common understanding of current conditions and the business-as-usual (BAU) trajectory.

Quick indicators for assessing a country or city's broad performance on the SDGs are captured in Table 1. They were selected based on several criteria: (i) maximum data availability, (ii) applicability in broad range of country settings, (iii) broad coverage of goal priorities. Of course these metrics do not measure the full range of SDG challenges, and they should not be misunderstood as doing so. They can also not serve as a management tool or accountability framework for implementing the goals – they are just a basis for getting started quickly through a rapid self-assessment. The SDSN Report Indicator and a Monitoring Framework (box 4) discussed criteria for SDG indicators in greater detail.

Since an initial snapshot is a rapid exercise to support initial national and local dialogues, data should be taken from existing official statistics including surveys, census, administrative records, geospatial imagery, or other forms of open data. The latest available data should be used and disaggregated to the greatest extent possible, so that it is possible to see how different socio-economic groups are fairing in as close to real-time as possible.

In many cases there will be data gaps, but these are instructive in and of themselves, because they demonstrate which areas do not receive sufficient attention, where institutional capacity may be insufficient, or where deeper analyses are required to understand what needs to be measured and how.

This information can help discern where countries or regions are lagging far behind the SDG targets and to articulate priority goals. Identifying priorities does not mean choosing one goal at the expense of another; the SDGs were crafted as an integrated set, which are interdependent and complementary. Instead, prioritization means identifying those areas lagging furthest behind and catalyzing resources, awareness, and policy actions in those areas to spur rapid progress.

Box 4: Principles for Indicator Selection

10 Principles for Selecting Global Monitoring Indicators^[1]

1. Limited in number and globally harmonized
2. Simple, single-variable indicators, with straightforward policy implications
3. Allow for high frequency monitoring
4. Consensus based, in line with international standards and system-based information
5. Constructed from well-established data sources
6. Disaggregated
7. Universal
8. Mainly outcome-focused
9. Science-based and forward-looking
10. A proxy for broader issues or conditions

5 Principles for Selecting Quick Stock-Taking Indicators

1. Limited in number (2-3 per goal) but capturing core elements of each goal
2. Applicable to broad range of country settings
3. Recent high-quality data available for as many countries as possible
4. Consensus based, in line with international standards and system-based information
5. Constructed from well-established and accessible data sources

[1] For more information see Sustainable Development Solutions Network, (2015), Indicators and a Monitoring Framework for Sustainable Development Goals: Launching a data revolution for the SDGs. p. 17.

Prioritization can also mean identifying specific areas to pursue in the short or medium term as an entry point to the broader transformation towards sustainable development. For example, a country or region subject to acute drought may decide to focus on sustainable water resource management as one of its immediate objectives, recognizing that a comprehensive water resource management strategy will consider the balance of the local ecosystem (SDGs 14/15), water use within local industry (SDG 12), the impact of the water shortages upon poverty, agriculture and employment (SDGs 1/2/8), and so on.

A stocktaking and prioritization exercise is not only relevant for national and local governments. The SDGs are universal goals that apply to all key stakeholders and should serve as a lens for critical internal reflection. For example, companies should see the SDGs as an opportunity to take stock of their business practices in their interactions with customers, suppliers, and the natural environment; civil society should use them as an opportunity to think through more holistic, cross-sectoral approaches to poverty alleviation and environmental management; and universities and knowledge institutions should consider whether the evidence and knowledge they are generating contributes to the pursuit of a more sustainable world for people and planet. For this reason, stakeholders should also seek to establish a set of measures against which to take stock of their performance on the SDGs.

The Global Reporting Initiative, the World Business Council for Sustainable Development, and the Global Compact have already developed a set of Key Performance Indicators with which businesses can measure their current performance on sustainable development and track their future contributions. The SDG Compass sets out an inventory of business indicators, mapped against the SDGs. It allows businesses “to explore commonly used indicators and other relevant indicators that may be useful when measuring and reporting your organization’s contribution to the SDGs.”

Civil society organizations, faith-based groups, and knowledge institutions should conduct a similar stocktaking exercise to consider how they contribute to each of the goals and identify priority areas for action. Each will need to consider its respective strengths and expertise as part of such an exercise.

Quick stocktaking exercises will be crucial to ensure that all stakeholders come to the table with a sense of their respective contributions towards the SDG agenda, as well as an informed opinion on priority concerns for the country, region, city, or sector.

Table 1: Illustrative indicators for a quick assessment of a country or region’s starting position with regards to sustainable development

Goal	Headline indicators
Goal 1	Poverty headcount ratio at \$1.90 a day (2011 PPP) (% of population)
	Poverty headcount ratio at national poverty lines (% of population)
Goal 2	Prevalence of undernourishment (% of population)
	Prevalence of obesity, BMI ≥ 30 (% of adult population)
	Cereal yield per hectare
Goal 3	Mortality rate, under-5 (per 1,000 live births)
	Life expectancy at birth, total (years)
Goal 4	Lower secondary completion rate (% of relevant age group)
	PISA score
Goal 5	Proportion of seats held by women in national parliaments (%)
	School enrollment, secondary (gross), gender parity index (GPI)
Goal 6	Improved water source (% of population with access)
	Water Stress Score
Goal 7	Access to electricity (% of population)
	Alternative and nuclear energy (% of total energy use)
Goal 8	Share of youth not in education, employment or training, total (% of youth population)
	Average annual per capita GDP over the past 5 years
Goal 9	Mobile broadband subscriptions per 100 inhabitants
	Research and development expenditure (% of GDP)
Goal 10	Palma ratio
	Gini index
Goal 11	Percentage of urban population living in slums or informal settlements
	Mean annual concentration of PM _{2.5} in urban areas
Goal 12	Municipal solid waste generation (kg per capita)
Goal 13	CO ₂ emissions per capita
	Losses from natural disasters (% GNI)
Goal 14	Share of marine areas that are protected
	Fraction of fish stocks overexploited and collapsed (by exclusive economic zone)
Goal 15	Red List Index
	Annual change in forest area
Goal 16	Homicides per 100,000 population
	Corruption Perception Index
Goal 17	For high-income and upper-middle-income countries: International concessional public finance, including official development assistance (% GNI)
	For low- and lower-middle-income countries: Government revenues (% GNI)
	Subjective Wellbeing (average ladder score)

A recent study by SDI, SDSN and Berelsmann Stiftung presents a very valuable resource for OECD countries embarking upon a stocktaking exercise. See Kroll, C., (2015) *Sustainable Development Goals: Are the rich countries ready?* Sustainable Governance Indicators, SDSN and Berelsmann Stiftung. Gutersloh: Berelsmann Stiftung.

Preparing to develop SDG strategies

Once national and local governments and key stakeholders have taken stock of their starting point and have started to articulate priority issues, it is necessary to embark upon a roadmap exercise to develop a national SDG strategy.

Do we really need a plan?

