

Preliminary Benefit-Cost Assessment for 11th Session OWG Goals

In a world of limited resources, we can't do everything, so **which goals should we prioritize?** The Copenhagen Consensus Center provides information on which targets will do the most social good (measured in dollars, but also incorporating e.g. welfare, health and environmental protection), relative to their costs. Some of the world's top economists have assessed the targets from the 11th session Open Working Group document into one of five categories, based on economic evidence:

Phenomenal, Good, Fair, Poor and not enough knowledge

The decision on choosing goals will rest on a number of factors, not just economics – but knowing the costs and benefits provides an important piece of information. Given the short turnaround, the results should be considered informative, but preliminary. The Copenhagen Consensus will present full, peer-reviewed economic evidence over the coming half year.

Just think: if we could prioritize a goal that saves 10 lives for every \$250,000 spent, over another goal that saves 1 life for the same amount, we could do billions of dollars more good over the next 15 years!

PHENOMENAL targets: Robust evidence for benefits more than 15 times higher than costs

- 1.e) ~~achieve full and productive employment for all, reduce barriers to productive employment for all including women and young people~~
- 2.b) ~~end reduce by 50% or more malnutrition in all its forms, notably stunting and wasting in children under five years of age~~
- 3.b) ~~by 2030 end the epidemics of HIV/AIDS, tuberculosis, malaria and neglected tropical diseases reverse the spread of, and significantly reduce deaths from tuberculosis and malaria see notes for disease specific targets)~~
- 3.c) ~~achieve universal health coverage (UHC), including financial risk protection, with particular attention to the most marginalized, assuming a gradual increase in coverage over time, focusing first on diseases where interventions have high benefits-to-costs~~
- 3.f) and 5.i) ~~ensure universal access to comprehensive sexual and reproductive health for all, including modern methods of family planning~~
- 4.c) ~~by 2030 increase by x% the proportion of children able to access and complete quality pre-primary education~~
- 5.c) ~~by 2030 ensure equal access to education at all levels~~
- 7.a) ~~by 2030 ensure universal increased access to sustainable modern energy services~~
- 7.e) ~~by 2030 phase out fossil fuel subsidies that encourage wasteful consumption~~
- 12.b) ~~Build resilience and adaptive capacity to climate induced hazards in all vulnerable countries~~
- 15.a) ~~promote open, rules-based, non-discriminatory and equitable multilateral trading and financial systems, including complying with the agricultural mandate of the WTO Doha Round~~
- 15.c) ~~improve market access for agricultural and industrial exports of developing countries, especially Least Developed Countries, and at least double the share of LDCs' exports in global exports by 2020~~

POOR targets: The benefits are smaller than costs or target poorly specified (e.g. internally inconsistent, incentivizes wrong activity)

- 1.e) and 8.b) ~~achieve full and productive employment for all, including women and young people some unemployment necessary for efficient labor markets)~~
- 3.h) ~~Eliminate narcotic drug and substance abuse~~
- 4.f) ~~integrate relevant knowledge and skills in education curricula, including ICT skills, education for sustainable development, and awareness raising on culture's contribution to sustainable development~~
- 5.j) ~~promote the availability of gender disaggregated data to improve gender equality policies, including gender sensitive budgeting~~
- 7.b) ~~double the share of renewable energy in the global energy mix by 2030~~
- 8.j) ~~encourage formalization of informal sector activities and employment~~
- 11.h) ~~create incentives for sustainable tourism~~
- 12.a) ~~hold the increase in global average temperature below an x°C rise in accordance with international agreements (assume x = 2)~~
- 15.s) ~~countries progressively introduce expanded measures of progress beyond GDP into national accounting, with supportive statistical capacity building in developing countries~~

Additional Background Notes to this Document

This document was put together over two weeks after the draft of the targets for consideration of the 11th session of the OWG were released on Friday 18 April 2014. Given the short turnaround, the assessments should be considered preliminary, and much nuance explaining the rationales has been omitted. Nevertheless, we hope that the assessments are informative and will help focus the Open Working Group on the targets that will yield the most social benefit relative to cost.

The assessments were put together by interviewing 16 of the world's top economists in their respective fields. They were asked to consider the economic costs and benefits associated with the strategies that would be available to implement the targets. As much as possible non-economic considerations such as rights based arguments and political considerations were ignored. This is not to imply that these other considerations are not important – only that the intention of this document is to focus purely on the costs and benefits. In many cases, the targets were not specific enough to assess a benefit and a cost, however we urged the economists to err on the side of providing a recommendation, even if it would not normally reach the very high confidence required of academic articles.

It should be noted that the benefits and costs do NOT solely reflect money. In line with standard welfare economics principles, all benefits and costs have been considered (such as improved health, environmental impacts) – which have subsequently been converted into a dollar value.

The key for assessments are:

PHENOMENAL – Robust evidence for benefits more than 15 times higher than costs

GOOD – Robust evidence of benefits between 5 to 15 times higher than costs

FAIR – Robust evidence of benefits between 1 to 5 times higher than costs

POOR – The benefits are smaller than costs or target poorly specified (e.g. internally inconsistent, incentivizes wrong activity)

UNCERTAIN – There is not enough knowledge of the policy options that could reach the target OR the costs and benefits of the actions to reach the target are not well known

We thank the participating economists for their valuable input, and we hope that the OWG finds these assessments useful as they continue their work in identifying transformative, sustainable development goals.

Bjorn Lomborg on behalf of *The Copenhagen Consensus Center*

2 May 2014

For more information on the Post 2015 Consensus project, including the content of this report, please contact the project manager Brad Wong at brad@copenhagenconsensus.com

Working Document for 5 – 9 May Session of Open Working Group

FOCUS AREA 1. POVERTY ERADICATION, BUILDING SHARED PROSPERITY AND PROMOTING EQUALITY

End poverty in all its forms everywhere

- a) eradicate extreme poverty by 2030¹
- b) reduce the proportion of people living below national poverty lines² by 2030
- c) by 2030 implement nationally appropriate social protection measures including floors³, with focus on coverage of the most marginalized⁴
- d) build resilience of the poor and reduce by x% deaths and economic losses related to disasters⁵
- e) achieve full and productive employment for all, including women and young people⁶
- f) ensure equality of economic opportunity for all women and men⁷, including secure rights to own land, property and other productive assets and access to financial services for all women and men⁸

Appropriate means of implementation

FOCUS AREA 2. SUSTAINABLE AGRICULTURE, FOOD SECURITY AND NUTRITION

End hunger and improve nutrition for all through sustainable agriculture and improved food systems

- a) all people have access to adequate (safe, affordable, diverse and nutritious) food all year round⁹
- b) end malnutrition in all its forms, notably stunting and wasting in children under five years of age¹⁰
- c) by 2030 ensure sustainable food production systems with high yields, and reduce intensity of use of water by at least x%, chemicals by at least y%, and energy by at least z%¹¹
- d) by 2030 achieve access to adequate inputs, knowledge, productive resources, financial services and markets for small farmers and fishers, with a particular focus on women and indigenous peoples¹²
- e) reduce the global rate of loss and waste along the food supply chain by 50 percent by 2030¹³
- f) all countries have in place sustainable land-use policies by 2020, and all drought-prone countries develop and implement drought preparedness policies by 2020¹⁴

- g) achieve climate-smart agriculture that is resilient and adaptable to extreme weather including drought, climate change and natural disasters¹⁵
- h) achieve by 2030 protection of agricultural biodiversity, including through use of the practices and local knowledge related to agro-biodiversity and diversity of food¹⁶

Appropriate means of implementation

FOCUS AREA 3. HEALTH AND POPULATION DYNAMICS

Healthy life at all ages for all

- a) by 2030 reduce the maternal mortality ratio to less than 40 per 100,000 live births¹⁷, end preventable new-born and child deaths and reduce by x% child and maternal morbidity¹⁸
- b) by 2030 end the epidemics of HIV/AIDS, tuberculosis, malaria and neglected tropical diseases¹⁹
- c) reduce by x% the risk of premature mortality from non-communicable diseases (NCDs), injuries and promote mental health with strong focus on prevention²⁰
- d) achieve universal health coverage (UHC), including financial risk protection, with particular attention to the most marginalized²¹
- e) by 2030 ensure universal access to affordable essential medicines and vaccines for all,²²
- f) ensure universal access to comprehensive sexual and reproductive health for all, including modern methods of family planning²³
- g) decrease by x% the number of deaths and illnesses from indoor and outdoor air pollution and other forms of environmental degradation²⁴
- h) Eliminate narcotic drug and substance abuse²⁵

Appropriate means of implementation

FOCUS AREA 4. EDUCATION AND LIFE-LONG LEARNING

Provide quality education and life-long learning for all

- a) by 2030 ensure universal, free, equitable access to and completion of quality primary and secondary education for all girls and boys, leading to effective learning outcomes²⁶
- b) ensure that persons with disabilities have access to inclusive education, skills development and vocational training²⁷

Legend: PHENOMENAL GOOD FAIR POOR UNCERTAIN

- c) by 2030 increase by x% the proportion of children able to access and complete quality pre-primary education²⁸
- d) by 2030 achieve universal youth and adult literacy, with particular attention to women and the most marginalized²⁹
- e) by 2030 increase by x% the number of young and adult women and men with vocational training, technical, engineering and scientific skills³⁰
- f) integrate relevant knowledge and skills in education curricula, including ICT skills³¹, education for sustainable development, and awareness raising on culture's contribution to sustainable development³²
- g) all schools to provide safe and healthy learning environment for all students³³

Appropriate means of implementation

FOCUS AREA 5. GENDER EQUALITY AND WOMEN'S EMPOWERMENT

Attain gender equality and women's empowerment everywhere

- a) by 2030 end all forms of discrimination against women of all ages³⁴
- b) by 2030 end violence against women and girls in all its forms,³⁵
- c) by 2030 ensure equal access to education at all levels³⁶
- d) by 2030 ensure equal employment opportunities for women and equal pay for equal work³⁷
- e) by 2030 ensure equal access to, and control of, assets and resources, including natural resources management³⁸
- f) ensure equal participation and leadership of women in decision-making in public and private institutions³⁹
- g) by 2030 end child, early and forced marriage⁴⁰
- h) by 2030 reduce the burden of unpaid care work⁴¹
- i) by 2030 ensure universal access to sexual and reproductive health and reproductive rights⁴²
- j) promote the availability of gender disaggregated data to improve gender equality policies, including gender sensitive budgeting⁴³