It may be necessary to explain to key stakeholders why an SDG strategy, built upon set of sector-specific strategies, is required. The idea of long-term strategies and planning is deeply frowned upon by some; ‘isn’t that how the old centrally planned economies collapsed?’ But in order to achieve goals as complex as the SDGs, societies will certainly need plans, with government taking the lead supported by the active engagement of business, academia, and civil society. There need not be rigid central planning of every sector in micro-detail, but basic and quantified strategies that look ahead are useful. These help governments and other stakeholders think over a 15-year time horizon and answer the question how can my country or my city achieve the new Sustainable Development Goals and/or what can my company, organization or institution contribute? This forward-looking planning is particularly important since the complexity of the goals requires integrated sustainable development plans that speak to one another and prioritize social, economic, and environmental considerations concurrently.

A plan needs to take the SDGs seriously as time-bound, quantitative objectives and articulate the major shifts in policy, programs, and investments required to achieve each goal. Take SDG 4 for example, on quality education for all. Consider a low-income country in sub-Saharan Africa. Perhaps today only 25% or 30% of kids 16 or 17 years old are completing a secondary education. Perhaps three-fourths are not. But according to SDG 4 there should be universal completion, 100% completion, by 2030. The key stakeholders in that country – the government, business community, academia, and civil society – must think very hard about a sound strategy to close an enormous education gap, and to do so successfully by 2030. Such a strategy must identify a pathway to many more schools, more access for poor students, more and better-trained teachers, and of course and expanded education budget. A successful strategy will have to deploy every innovative technique at hand, such as a vast scale-up of free, online education; distance learning; and distance training of teachers via smart phones, tablets, and every other kind of device to accelerate the uptake and the quality of education in the country. All of this will require a rollout plan, a financing model, and a functional international partnership to support low-income countries.

Another argument for long-term plans is that the SDGs set out ambitions over a 15-year period. Few sitting governments today will be in power 15 years from now. To overcome this challenge, each nation needs long-term plans and strategies that transcend normal day-to-day politics and electoral cycles. These SDG plans should empower all major political groups to say “Of course we’re on board; the SDGs are a global and national objective, not a partisan objective. And we therefore need national, rather than partisan, strategies that help to see our country through to success by 2030.”

There is one further reason for comprehensive SDG planning process at national and local levels: When the 193 member states of the United Nations were debating this new agenda they realized that the extent of global challenges could not be captured by fewer than 17 goals. This is a big number, but they went further, setting out 169 quantitative and qualitative targets or strategic objectives under each goal area. The targets are intended to help guide implementation, but as recognized by member states repeatedly, this long list of targets is only indicative; every country has its own national circumstances and national priorities. The challenges facing the United States or Ghana or Tajikistan are very different and highly context-specific. They are dependent on geography, on the state of development, on the history of the country, and on the nature of the country’s relations with world markets and regional economies. For this reason an SDG planning process is necessary to help governments rationalize the targets and identify the ones that are most relevant to their specific challenges.

Who should be engaged?

Developing SDG strategies and plans should be a multi-stakeholder process, engaging national and local government representatives, civil society, businesses, faith-based groups and representatives from academia and science. As noted in *Transforming our World*, inclusive development means “all stakeholders, acting in collaborative partnership, will implement this plan [SDG Agenda].” [2.1]

Effective multi-stakeholder engagement will build on the expertise of individual actors to do collective problem solving. Different actors will need clearly defined roles and responsibilities to make the process work. This section discusses what various stakeholders can contribute to the process and how they may best be included.

National Governments

National governments are the ultimate duty-bearers of the SDG agenda. Having endorsed the agenda on September 25th, 2015, national governments are now bound to embark upon a comprehensive program of implementation, developing a national strategy (-ies), agreeing upon a national monitoring framework and a process

for annual reporting, and establishing multi-stakeholder advisory groups to support implementation. Above all, governments need to show a strong public commitment to implementing the SDGs. They will be accountable to their citizens through national formal and informal mechanisms, and to the international community via annual dialogues at the High-Level Political Forum (see the section on “Institutional arrangements” below).

Local Governments

Home to half of the world's people and three quarters of its economic output, cities will be a critical frontline of implementing the sustainable development agenda. Cities will be dynamic test beds for new sustainable development strategies and approaches, and they will generate and compile considerable amounts of social, environmental, economic, and private sector data. City and local governments will provide a crucial conduit from the national level to local citizens and community groups.

Academia

Universities and institutions of higher education can play a major role in the planning and implementation process. The SDSN was created to support universities and other knowledge centers to play this role. Through research and development (R&D) they can create and incubate new technologies, they can identify strategic priorities and best practices in strategy and innovation, and they can help to monitor the agenda through the collection, analysis, and interpretation of primary data. Universities of course are also the key nodes of higher education, training a new generation of sustainable development leaders, and playing a key role in public awareness and education as well. Universities can be a critical and invaluable source of long-term independent technical assistance to governments to design and support implementation of SDG plans, working with specific ministries and/or national statistical offices.

Civil society

Civil society groups will play a pivotal role for SDG-based planning in two main ways. First, many represent the needs of underrepresented communities and regions. This makes them critical partners in ensuring that SDG strategies target the needs of all segments of society and ensuring accountability for SDG implementation. Second, they have extensive experience in delivering services to the poor and can recommend appropriate interventions in different parts of the country. They therefore need to be represented in multi-stakeholder bodies and thematic working groups for public consultations on important issues for SDG planning.

Table 2: Stakeholder Groups at National and Local Levels

Although stakeholders vary from country to country, the following is a general list of the main actors at the national level. The list also includes specific stakeholder groups that play an important role in urban and regional development.

Stakeholder Groups	
Category	Examples
National governments	Professional staff within ministries; representatives from governments and municipalities
Civil society organizations	Non-governmental organizations, volunteer organizations, indigenous peoples' organizations, faith-based organizations, social movements, and community-based organizations
Businesses	Business leaders, chambers of commerce and industry, cooperatives and unions, economic development corporations, and manufacturers
Academic institutions	National SDSNs, universities, technical institutions, research centers, National Academies, and schools of urban planning, social sciences, and public policy
Development partners	Bilateral and multilateral donors, UN agencies, regional development and central banks, and international institutions such as the World Bank and IMF
Sub-national governments	State/provincial governments or other forms of regional government are often responsible for urban and local development
Local authorities	Local councils and elected representatives, public utility and service providers, planning bodies, parastatal agencies

UN country teams

The UN country teams have access to specialized technical expertise that can support strategic planning, in particular they are often the collectors of core household survey data, such as the Multi-Indicator Cluster Surveys led by UNICEF. As trusted partners of governments and civil society, UN country teams are also well positioned to support the setting up of consultative processes for the design of SDG-based national development strategies. In support of such work the UN has already released an interim Reference Guide for UN Country Teams, entitled Mainstreaming the 2030 Agenda for Sustainable Development.

International financial institutions

International financial institutions should participate both in strategy formation and in goal-based or sectoral committees. In particular, the World Bank's sectoral and economic expertise can make an important contribution to SDG needs assessments (see Chapter 3). The International Monetary Fund (IMF), regional development banks, sub-regional development banks, and aid coordination groups can lend guidance on the process of developing an SDG-consistent Medium-Term Expenditure Framework (MTEF) and macroeconomic framework.