Appropriate means of implementation

FOCUS AREA 6. WATER AND SANITATION

Water and sanitation for a sustainable world

- a) by 2030, provide universal access to safe and affordable drinking water, sanitation and hygiene⁴⁴, especially for women and girls⁴⁵
- b) by 2030, improve wastewater management, recycling and reuse by x%⁴⁶
- c) by 2030, improve water-use efficiency⁴⁷ by x% in all sectors, with particular focus on agriculture⁴⁸
- d) implement integrated water resource management, including appropriate trans-boundary co-operation⁴⁹
- e) by 2030, bring fresh water extraction in line with sustainable supply, protect and restore ecosystems, to provide water-related services⁵⁰
- f) by 2030, significantly improve water quality, eliminate pollution and dumping of toxic materials in water bodies, and protect aquifers⁵¹
- g) invest in water harvesting and storage technologies, and double the rainwater harvested by 2030⁵²
- h) decrease by x% mortality and serious injuries, and decrease economic losses caused by water-related disasters, by 2030⁵³

Appropriate means of implementation

FOCUS AREA 7. ENERGY

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

- a) by 2030 ensure universal access to sustainable modern energy services⁵⁴
- b) double⁵⁵ the share of renewable energy in the global energy mix by 2030⁵⁶
- c) double⁵⁷ the global rate of improvement in energy efficiency, including in buildings, industry, agriculture and transport, by 2030⁵⁸
- d) by 2030 increase by x% the share of clean and low- or zero-emission energy technologies, including sustainable biomass and advanced cookstoves⁵⁹
- e) by 2030 phase out fossil fuel subsidies⁶⁰ that encourage wasteful consumption⁶¹

Appropriate means of implementation

FOCUS AREA 8. ECONOMIC GROWTH, EMPLOYMENT AND INFRASTRUCTURE

Promote sustainable, inclusive and sustained economic growth and decent jobs for all

- a) sustain income growth of the bottom 40% of the income distribution of each country to reduce income inequalities by 2030⁶²
- b) achieve full and productive employment and decent work for all who seek employment including for marginalized groups by 2030⁶³
- c) halve the number of youth not in employment, education or training by 2020⁶⁴
- d) by 2030 improve by x% the energy and resource productivity of economic activities⁶⁵ and reduce by y% their waste and emissions per unit of output⁶⁶
- e) create appropriate climate for SMEs, entrepreneurship and innovation by 2020⁶⁷
- f) increase the share of high productivity sectors and activities in the economy⁶⁸, and strengthen productive capacities through technological upgrading and greater value addition, with a particular focus on LDCs⁶⁹
- g) develop sustainable infrastructure accessible to all⁷⁰, with attention to needs of countries in special situations⁷¹, and by 2030 provide access for 100% of rural populations to basic infrastructure and services⁷²
- h) protect the rights of all workers, including migrant workers, in compliance with ILO fundamental rights at work⁷³
- i) end child labour by 2030⁷⁴
- j) encourage formalization of informal sector activities and employment⁷⁵

Appropriate means of implementation

FOCUS AREA 9. INDUSTRIALIZATION AND PROMOTING EQUALITY AMONG NATIONS

Promote sustainable industrialization and equality among nations

- a) ensure adequate policy space⁷⁶ and a conducive policy environment for industrial development, including encouragement of industrial entrepreneurship and enterprise formation with inclusion of SMEs⁷⁷
- b) create decent industrial sector jobs and promote job-rich industrial development⁷⁸

- c) achieve high productivity levels across industrial sectors in all countries⁷⁹
- d) by 2030 increase industrial diversity particularly in developing countries, with a focus on shifting towards higher value-added activities⁸⁰
- e) by 2030, increase by x% the resource-efficiency of industry⁸¹, reduce by y% harmful chemicals used and waste generated⁸², and decrease by z% the intensity of carbon emissions from the industrial sector⁸³
- f) increase by a factor of x the share of environmentally sustainable products and services in GDP⁸⁴
- g) by 2020 implement plans and measures to strengthen the technological capabilities of industrial sectors, including plans to accelerate development and adoption of environmentally sound industrial technologies and processes⁸⁵
- h) by 2030 retrofit x% of existing industries on global level based on energy and resource-efficient technologies and environmentally sound industrial processes

Appropriate means of implementation

FOCUS AREA 10. SUSTAINABLE CITIES AND HUMAN SETTLEMENTS

Build inclusive, safe and sustainable cities and human settlements

- a) By 2030, ensure universal access to adequate and affordable housing and basic services for all⁸⁶, and eliminate slum-like conditions everywhere⁸⁷
- b) By 2030, provide access to safe, affordable, accessible and sustainable transport for all⁸⁸, improve road safety⁸⁹ and urban air quality⁹⁰
- c) enhance capacities for integrated urban planning and management⁹¹
- d) by 2030, reduce the ecological footprints of cities by x%⁹²
- e) by 2020, increase by x% the number of cities adopting and implementing policies and plans towards resilience and adaptation to climate change and natural disasters⁹³
- f) by 2030 enhance social cohesion and personal security, and ensure universal access to inclusive and safe public spaces⁹⁴
- g) by 2030 ensure that all cities are accessible and offer opportunities to persons with disabilities⁹⁵
- h) protect and safeguard the world's cultural and natural heritage⁹⁶