Development partners

Donors can contribute technical and managerial expertise and may provide critical financial support for the preparation and implementation of the SDG-based national development strategy. Their participation is needed to develop a broad consensus on the country's investment needs and priorities for achieving the SDGs. Such a consensus will form the basis for an honest dialogue about needed development assistance. Starting early in the process, agencies may want to designate a focal point for participating in the government-led working groups.

Business

Business should be represented in the SDG planning process, as opportunities for collaboration abound. Some include: (i) sustainable production processes, (ii) regenerative use of natural resources, (iii) improved social protection for labor, (iv) corporate social responsibility initiatives, and (v) philanthropic donations. When working in partnership with business, governments should keep in mind the profit-driven nature of companies and figure out how to capitalize on that for the benefit of development priorities. For instance, governments should set up incentives to attract businesses to participate in the SDG process. Many companies already see the SDG Agenda as critical to their growth, and data shows that businesses that incorporate sustainable practices into their model outperform their competitors[2.2]. Similarly, sustainability is valuable to the longevity of a company when the business model is in alignment with the interests of the community it is operating in. On the other side, governments must consider criteria for choosing companies to partner with. Performance indicators include records in human rights violations, corruption scandals, financial transparency, and compliance with the law and tax system.

Box 5: The Role of the UN Sustainable Development Solutions Network (SDSN)

In 2012, UN Secretary-General Ban Ki-moon launched the UN Sustainable Development Solutions Network (SDSN) to mobilize global scientific and technological expertise to promote practical problem solving for sustainable development, including the design and implementation of the Sustainable Development Goals (SDGs). Following their adoption, the SDSN is now committed to supporting the implementation of the SDGs at local, national, and global scales.

To this end, SDSN works with partners in academia, government, business, civil society, and the United Nations to promote practical solutions for sustainable development. We mobilize universities and other knowledge institutions around the world for the implementation of the goals and promote the exchange of lessons and learning.

The SDSN is governed by a remarkable Leadership Council comprised of some 100 global leaders on sustainable development from science, civil society, business, government, and international organizations.

SDSN Priorities

Support for the SDGs

The SDSN provides analysis and technical recommendations to support the implementation of the 2030 agenda, drawing on our global network and the Leadership Council. In particular the work focuses on integrated sustainable development pathways, data, monitoring and review, financing for development, and the climate change agenda.

A global network of problem solvers

More than 20 National and Regional SDSNs have been launched, mobilizing and empowering universities and other knowledge institutions in support of the SDGs. With more than 350 member institutions from over 80 countries, we are building a global network of problem solvers. Our technical expertise is organized across Thematic Networks that foster collaboration and knowledge sharing among expert communities. In addition, SDSN Youth mobilizes young people around the world to prioritize the SDGs and to promote practical youth-led solutions.

Solution initiatives and long-term pathways

Thematic Networks and National and Regional SDSNs are committed to finding novel solutions — often using modern technologies or new business models. This includes helping countries chart long-term pathways for achieving the SDGs. One example, the Deep Decarbonization Pathways Project, supports countries in mapping out how they can transform their energy systems to promote economic growth and reduce emissions, to keep the rise in global temperatures to less than 2°C, as agreed by all countries.

Education for sustainable development

SDSN's flagship online education initiative, SDSNedu, is training the largest-ever cohort of students of sustainable development through free online courses from the world's leading experts. Uniquely, SDSNedu is operated through a consortium of institutions and works with SDSN members around the world to integrate high-quality online education into universities' curricula.

Table 3: Examples of National Councils on Sustainable Development (NCSD)

Country	Name	Membership	Objectives
Colombia	Comisión Interinstitucional de Alto Nivel para el alistamiento y la efectiva implementación de la Agenda de Desarrollo Post 2015 y sus Objetivos de Desarrollo Sostenible (2015).	Governmental: Ministers of Foreign Affairs, Finance/Internal Revenue, Environment and Sustainable Development; as well as the DGs of Presidency, National Statistics, Prosperity and Planning. The Comisión is also entitled to establish technical and working groups of mixed membership (academia, civil society, business, government).	Develop SDG implementation national and strategy and sub-national action plan; coordinate with stakeholders; establish monitoring and evaluation mechanisms; mobilize academia and promote peer learning; and capacity building[2.i].
Philippines	Philippine Council for Sustainable Development (PCSD) (1992).	Mixed: government, business and civil society.	PCSD advises government on NSDS, scrutinizes government implementation and facilitates stakeholder engagement[2.ii].
Czech Republic	The Government Council for Sustainable Development (2003)[2.iii].	Mixed: government, civil society, academia and business	Development, implementation and revision of NSDS[2.iv].

Institutional arrangements

The integrated nature of the SDGs requires corresponding institutional arrangements, within and across national and local governments, involving multiple ministries, departments, and government institutions. This level of cross-sectoral cooperation requires innovative planning instruments that use frameworks and incentives to coordinate cross-ministerial activity. Currently, ministries largely have separate budgets, communication channels, and monitoring systems. Cross-sectoral planning asks governments to improve the capacity of ministries to collaborate effectively in areas including information sharing, human resources, technology, strategy design, and monitoring and evaluation (M&E).

There are a variety of ways for a country to design a coordination mechanism to oversee SDG-based national planning. For example, Ghana established a high-level inter-ministerial commission that brings together sectoral working groups across ministries. Mexico and Colombia have aligned SDG efforts with the President's Office to ensure the highest level of commitment. And the United States has established an inter-agency organizational structure that includes foreign and domestic agencies[3.7]. Countries can build upon existing ministries, such as the Ministry of Planning, or their National Council on Sustainable Development (NCSD) (see Table 2), which over 100 countries have created in response to the 1992 Rio Earth Summit[3.8]. Some countries may want to create a new Ministry of Sustainable Development to oversee implementation. All countries will need a coordination process. A key step in the inception meeting is to map out a new organizational structure for government and stakeholders to engage on the SDGs with a 15-year time horizon.

Box 6: The German Council for Sustainable Development (RNE)

The German Council for Sustainable Development (RNE) is an “advisory body mandated by and reporting back to the German Federal Government.”[2.vi] It is comprised of 15 council members appointed on an individual basis for three-year terms by the Chancellor. Its role is to advise “the government on its sustainable development policy and, by presenting proposals for targets and indicators, seeks to advance the Sustainability Strategy as well as propose projects for its realization.” It also serves to “foster social dialogue on the issue of sustainability” and “increase the level of awareness among all concerned and the population as to what sustainable development actually means by demonstrating the consequences of social action and discussing possible solutions.”[2.vii]

Box 7: Sweden spearheads High-Level Group for SDG implementation

Realizing that the “true test” of the 2030 Agenda was going to be its implementation, as well as “maintaining strong political momentum,” the Swedish Government formed a High-Level Group with nine leaders from various countries, e.g. South Africa's President Jacob Zuma, to ensure that the all stakeholders genuinely commit to the implementation of the SDGs and the 2030 Agenda. Likewise, it will also “work in various ways to promote exchange of experience and discussions on challenges and solutions between governments, civil society, the private sector and international organizations.”[2.v]

Whatever the organizational structure, these commissions or inter-ministerial groups should be endorsed at the highest level (by the Head of State or Government), and should engage ministries of planning, finance and economy, health, education and social development, agriculture, environment, the Chambers of Commerce, and the National Statistical Office. Furthermore, commissions should have local government participation (both city and regional representation), as well as representation from civil society and academia. To create an efficient process, representation should be limited; non-governmental representatives should act as interlocutors on behalf of their broader constituency.

The primary responsibilities of such a group should be the following:

- To develop or coordinate SDG implementation strategies
- To develop a national monitoring framework and accompanying set of national indicators
- To compile or update an annual sustainable development report (with major revisions at 5-year intervals)
- To consult with key stakeholders
- To prepare for regional and global dialogues on SDG implementation

Box 8: Aligning international processes with the SDGs

As with national planning, relevant international institutions and processes also need coordination and to be aligned with the SDGs, as the central lodestar for their endeavors. This should involve the United Nations agencies, but also the Groups of 7 and 20, the European Union, WTO and many more. The G20 have already broken ground in this regard with their recent commitment in Antalya (15-15 November 2015) to develop an action plan for the SDGs. Another forum which provides an opportunity for coordination of these various processes is the High Level Political Forum on SDG follow-up and review. This mechanism should seek to encourage other multilateral processes, agencies and entities to participate and present the alignment of their work with the SDGs and their contribution to the process.

For more on this see G20 Leaders' Communiqué: <http://www.mofa.go.jp/files/000111117.pdf>, and Espey, J., Walecik, K., and M. Kuhnner (2015) *Follow up and review of the SDGs: Fulfilling our commitments*, Working Paper, UN Sustainable Development Solutions Network, New York, USA: SDSN.



Chapter 3:

Tools for designing SDG strategies and roadmaps

Backcasting

Sustainable development requires a long-term transformation, which in turn requires longer-term planning processes than the usual annual budgets or medium-term expenditure frameworks. The SDG framework calls for 15-year strategies that provide national roadmaps and coordinate stakeholders and activities for collective action. Some of the SDGs will require planning over a period of several decades. For example, SDG 13 on climate change will necessitate the development of deep decarbonization pathways to 2050[3.1].

A best practice in long-term planning is backcasting. This means “generating a desirable future, and then looking backwards from that future to the present in order to strategize and to plan how it could be achieved.”[3.2] In the context of the SDGs, backcasting is a problem-solving framework that envisions how development should progress, with intermediate actions based on long-term quantitative targets. Unlike forecasting, which estimates the probabilities of various outcomes based on expected trends, backcasting begins with a projection of the desired outcome(s), and works backwards to understand what is needed for their realization. The graphic below illustrates how backcasting can help map out a development trajectory and milestones that stem from the country’s vision for the year 2030, as opposed to BAU development trajectories.

The core of the backcasting exercise is creating a long-term plan that maps out targets, milestones, and steps that need to be taken to achieve the desired endpoint by the desired date, including financing needs. The milestones are then translated into a quantified strategy –typically including an investment plan and financing strategy – that can be used within ministries and released to the public for broader consultation. Combined with a situational analysis, SDG backcastings help to define the policies, institutional and technical reforms, public investments, and partnerships needed to achieve the SDGs by 2030.

Box 9: Sustainable Development Vision Statements

The vision statements below, which vary in scope and scale, offer examples for how governments might frame their long-term vision for sustainable development as part of backcasting an SDG-based national strategy. The African Union vision statement represents a regional example, and the Mexico vision statement a national perspective.

African Union’s Agenda 2063

“Aiming to encourage discussion among all stakeholders, ‘Agenda 2063’ is an approach to how the continent should effectively learn from the lessons of the past, build on the progress now underway and strategically exploit all possible opportunities available in the immediate and medium term, so as to ensure a positive socio-economic transformation within the next 50 years.”[3.i]

In this vision statement, the African Union defines the purpose of its 50-year, long-term strategy for growth and change and outlines the core values that underpin it. The statement is clear in defining and communicating the organization’s priorities, yet remains sufficiently broad to encompass the national strategies of member states[3.ii].

Mexico’s National Energy Strategy 2013-2027

“Through this strategy we aim to achieve: the social inclusion of the population, by providing access to the benefits that derive from the use of energy; the long-term sustainability of the sector; and the mitigation of negative impacts that the production and consumption of energy may have on human health and the environment, including the reduction of greenhouse gas emissions.”*

This national vision statement emphasizes the multidimensional approach of the energy sector’s strategy, aligns itself with the missions of other sectors, and highlights specific goals it aims to achieve[3.iii].

*Unofficial translation by the authors

Box 10: Backcasting — The Deep Decarbonization Pathways Project

About the project

In 2010, all parties to the UN Framework Convention on Climate Change (UNFCCC) operationalized the objective of the UNFCCC to “prevent dangerous anthropogenic interference with the climate system” by adopting the target of keeping the global rise in mean surface temperature below 2°C compared with the pre-industrial average. Achieving this goal will require major reductions in greenhouse gas (GHG) emissions and therefore transformative changes to countries’ current energy, infrastructure, and production systems. Indeed, by around 2070, all economies will need to have reached full “decarbonization” of their energy systems, meaning net zero emissions of greenhouse gases from energy use and other sources.

The Deep Decarbonization Pathways Project (DDPP), an initiative of the UNSDSN and the Institute for Sustainable Development and International Relations (IDDRI), aims to help countries to pursue their national development priorities while achieving the deep decarbonization of energy systems by mid-century, consistent with the 2°C limit. The objective of the DDPP analysis is to identify one or more “deep decarbonization pathways,” in which emissions of CO₂ per person are around 1.7 tons per person as of 2050. (This signifies roughly an 80% reduction of CO₂ emissions compared with 2005 levels in the highly developed economies.) Each country’s pathway takes into account the national socio-economic conditions, development aspirations, infrastructure stocks, resource endowments, and other relevant factors.

The principles of the DDPP are:

- The national decarbonization pathways will be truly deep, i.e. consistent with the 2°C limit, and consistent with countries’ socio-economic development objectives.
- The deep decarbonization pathways will be country-specific, reflecting national endowments of renewable energy supplies and public policy preferences (e.g. regarding nuclear energy).
- The pathway will be technically sound and employ technologies that are available today or can reasonably be expected to be available soon.
- The national decarbonization pathways will be transparent regarding economic and technological assumptions.

Case Example: France’s DDP

Step 1: Analyze current national and/or local policies and strategies

France has a low endowment of domestic fossil fuel resources; energy imports, mostly oil and gas, are a substantial source of the total external trade deficit. France has

developed a specific energy security strategy that included the launch of a nuclear energy program in the 1970s. As a result, France is already a relatively low energy consumption country and has GHG emission intensities at the lowest end of the OECD countries, but still has room to improve to meet 2°C target.