Appropriate means of implementation

FOCUS AREA 11. SUSTAINABLE CONSUMPTION AND PRODUCTION

Promote sustainable consumption and production patterns

- a) by 2030 achieve sustainable management and use of natural resources⁹⁷
- b) by 2030 reduce waste by x% through prevention, reduction, recycling and reuse⁹⁸
- c) improve the resource productivity of economic activities by x%⁹⁹, including through sustainable supply chains by 2030¹⁰⁰
- d) by 2030 redouble efforts to raise awareness for creating a culture of sufficiency and sustainable lifestyles¹⁰¹, including sustainability information on products and services¹⁰²
- e) by 2020, encourage economic incentives that promote sustainable consumption and production patterns including through a product life-cycle approach¹⁰³
- f) by 2030 increase by x percentage points the share of companies reporting on corporate social and environmental responsibility¹⁰⁴, including integrated reporting¹⁰⁵
- g) by 2030, all financial sector actors incorporate sustainable development principles in their business practices¹⁰⁶
- h) create incentives for sustainable tourism¹⁰⁷

Appropriate means of implementation

FOCUS AREA 12. CLIMATE CHANGE

Take urgent and significant action to mitigate and adapt to climate change

Build a climate change goal based on the outcome of COP21 of the UNFCCC

- a) hold the increase in global average temperature below an x°C rise in accordance with international agreements¹⁰⁸
- b) build resilience and adaptive capacity to climate induced hazards in all vulnerable countries¹⁰⁹
- c) integrate climate adaptation and emissions reductions into development plans and poverty reduction strategies¹¹⁰
- d) introduce instruments and incentives for investments in low-carbon solutions in infrastructure, industry and other sectors¹¹¹
- e) improve education and awareness raising on climate change

Appropriate means of implementation

Legend: PHENOMENAL GOOD FAIR POOR UNCERTAIN

FOCUS AREA 13. CONSERVATION AND SUSTAINABLE USE OF MARINE RESOURCES, OCEANS AND SEAS

Take urgent and significant actions for the conservation and sustainable use of marine resources, oceans and seas

- a) by 2030, prevent, control and reduce by x% marine pollution and marine disposal of waste and tailings, including from land-based activities¹¹²
- b) by 2030, restore and protect marine ecosystems from destruction¹¹³, including by halting and preventing ocean acidification¹¹⁴
- c) by 2030, regulate harvesting to restore fish stocks to ecologically safe levels that can produce maximum sustainable yield¹¹⁵, and support sustainable small-scale fisheries¹¹⁶
- d) develop and ensure the full implementation of existing regional and international regimes governing oceans and seas, including for resources in areas beyond national jurisdictions ¹¹⁷
- e) by 2020, eliminate illegal, unreported and unregulated (IUU) fishing¹¹⁸ and destructive fishing practices¹¹⁹
- f) establish Marine Protected Areas, consistent with international law¹²⁰
- g) by 2030, eliminate fishing subsidies which contribute to overcapacity and overfishing¹²¹

Appropriate means of implementation

FOCUS AREA 14. ECOSYSTEMS AND BIODIVERSITY

Protect and restore terrestrial ecosystems and halt all biodiversity loss

- a) by 2020 halt the loss of all biodiversity, including habitats, and protect threatened species¹²²
- b) by 2020 ensure conservation and sustainable use of ecosystems, including through restoration of degraded critical ecosystems¹²³
- c) maintain genetic diversity of both farmed species and their wild relatives¹²⁴
- d) by 2030, ensure sustainable management of all forests¹²⁵ and mountain ecosystems,¹²⁶ halting deforestation and increasing reforestation¹²⁷ by x%

- e) by 2030, achieve a land degradation neutral world¹²⁸
- f) ensure fair and equitable sharing of benefits derived from natural assets, including genetic resources¹²⁹
- g) end poaching and trafficking of endangered species¹³⁰
- h) by 2030, eliminate invasive alien species¹³¹
- i) ensure inclusion of indigenous and local communities in decision making, and promote traditional knowledge of indigenous peoples¹³²

Appropriate means of implementation

FOCUS AREA 15. MEANS OF IMPLEMENTATION/GLOBAL PARTNERSHIP FOR SUSTAINABLE DEVELOPMENT

Strengthen global partnership for sustainable development

Means of implementation

Trade:

- a) promote open, rules-based, non-discriminatory and equitable multilateral trading and financial systems¹³³, including complying with the agricultural mandate of the WTO Doha Round¹³⁴
- b) provide greater duty-free and quota-free market access to least developed countries in keeping with World Trade Organization decisions¹³⁵
- c) improve market access for agricultural and industrial exports of developing countries, especially Least Developed Countries,¹³⁶ and at least double the share of LDCs' exports in global exports by 2020¹³⁷