Decarbonization was first introduced in 2005 with the adoption of a Factor 4 emission reduction target for 2050, compared with 1990. More recently, decarbonization has been an important component of the Energy Transition, which the President has set as a priority. To investigate this issue, the National Debate on Energy Transition took place in 2013 as a deliberative process between different groups of stakeholders (NGOs, trade unions, business, MPs, mayors, etc.) and aimed to identify and assess the consequences of different scenarios.

Three policy commitments structure the decarbonization scenarios (or “energy transition trajectories”) for France:

1. European targets are translated into domestic objectives: EU 3x20 for 2020 targets (20% reduction in EU GHG from 1990 levels; raising the share of EU energy consumption produced from renewable resources to 20%; 20% improvement in the EU’s energy efficiency).
2. Factor 4 reduction of emissions in 2050 compared to 1990 (-75%).
3. The reduction of the share of nuclear in power generation, down to 50% by 2025, target set in 2012 by the President.

Key challenges for the French economy and society that are directly or indirectly related to the purpose of decarbonization include:

1. The rebuilding of industrial competitiveness counterbalances the de-industrialization observed over the last 40 years, and the 2.6 million fall of employment in industry.
2. The reduction of energy poverty, which has become a crucial issue as in 2010 more than 6% of the French population experienced fuel poverty; in particular, low-income households living mostly in rural areas or in small towns spend on average 15% of their income on energy, for housing and transport.
3. A long-term effort in directing land and urban planning towards more sustainable patterns through ambitious infrastructure deployment. This is in particular crucial to control mobility needs in a relatively low-density country.
4. The highly controversial issue of nuclear energy beyond 2025. France’s nuclear power plants are, on average, nearly 30 years old and an intense debate concerns the choice between upgrading them with new nuclear plants, extending their service life in some cases, or replacing them with other technologies.

Box 10 (cont.): Backcasting — The Deep Decarbonization Pathways Project

Step 2: Use a long-term vision for sustainable development

The National Debate on Energy Transition in 2013 considered 16 pre-existing energy scenarios (from NGOs, academic researchers, and public agencies). Each scenario described alternatives for the deep decarbonization of the French energy system along two dividing lines: the level of demand and the energy mix. All these trajectories describe a plausible deep decarbonization pathway, since they all reach the Factor 4 emission reduction target.

The assessment of the DDP for France combines an overall ambitious energy efficiency improvement program and a diversification of low-carbon energy carriers mobilizing electricity penetration, bioenergy and renewables, or waste heat.

- Between 2010 and 2050, economic projections for France anticipate average economic growth to be 1.8% per annum, population is expected to increase by 11%, and the structure of the economy is supposed to be stabilized during the next decades.
- The deep efficiency measures would reduce final energy consumption by nearly 50% in 2050 compared to 2010, and electricity, although decreasing by 20% in absolute terms, sees its share increasing from 24% to 39% in 2050.
- The carbon intensity of fuels in end-use sectors is decreased by a three-fold reduction of coal consumption and, even more crucial for the transport sector, by a massive substitution of oil by gaseous fuels and biomass. On the supply side, the decrease of the share of nuclear (from 77% in 2010 to 50% in 2025 and 25% in 2050) does not create a rise of carbon emissions because it is accompanied by deep diffusion of renewable electricity—mostly hydro, wind and PV—which increases from 17% in 2010 to 71% in 2050.
- Under this pathway, buildings and electricity emissions are deeply decarbonized and most emissions remaining in 2050 come from the transport and industry sectors. As for transport, very important reductions are obtained over the 2010-2050 period, but given the high initial emission level transport still represents 30% of 2050 CO₂ emissions. Industry becomes the second major emission contributor in 2050 (26%); this is notably because of an assumption of constant structure of the economy that assumes in particular a constant share of energy-intensive industries.

Step 3: Create a 15- year strategy

To achieve the long-term vision, France's, near-term sectoral priorities will focus on:

1. Renewable energy development
2. The implementation of a building retrofitting plan

These two actions are crucial for any deep decarbonization pathway in France, but face strong inertias (both because they are associated with long-lived infrastructure and require the development of specific skills that are not currently available), which makes early development crucial. In addition, these actions have strong potential positive effects on employment that can increase the social and political desirability of these measures. Specific financing mechanisms must be conceived to support in particular the massive retrofitting program. A carbon price has to be rapidly implemented, even at a low level during the first years, but with a pre-established increasing rate, in order to reach a level near to the 100€/tCO₂ in 2030 that has been already identified as consistent with the policy targets[3.iv].

Needs assessments and costing

Countries must mobilize adequate public and private resources to invest in key sustainable development areas. In some cases, regulations, taxes or subsidies can help redirect private investments towards supporting SDG outcomes, such as a shift from coal-fired power plants to solar power generation. In other cases, national budget outlays should be increased to finance a scaling-up of public services and infrastructure investments. If private and domestic public resources are insufficient to finance the SDGs they need to be complemented by non-concessional and concessional international public finance, including official development assistance (ODA) for the poorest countries.

Conducting needs assessments to determine the volume of public and private investment required is a complex undertaking that will require significant work in most countries. To start the process, countries may consider six major investment areas that cover the principal investments needed to achieve the goals[3.3]:

1. Health
2. Education
3. Social protection
4. Food security and sustainable agriculture
5. Infrastructure
 - a. Energy access and low-carbon energy infrastructure
 - b. Water and sanitation
 - c. Transport infrastructure
 - d. Telecommunications infrastructure
6. Ecosystem services and biodiversity

Another important SDG investment need – though one requiring vastly lower volumes of incremental financing – is data collection, analysis, and dissemination. This item is considered in the next section.

Global sector needs assessments are available that can help provide a sense of the scale of incremental investments needed to achieve the SDGs. Investment Needs to Achieve the Sustainable Development Goals in Low- and Lower-Middle-Income Countries reviews common investment needs expressed in US dollars per capita or as a share of GDP that can provide a starting point for a more thorough analysis.

Some important factors to keep in mind when estimating SDG investment needs include:

- **Make SDG needs assessments transparent.** Sound needs assessments help understand how ambitious goals can be achieved over the long term. Such analyses should be transparent so that key stakeholders can review assumptions and results.

- **Ensure that climate change adaptation and mitigation needs are accounted for.** Tackling climate change will be key to achieving the SDGs. Many investments in mitigation and adaptation – such as a low-carbon energy plant or climate-resilient infrastructure – are operationally indistinguishable from investments in “development” and must be structured and executed together[3.4].
- **Include operating and capital costs.** Both sets of expenditure must be financed if the SDGs are to be achieved, so an SDG needs assessment must address operating and capital expenditure.
- **Consider economy-wide effects of SDG investment needs.** As described in Investment Needs to Achieve the Sustainable Development Goals in Low- and Lower-Middle-Income Countries, SDG implementation is expected to have significant spillovers into the larger socioeconomic conditions within a country. Some important effects that might include supply-side effects on economic growth, changes in the labor market, and domestic government resource mobilization.

On the basis of SDG needs assessments countries, regions, or cities can develop a financing strategy that distinguishes between (i) private financing opportunities, (ii) incremental government resource mobilization as well as opportunities for greater efficiency in government spending, and – where needed – (iii) international public financing (concessional and non-concessional). Please refer to Investment Needs to Achieve the Sustainable Development Goals in Low- and Lower-Middle-Income Countries for more details on how to conduct SDG needs assessments and sound financing analyses.