Technology transfer, technological capabilities:

- d) enhance regional and international cooperation for science, technology, and innovation and solutions-oriented research¹³⁸, and enhance knowledge sharing, including through North-South, South-South and triangular cooperation¹³⁹
- e) promote transfer and dissemination of clean and environmentally sound technologies to developing countries¹⁴⁰
- f) fully operationalize the Technology Bank and STI Capacity Building Mechanism for LDCs¹⁴¹

- g) strengthen institutions and build capacities in developing countries to undertake research, development and adaptation of technologies, including clean and environmentally sound technologies¹⁴²
- h) support fully research and development of vaccines and medicines for the common diseases of developing countries, notably LDCs¹⁴³

Financing and debt sustainability:

- i) full implementation by developed countries of ODA commitments on an agreed timetable¹⁴⁴ based on agreed principles¹⁴⁵
- j) mobilize additional financial resources¹⁴⁶ from multiple sources¹⁴⁷, including reducing the cost of remittances¹⁴⁸
- k) encourage long-term private foreign investment and inclusive finance¹⁴⁹
- l) ensure adequate financial resources for investments in sustainable development¹⁵⁰
- m) ensure debt sustainability and debt relief¹⁵¹
- n) promote inclusive, participatory decision-making at both national and international levels¹⁵², including the conclusion of reforms for increasing effective participation of developing countries in international financial institutions¹⁵³
- o) strengthen domestic resource mobilization, including by improving tax collection and the efficiency of public spending, reducing tax evasion and avoidance, improving stolen asset recovery, and strengthening systems to harness domestic savings for investment¹⁵⁴
- p) promote sustainable public procurement, including through national targets¹⁵⁵

Capacity building:

- q) expand by x% globally the number of scholarships for students from LDCs to enroll in higher education programmes in developed countries and other developing countries, with focus on science, engineering and management¹⁵⁶
- r) substantially strengthen capacities for sustainable development data collection and analysis with a focus on generating disaggregated, timely and high-quality data¹⁵⁷
- s) countries progressively introduce expanded measures of progress beyond GDP into national accounting, with supportive statistical capacity building in developing countries¹⁵⁸
- t) develop and implement capacity building programmes in developing countries, especially LDCs, in support of the

national plans implementing sustainable development goals, including in agriculture, water, energy, health as well as in disaster prevention and reduction capacity and sustainable natural resources management¹⁵⁹

Strengthened global partnership for sustainable development

- u) engage all stakeholders in implementation of the SDGs, including through effective, innovative and accountable partnerships in cooperation with governments that mobilize financial resources, develop and disseminate technologies and provide technical expertise¹⁶⁰
- v) regular monitoring and reporting of progress on SDGs within a shared accountability framework, including means of implementation, the global partnership among Member States and multi-stakeholder initiatives and partnerships¹⁶¹

FOCUS AREA 16. PEACEFUL AND INCLUSIVE SOCIETIES, RULE OF LAW AND CAPABLE INSTITUTIONS

Peaceful and inclusive societies, rule of law and capable institutions

Creating peaceful and inclusive societies:

- a) by 2030 reduce by x% crime, violence¹⁶² and exploitation especially of children¹⁶³ and women¹⁶⁴ including by reducing organized crime¹⁶⁵ and human trafficking¹⁶⁶
- b) by 2030 eliminate discriminatory laws, policies and practices,¹⁶⁷ empower marginalized groups,¹⁶⁸ in the social, political and economic fields
- c) by 2030 establish inclusive, participatory decision-making,¹⁶⁹ including at local governments,¹⁷⁰ taking into consideration the interests of future generations
- d) by 2020 provide information and education on a culture of non-violence¹⁷¹
- e) by 2030 implement planned and managed migration policies¹⁷²

Rule of law, capable institutions:

- a) by 2030 develop effective, accountable and transparent institutions at all levels¹⁷³
- b) by 2030 provide equal access to independent and responsive justice systems including related to property and tenure rights, employment, business, taxation, trade and finance¹⁷⁴

- c) by 2020 provide public services for all, including legal identity¹⁷⁵
- d) improve access to information on public finance management, public procurement and on the implementation of national development plans¹⁷⁶
- e) by 2030 decrease by x% corruption in all its forms¹⁷⁷ and illicit financial flows¹⁷⁸
- f) remove unnecessary restrictions of freedom of media, association and speech¹⁷⁹

Appropriate means of implementation

Numbers refer to endnotes in the original document, it contains lists of countries backing the different targets. Available here: goo.gl/M9KaPm

Detailed Academic Assessment of Targets

FOCUS AREA 1.

POVERTY ERADICATION, BUILDING SHARED PROSPERITY AND PROMOTING EQUALITY

End poverty in all its forms everywhere

a) eradicate extreme poverty by 2030

RATING: As written this is **POOR (UNREALISTIC)** but if amended to an achievable, realistic stretch target then the rating is **GOOD**. There is evidence to suggest that the alleviation of extreme poverty will not proceed as successfully as it did from 1990 to present, based on historical growth rates and distributions of wealth in countries with current populations of extreme poor (Yoshia et al, 2014; Chandy, Ledlie and Penciakova, 2013; Ravaliion, 2013; Karver, Kenny and Sumner 2011). Additionally, much of the extreme poor are not necessarily from the poorest countries, but rather are minorities living in poverty in otherwise relatively wealthy, middle-income countries. This makes the process of poverty alleviation not only an economic issue, but also a complex socio-economic and potentially political issue.