Preparing to monitor the SDGs: setting indicators and harnessing the data revolution

The success of the SDG Agenda hangs on careful monitoring of our progress. As recognized in the SDG outcome document, Transforming Our World, “quality, accessible, timely and reliable disaggregated data will be needed to help with the measurement of progress and to ensure that no one is left behind. Such data is key to decision-making.”[3.5] The high visibility given to indicators and data collection within the SDG dialogues, and throughout the final outcome document, reflects a major shift in recent years. Key lessons learned from the MDGs underscore that high-quality, disaggregated data is essential to ensure equitable progress against goals and targets[3.6]. We have learned that data will only drive policy and decision-making if it is timely, and that there are sizeable gaps in our knowledge that require a change in the way we collect data and evidence[3.7].

Collecting reliable data to support our measurement of progress on the SDGs will depend on three key processes:

1. Crafting a robust set of national monitoring indicators
2. Strengthening statistical capacity
3. Capitalizing on the data revolution, harnessing new technologies and new sources of data

Achieving better quality, high frequency data in support of the SDGs will require a step-change in the way governments and National Statistical Offices (NSOs) do business. NSOs will remain the key functionaries in the process of generating data to monitor and manage sustainable development at the national level, but they must work within the context of a broader ecosystem that includes additional data contributors including local and regional governments, private companies, academia, civil society, and citizens. NSOs must commence an evolution from data producer to coordinator, managing the various data inputs from the broader ecosystem, ensuring data quality, comparability and harmonization. This will ensure that data streams are relevant and useful for national policy makers and other stakeholders looking to manage and monitor progress.

Over the course of the last 2 years SDSN has developed a set of guidance documents on designing SDG-relevant indicators, assessing the quality of statistical systems for SDG monitoring, and on the data revolution for sustainable development. The following is a brief summary of the resources available at <http://unsdsn.org/what-we-do/indicators-and-monitoring>.

Crafting a robust set of national SDG indicators

Indicators will be the backbone of monitoring progress towards the SDGs at the local, national, regional, and global levels. A sound indicator framework will turn the SDGs and their targets into a management tool to help countries and the global community develop implementation strategies and allocate resources accordingly. Indicators will also serve as a report card to measure progress towards sustainable development and to help ensure the accountability of all stakeholders for achieving the SDGs. The monitoring framework and indicators for the SDGs should reflect the lessons learned from the MDGs, namely that timeliness is crucial for the indicators to inform decision-making. MDG data often came with lags of three or more years [3.8][3.9][3.10], making it irrelevant for planning purposes. And data needs to be carefully disaggregated to track equity in achievement[3.11].

Countries will need to develop a set of national indicators that align with context-specific priorities and concerns to help track progress on the SDG agenda. These indicators should build upon existing monitoring methods used by the national statistical office or system, while also aiming to be aligned with the set of global monitoring indicators currently being devised by the Inter-Agency and Expert Group on SDG Indicators under the auspices of the UN Statistical Commission[3.12]. The process of devising national indicators needs to start quickly to allow for the setting of baselines. Review processes should be conducted in partnership with Parliaments, as well as through the global follow-up and review process under the High-Level Political Forum.

The SDSN has been working on guidelines for developing robust global, regional, and national SDG indicators for the past two years. Through intensive global discussions involving thousands of experts from UN organizations, academia, civil society, business, and a large number of national statistical offices (NSOs), it has devised a set of principles for framing indicators, as well as a set of 100 key indicators which have been offered as input to the global indicator dialogues. The full set of indicators can be found in the report Indicators and a Monitoring Framework for Sustainable Development Goals[3.13].

Indicators for SDG monitoring should be:

1. **Limited in number and globally harmonized:** Recognizing that capacities vary and data collection is resource-intensive, the SDG indicators should build upon existing data sources and be limited in number. Global indicators should be complemented by national indicators designed to cover a country's specific challenges.
2. **Simple, single-variable indicators with straightforward policy implications:** Indicators need to be simple to compile and easy to interpret and communicate. They must also have clear policy implications. Composite indices should be avoided where possible since they require more complex data collection methods, and often rely on imputation for missing variables and arbitrary weighting. Moreover, composite indices do not lend themselves easily to policy recommendations, and they expand the number of (underlying) variables that need to be collected through official statistical systems.
3. **Allow for high frequency monitoring:** Timeliness is crucial for data to be a useful management and policy tool. SDG monitoring should operate on an annual cycle to align with national planning and budgetary processes, and prioritize indicators that lend themselves to annual production (or bi- or tri-yearly production).
4. **Consensus-based:** Indicators should be underpinned by a broad international consensus on their measurement and be based on international standards, recommendations, and best practices to facilitate international comparison.
5. **Constructed from well-established data sources:** Indicators should draw on well-established sources of public and private data, and be consistent to enable measurement over time. For a small number of new indicators, well-established data sources may be unavailable. In such cases, the establishment of a baseline will need to be an urgent priority over the next two or more years.
6. **Disaggregated:** Preference should be given to indicators that lend themselves to disaggregation in order to track inequalities in SDG achievement. As noted in *Transforming Our World*, targets should only be considered achieved if they are met for all relevant groups. Key dimensions for disaggregation include: characteristics of the individual or household (e.g. sex, age, income, disability, religion, ethnicity and indigenous status); economic activity; and spatial dimensions (e.g. by metropolitan areas, urban and rural, or districts).
7. **Universal:** When setting indicators at the global level, indicators should be applicable in all countries, developed and developing alike. When setting indicators at the national level indicators should be relevant at different territorial scales.
8. **Mainly outcome-focused:** As with SDG targets, it is generally preferable for indicators to track outcomes (or the ends) rather than means. Yet, in some cases, input metrics can play a critical role in driving and tracking the changes needed for sustainable development.
9. **Science-based and forward-looking:** The SDGs will cover a 15-year period. Much will change in that time. For example, the world population is projected to increase by 1 billion people by 2030, and two-thirds of those will be living in cities. Indicators must be designed in such a way to account for these changing global dynamics and to anticipate future changes. National indicator frameworks must be flexible and allow for new indicators to replace outdated ones.
10. **A proxy for broader issues or conditions:** A single indicator cannot measure every aspect of a complex issue, but well-chosen proxy indicators can track broader concepts. For example, to measure rule of law and access to justice, several aspects must be measured, including the capacity to redress crime, citizens' trust in the police and court systems, and the rates of redress. An indicator on the investigation and sentencing of sexual and gender-based violent crimes is an example of a possible proxy for the treatment of vulnerable groups and access to justice overall.

The ability of indicators to be localized is particularly important to encourage active implementation of the agenda within sub-national levels of government, such as cities.

Strengthening Statistical Systems

Collecting a broad range of indicators on sustainable development, at higher frequency and with more attention to quality, requires that we modernize statistical systems. Given the breadth and complexity of the SDG Agenda, many different types of data will be required (demographic, economic, social, and environmental) with varying levels of coverage. Table 4 presents a typology or toolkit of key data sources for monitoring the SDGs (see also Chapter 2).

Governments should undertake a comprehensive needs assessment of each of these key data sources, noting the frequency of the associated data, the level of disaggregation, the rigor (by comparing it with international estimates and benchmarking against countries with similar socio-economic or geographic characteristics), and by noting annual levels of investment. An SDSN-led consortium of groups provides a methodology for conducting such needs assessments in the report *Data for Development: A Needs Assessment for SDG Monitoring and Statistical Capacity Development*. This report looks at aggregated costs for 77 International Development Association (IDA)-recipient countries, and provides a helpful frame for assessing the kinds of investments that need to be made in all countries. It also provides guidance on recommended frequencies for data collection and key institutional infrastructures, as well as indicative costs for specific data collection methodologies.

Improving the quality of government-led statistical systems must be a first order priority, to ensure that countries can track progress on the SDGs and make evidence-based course corrections. The process of conducting a needs assessment must therefore start as soon as possible, in conjunction with the baseline and benchmarking process.

Capitalizing on the Data Revolution

Official data, including household survey, administrative, and census data, will play a critical role for the foreseeable future in tracking the SDGs and shaping governments' programs. But the unprecedented rate of innovation in data collection techniques and technologies, and the capacity to distribute data widely and freely has expanded the horizon of possibility. The adoption of the SDGs presents a strategic opportunity to build on the momentum of the data revolution and to bring about a shift in the way governments and the public sector use data and analytics. Our long-term ambition should be to move towards a more fully developed culture of statistical literacy, and for a more sophisticated government approach to data production, use, analytics, visualization, and communication.

Table 4: A toolkit of data instruments for monitoring the SDGs[3.iv]

	Census Systematic recording of information from all members of a given population.
	Household Survey National sample of randomly selected households that provides data on demographic and socioeconomic characteristics.
	Agricultural Survey Surveys of farms, ranches, and people who operate related enterprises, including data on crop yields, economic variables, and environmental data.
	Geospatial Data/Infrastructure and Facility Inventories Data with location-specific information (including other data input mentioned above) and spatial visualization, including facility inventories and core geographic data layers.
	Civil Registration and Vital Statistics (CRVS) A form of administrative data that records vital events in a person's life, including birth, marriage, divorce, adoption, and death.
	Administrative Data Information collected primarily for administrative or management purposes, including welfare, taxes, and educational record systems, amongst others.
	Economic Statistics Financial and economic-performance measurements, including labor force and establishment surveys, economic performance, employment, taxation, imports and exports, and other industrial activities.
	Environmental Data Real-time monitoring, ground stations, and satellite imagery for a range of environmental variables, including biodiversity, air quality, water resources, and forest and land use change.

Of particular importance is greater use of georeferenced data, which can now be collected easily using mobile phones to provide location-specific information on government facilities, water points, environmental challenges, and more. As one impressive example, the Nigerian Senior Special Advisor to the President on the MDGs, with support from the Earth Institute's Sustainable Engineering Laboratory, developed the Nigeria MDG Information System, an online interactive data platform. Using this system, all government health and education facilities as well as water access points were mapped across Nigeria within a mere two months.

The system now reports the latest status of more than 250,000 facilities using data generated with the help of smartphones. Any Internet user can now ascertain the status of every facility across the entire country.

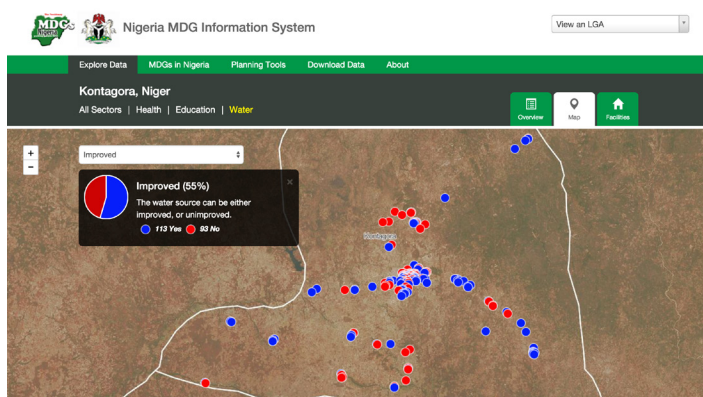
The software tools used for the Nigeria MDG Information System are open-source. National and sub-national governments, civil society organizations, and businesses can use them to develop dedicated georeferenced surveys for a variety of purposes. For example, such tools make it possible to generate the management information that local authorities need in order to improve service delivery. They can also be used by civil society organizations, for example to track which infrastructure facilities are fully operational or where illegal logging is occurring.

Other innovative data applications are discussed below. As part of the SDG planning and implementation process, including designing a set of SDG indicators and conducting a needs assessment for SDG monitoring, governments should start an inclusive dialogue on how to modernize data production processes, using approaches such as:

1. **Satellite imagery:** The cost of high-resolution image acquisition is falling while the availability of images and capacity for automated processing are increasing. There are many applications for such data across multiple goals, such as predicting harvests, disaster response, earth observations, and food security situations; monitoring geographic patterns and likely transmission corridors of diseases that have geospatial determinants; measuring population density and the spread of new settlements; and mapping and planning of transportation infrastructure.
2. **Unmanned Aerial Vehicles (UAVs):** Closer to earth, UAVs are capable of collecting a range of useful measurements at low cost, with relevance to the complete SDG agenda.
3. **Crowd-sourcing:** Global connectivity has created the opportunity for wide-scale participation in data collection and data processing, with applications in road mapping, land cover classification, human rights monitoring, price tracking, species inventories, and disaster response planning, and new applications unfolding regularly.

4. **Smart-meters:** The increasing use of smart-metered systems for energy and water distribution, which transmit usage information over communications networks, create novel capabilities to measure and manage service provision. Enel's Telegestore system in Italy is one of the largest and most successful examples.
5. **Smartphone and tablet-based data collection:** As described in the SDSN indicator report, many surveys are now being conducted on digital mobile platforms. This practice reduces the time and cost for data collection, improves accuracy, simplifies collection of GIS and image data, streamlines integration with other information streams, and opens up the possibility of incorporating micro-chip based sensors into survey processes.
6. **Data mining:** New uses have been discovered for data sources emerging from processes not explicitly designed for such purposes, such as social media, mobile call data records, commercial transactions, and traffic records. Proven applications have been developed in a range of areas including crisis response, urban planning, and public health management

Figure 1: Screenshot of Nigeria MDG Information System showing the location and status of water sources in the Kontagora region of Niger State, Nigeria



Goal-based partnerships

The SDGs affirm the importance of global partnerships to achieve the SDGs at the national and international level. The MDG experience demonstrated the range of partnerships that can emerge for international collaboration, from bilateral partnerships between states to combinations of public, private, and multilateral actors.

Effective partnerships are not centrally planned, and they do not require one actor that oversees all activities. Yet delivering results at the required scale requires a high degree of mobilization and organization. As outlined in the document *Goal-based Investment Partnerships: Lessons for the Addis FfD Conference*[3.14], each sector has unique features and requirements for success, so there cannot be a one-size-fits-all approach to building global public-private partnerships.