Notwithstanding the costs, the benefits of poverty alleviation are large both for the individual in question, as well as society in general. For example, rising wealth within a society is correlated with better health outcomes and lower crime. Additionally, non-poor individuals are less likely to regress to poverty, if surrounded by other non-poor.

b) reduce the proportion of people living below national poverty lines by 2030

RATING: FAIR – for ~50% reduction in proportion of individuals living below national poverty line. For stronger targets, the rating is **UNCERTAIN** or **POOR**. The costs and benefits will depend on the ambition of the final target. For those at the cusp of national poverty lines, the costs are relatively low compared to benefits. However, pushing for very large reductions in nationally defined poverty rates would be more costly, with uncertain economic benefits.

Another issue with this target is that the setting of national poverty lines is not standard across countries. This makes it difficult to know precisely where to prioritize poverty reduction efforts. If a country X exhibits a larger % of its pop. below the national poverty line, relative to country Y – it is not straightforward to assert that country X has more relatively poor. The difference could partly arise from different definitions of national poverty lines. This could be rephrased to add a qualifier – “based on standardized, internationally consistent methodology to construct poverty lines”

c) by 2030 implement nationally appropriate social protection measures including floors, with focus on coverage of the most marginalized

RATING: UNCERTAIN though likely to be **POOR**. The introduction of a social protection floor, while laudable, is difficult to achieve well (properly targeted at low cost). Additionally, it risks creating very large (even 100%) effective marginal tax rates for the poor and massive disincentives to increase income. That said, targeted cash transfer programs have had notable success.

d) build resilience of the poor and reduce by x% deaths and economic losses related to disasters

RATING: UNCERTAIN though likely to be **FAIR** or **GOOD** as long as x% is set at a level that balances the cost of resilience improvement, against the risk of disasters.

e) achieve full and productive employment for all, including women and young people

RATING: POOR – this is a poorly specified goal. Some level of unemployment is necessary to generate efficient labor markets. Additionally, there is no tangible, well known policy response to achieve full and productive employment for all.

It would be better restated as ‘remove barriers to productive employment’. In particular, targeting increased female participation in the workforce has **PHENOMENAL** benefits relative to costs. There is compelling evidence that the growth miracles of certain Asian economies were driven by low cost policies that allow and incentivize women to work. Increasing youth employment is rated **UNCERTAIN** – because the evidence to achieve this is unclear.

f) ensure equality of economic opportunity for all women and men, including secure rights to own land, property and other productive assets and access to financial services for all women and men

RATING: GOOD: While the costs are not trivial, there are large, personal benefits through increasing economic opportunity for marginalized groups such as women particularly in rural settings (in urban settings the limited evidence suggests otherwise). Enforcement of property rights is an important enabler of economic growth.

FOCUS AREA 2.

SUSTAINABLE AGRICULTURE, FOOD SECURITY AND NUTRITION

End hunger and improve nutrition for all through sustainable agriculture and improved food systems

a) *all people have access to adequate (safe, affordable, diverse and nutritious) food all year round*

RATING: UNCERTAIN Difficult to assess without more precise definition around adequate. This is a noble goal but the target of ‘all’ is unlikely to be met by 2030. This is a **GOOD** target if it is directed at a subset of the population who could be reached but are currently lacking sufficient calorific and micronutrient intake.

b) *end malnutrition in all its forms, notably stunting and wasting in children under five years of age*

RATING: PHENOMENAL if the target is set high, say 50% reduction in malnutrition. There is robust evidence that reducing stunting leads to lifetime of ongoing benefits, at very little cost (Hoddinott et al, 2012). Complete elimination of malnutrition by 2030 is optimistic.

c) *by 2030 ensure sustainable food production systems with high yields, and reduce intensity of use of water by at least x%, chemicals by at least y%, and energy by at least z%*

RATING: UNCERTAIN – depends on the strength of x, y and z, and the meaning of the word sustainable. If the values of x, y and z are too strong then it will be difficult to achieve high yields – because yields are dependent upon water, chemicals (fertilizer) and energy.

d) *by 2030 achieve access to adequate inputs, knowledge, productive resources, financial services and markets for small farmers and fishers, with a particular focus on women and indigenous peoples*

RATING: UNCERTAIN but potentially **FAIR** payoff in certain circumstances, such as building infrastructure to link farmers to input suppliers. The issue with this target relates to measurement issues – to measure ‘access’ requires complex and costly survey data.

e) *reduce the global rate of loss and waste along the food supply chain by 50 percent by 2030*

RATING: GOOD but more analysis required, particularly in establishing adequate baselines of the current state of global food loss and waste

f) *all countries have in place sustainable land-use policies by 2020, and all drought-prone countries develop and implement drought preparedness policies by 2020*

RATING: UNCERTAIN – putting policies in place is low cost, but the benefits are uncertain and depend highly on implementation

g) *achieve climate-smart agriculture that is resilient and adaptable to extreme weather including drought, climate change and natural disasters*

RATING: GOOD payoff when considering R&D into drought and flood-resistant crops. Other policies to reach this target include weather-based crop insurance (**FAIR**, but likely need significant financial subsidies), integrated fertility management and water quality improvements. These have a **FAIR** rating.

b) achieve by 2030 protection of agricultural biodiversity, including through use of the practices and local knowledge related to agro-biodiversity and diversity of food

RATING: FAIR – evidence suggests that incorporating genetic diversity in varieties and utilizing multiple cropping systems does not necessarily lead to higher yields, but can improve the stability and reduce variability of yields over time.

What is missing?

There is limited focus on livestock, which is becoming an increasingly important and larger share of global diet. Goals focusing on improving meat production per level of input could have high benefits relative to costs.

FOCUS AREA 3.

HEALTH AND POPULATION DYNAMICS

Healthy life at all ages for all

- a) *by 2030 reduce the maternal mortality ratio (MMR) to less than 40 per 100,000 live births, end preventable new-born and child deaths and reduce by x% child and maternal morbidity*

RATING: As written this is a **POOR target because it is unrealistic and poorly specified**. The Commission for Investing in Health, 2013 (CIH) recommends a target of 94 maternal deaths per 100,000 live births by 2030 as a realistic, but ambitious stretch target for MMR. This target is founded on high benefit-to-cost health interventions. It is very unrealistic to expect an end to preventable new-born and child deaths in wealthy, developed nations, let alone lower and middle income countries by 2030. ‘Reduce by x% child and maternal morbidity’ is a poor metric. It is not clear that combining child and maternal morbidity into one measure (to be reduced by x%) is possible or sensible.

With more realistic targets for MMR this target would be rated **FAIR**. It is relatively cost-effective to reduce MMR in lower income countries through spread of basic health interventions. To reduce MMR beyond this requires more costly interventions such as improved health facilities and registered attendants at birth. With realistic targets for reduction in child and newborn death rates (say 20 per 1,000 live births as recommended by CIH), the rating is **GOOD**. For children between 1-59 months, interventions are relatively cheap (e.g. basic health, vaccines, micronutrients) and have lifetime benefits. For neo-natal infants (less than 1 month), the rate of decline in deaths can continue in low and middle-income countries with relatively inexpensive interventions. However, at some point sustained reduction in neo-natal mortality rates will only occur with costly intensive care facilities.

- b) *by 2030 end the epidemics of HIV/AIDS, tuberculosis, malaria and neglected tropical diseases*

RATING: As written this target is **POOR**, because the ambition of ending these diseases by 2030 is **unrealistic**. The following represent realistic but ambitious targets for these diseases (all are taken from CIH):

- *Reverse the spread of HIV / AIDS and reduce annual AIDS deaths to 3 per 100,000 persons by 2030* – **FAIR**
- *Reverse the spread of TB and reduce annual TB deaths to 4 per 100,000 persons by 2030* – **PHENOMENAL**
- *Reverse the spread of malaria and reduce annual malaria deaths by 95% from 2010 to 2030* – **PHENOMENAL**

- c) *reduce by x% the risk of premature mortality from non-communicable diseases (NCDs), injuries and promote mental health with strong focus on prevention*

RATING: Assuming realistic targets, and targeted interventions against specific NCDs where there are known means to reduce the burden of disease the rating is **PHENOMENAL** – for example, a tripling in tobacco tax worldwide is a highly effective intervention to prevent various NCDs including lung cancer (Jha and Peto, 2014). For older generations, reducing burden of NCDs is rated as **FAIR** – managing the health of older people will be net benefit and particularly so for countries where population is ageing. However, older generation have less time to benefit from improved health outcomes.

For a realistic target on reducing injuries, the rating is **FAIR**. The biggest category of injury is road accidents where the costs of prevention are high (for example significantly improved road infrastructure).

For a realistic target on reducing mental health problems the rating is **FAIR**. Some good benefit-to-cost interventions to ameliorate mental health related suicide, include restricting access to guns and pesticides.

- d) *achieve universal health coverage (UHC), including financial risk protection, with particular attention to the most marginalized*

RATING: PHENOMENAL, assuming a gradual increase in coverage over time, focusing first on diseases where interventions have high benefits-to-costs.

- e) *by 2030 ensure universal access to affordable essential medicines and vaccines for all*

RATING: UNCERTAIN for “affordable essential medicines” since it depends much on what is meant by “affordable” and “essential”. The cost structure of vaccines is typically cheaper with known benefits. The rating is therefore, **GOOD**.

- f) *ensure universal access to comprehensive sexual and reproductive health for all, including modern methods of family planning*

RATING: PHENOMENAL – family planning interventions are inexpensive with clear benefits (Kohler, 2012). However, this could be subsumed within a broader UHC goal.

- g) *decrease by $x\%$ the number of deaths and illnesses from indoor and outdoor air pollution and other forms of environmental degradation*

RATING: UNCERTAIN but likely to be at least FAIR, but potentially much greater. Previous research suggests interventions reducing indoor air pollution have a **FAIR** rating (e.g. Hutton et al, 2008). However, recently updated Global Burden of Disease figures suggest that deaths from indoor air pollution are much higher than expected. There are certain nuances within the exposure function that must be considered when assessing cost and benefits, and therefore the rating is currently **uncertain**.