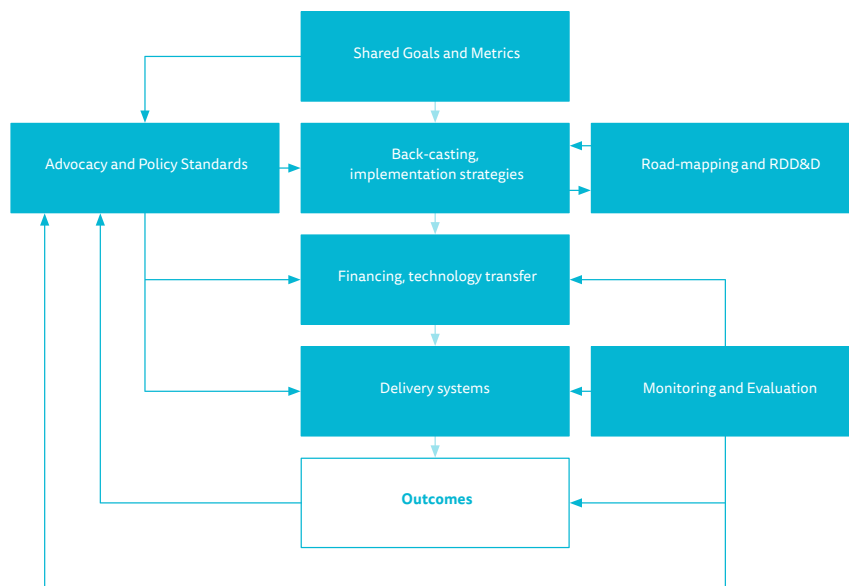


Figure 2: Core components of goal-based partnerships

Nonetheless, seven core processes of goal-based partnerships, illustrated in Figure 2 and described below, have been identified by the SDSN and involve many actors:

1. Shared goals and metrics that provide a coherent narrative for action, mobilize all actors involved in a particular area, galvanize the community to develop clear strategies for implementation, and raise the financing and develop the technologies needed to implement them.
2. Advocacy and policy standards to raise awareness of the importance and feasibility of the global goals, mobilize stakeholders, ensure accountability, and translate lessons into standards that other countries can emulate.
3. Backcasting and implementation strategies to show how the goals can be achieved through sustained investments and supportive policies.
4. Technology road mapping for RDD&D to identify missing technologies and organize public-private partnerships to address them.
5. Financing and technology transfer to mobilize the right mix of public and private resources to implement goal-based investment strategies.
6. Delivery systems that translate policies, strategies, and financing into outcomes.
7. Monitoring and Evaluation (M&E) to sharpen the understanding of what works, support advocacy, and hold all partners accountable.

Box 11: Global Partnership for Health, Lessons Learned from the MDGs

The health sector has mounted by far the most coordinated, sophisticated, and ultimately successful partnerships to implement the MDGs. From 1990 to 2013 the annual number of under-5 deaths worldwide fell from 12.7 million to 6.2 million. During the same time maternal deaths almost halved. By 2012 nearly 10 million HIV/AIDS-infected individuals in low-income and middle-income countries were receiving anti-retroviral treatment, up from virtually zero as recently as 2001[3.v].

The activation of global partnerships in the health sector offers important lessons for how to move rapidly from global goals to successful implementation on a global scale. It shows how a multitude of actors including national governments, civil society organizations (CSOs), businesses, international organizations, foundations, and the scientific community can be mobilized around shared goals to solve a complex, long-term investment challenge. Together these actors created a dynamic “ecosystem” that mobilized an entire epistemic community, ensured accountability, fostered innovation, and transferred knowledge for national-scale implementation programs. Among the many changes that have occurred in the health sector, Schmidt-Traub & Sachs’ Financing Sustainable Development: Implementing the SDGs through Effective Investment Strategies and Partnerships report identifies four principal transformations that led to the global health partnerships success:

1. Backcasting from shared goals to drive implementation and policy standards

In the early 2000s, the health sector adopted goal-based approaches as its operating framework, and operationalized them through backcasting exercises that systematically assessed interventions over the long-term. Such backcasting exercises became the norm for several specific initiatives around the key diseases. For example, the Stop TB Partnership designed the Global Plan to Stop TB, which launched national campaigns to roll out Directly Observed Treatment Short-Course (DOTS) with remarkable results. TB mortality has fallen 45% since 1990[3.vi]. Backcasting for tangible goals spurred important discussions around policy coherence and operational challenges across stakeholders.

2. Launch of the GFATM and Gavi

The Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) and Gavi (The Global Alliance for Vaccines and Immunisation) were the first to make large-scale funding available to national programs for the control and treatment of major diseases. The funding was provided competitively on the basis of countries’ proposals.

It empowered health ministers to develop large-scale programs, which asked line ministries to collaborate, removed major governance bottlenecks, and drove innovation in development and delivery of services. Even when plans were not funded, the planning exercise alone often spurred action.

3. Mass mobilization by activist CSOs and others around health MDGs

Many individuals and civil society organizations raised awareness, fostered collaboration, and promoted practical approaches to addressing the health challenges. For example, The Gates Foundation made critical contributions to building the “ecosystem” of these global health partnerships. In particular, it provided flexible and fairly elastic start-up funding for major new initiatives in the sector, such as funding the Commission on Macroeconomics and Health as well as the launch of Gavi.

4. Improved tools and standards through RDD&D and public-private partnerships

After goals were set a diverse array of stakeholders inventoried and standardized the tools needed for achievement, identified gaps in interventions, and developed new tools, notably through dedicated series in the medical journal *The Lancet*[3.vii]. Partners included international organizations like the World Health Organization (WHO) and the United Nations Children’s Fund (UNICEF), CSOs like the International Federation of the Red Cross and Red Crescent, Médecins Sans Frontières (MSF), and research institutions. Of particular importance were the often small-scale demonstration projects that informed and inspired the scaling-up of proven health-care interventions. For example, the small CSO Partners in Health demonstrated how complex ARV treatment regimens could be administered in Haiti and other low-income countries, thus paving the way for the large-scale rollout.

Conclusion

This guide provides a first and preliminary attempt to explain how countries, regions, cities, or sectors might start the process of operationalizing and achieving the Sustainable Development Goals. As underscored, creative problem solving and intensive discussions among key stakeholders are required at local, national, regional, and global levels to make the SDGs a reality by 2030.

This guide focuses on the early steps. It is far from exhaustive and does not address the complex tasks of program design, budgeting, financing, service delivery, monitoring and evaluation, etc. We do hope that the ideas described here can help support multi-stakeholder discussions on achieving the SDGs in every country, every region, and every city. The National and Regional SDSNs will help initiate such discussions and mobilize knowledge institutions to support them in as many countries as possible.

We welcome comments and suggestions for improvement of this document and request that they be sent to info@unsdsn.org. We plan to publish periodic updates to this guide, including a more detailed handbook on implementation during early 2016. Until then, many more resources are also available on our website: www.unsdsn.org.