- h) *Eliminate narcotic drug and substance abuse*

RATING: POOR – the costs of policing substance abuse are very high

FOCUS AREA 4.

EDUCATION AND LIFE-LONG LEARNING

Provide quality education and life-long learning for all

Preschool investment is associated with the highest benefits relative to costs according to Nobel Laureate James Heckman.

- a) *by 2030 ensure universal, free, equitable access to and completion of quality primary and secondary education for all girls and boys...*

Rating: Rating: If universal and free are removed, then ‘good’ for primary education and ‘fair’ for secondary education. Additionally, the prioritization should be for girls, over boys since girls tend to be further behind in education attainment. ‘Free’ education for all should not be a policy goal, since the costs are disproportionate to the benefits. If anything, it should be free for those who cannot afford it.

- a) *... leading to effective learning outcomes*

Rating: UNCERTAIN, BCR likely to be GOOD – improving education learning outcomes, has mixed results, but the most effective interventions have strong benefit to cost ratios. More research required.

- b) *ensure that persons with disabilities have access to inclusive education, skills development and vocational training*

Rating: UNCERTAIN but likely to be **FAIR if focusing on those that have limited access to education.** But it will be very expensive, and we do not have evidence on dollar benefits.

- c) *by 2030 increase by x% the proportion of children able to access and complete quality pre-primary education*

Rating: PHENOMENAL, though depends on realistic stretch target for x. Most evidence including that of Nobel laureate Heckman, shows that the benefits of acting early are very large, with relatively lower costs. Most of this evidence is from US studies, though there is little reason to believe that it would not also be the case in developing countries.

- d) *by 2030 achieve universal youth and adult literacy, with particular attention to women and the most marginalized*

Rating: FAIR for youth literacy, **POOR** for adult literacy – if one wishes to improve adult literacy, one should focus on educating children because it takes generations to improve education outcomes. Cost to educate adults is high, with relatively less time to reap benefits.

- e) *by 2030 increase by x% the number of young and adult women and men with vocational training, technical, engineering and scientific skills*

Rating: Uncertain, likely to be POOR – literature suggests that vocational training does not provide large benefits to costs, though evidence is limited.

- f) *integrate relevant knowledge and skills in education curricula, including ICT skills, education for sustainable development, and awareness raising on culture’s contribution to sustainable development*

Rating: POOR – this is a niche focus

- g) *all schools to provide safe and healthy learning environment for all students*

RATING: UNCERTAIN This is a prerequisite and difficult to subject to C-B analysis

FOCUS AREA 5.

GENDER EQUALITY AND WOMEN'S EMPOWERMENT

Attain gender equality and women's empowerment everywhere

a) *by 2030 end all forms of discrimination against women of all ages*

RATING: UNCERTAIN. It is unclear how to rate this goal, as the policy interventions to achieve it are not specified. Generally, as discrimination against women has yet to be ended even in the developed world, it is not clear how this could then be achieved at a global scale. Yet the goal itself is **GOOD**, as it helps to raise awareness of the need for encouraging gender equality and empowerment worldwide – and will probably have high BCR – however, there is currently no clear evidence of how this could actually be achieved.

b) *by 2030 end violence against women and girls in all its forms*

RATING: UNCERTAIN. As above, this is a goal which has yet to be achieved even in the developed world. Violence against women happens everywhere, and while we have some general ideas about how to help decrease it, there is a serious issue of measurement. In most cases, women do not report violence against them – and even if they start to report, it looks like there has been a spike in violence – when actually it is simply an increase in the number of *reported* but not *actual* cases. While economics cannot provide an answer for this with strong evidence, it is a **GOOD** goal that likely has a strong BCR, and should stay as an awareness raising measure.

c) *by 2030 ensure equal access to education at all levels*

RATING: PHENOMENAL. Women's access to education has hugely positive effects on themselves and their communities. Studies have shown that the benefits are very large; improved education improves not only women's health and livelihoods but also the health and lives of their children. While education was previously not on the HLP list under gender equality, it is very promising to see that it is now here and should be kept.

d) *by 2030 ensure equal employment opportunities for women and equal pay for equal work*

RATING: UNCERTAIN. Again, this is something that is not even happening in developed countries – we still don't know how to achieve this properly. This goal overlaps strongly with inclusion of women's participation in economic life; first we should achieve their participation, and a secondary measure is ensuring equal opportunities. There are again no studies which provide economic evidence for this goal, but on an intuitive level the benefits are high so it is likely to be **GOOD**.

e) *by 2030 ensure equal access to, and control of, assets and resources, including natural resources management*

RATING: GOOD. This goal is linked strongly to general development; the first step is to ensure women have opportunities to access assets and therefore gain income.

f) *ensure equal participation and leadership of women in decision-making in public and private institutions*

RATING: GOOD. There have been various studies that show having female politicians affects health and education – and generally has a positive effect on policies and society, meaning that benefits of this goal are quite high. Costs, however, are very difficult to estimate (which doesn't allow it to get a phenomenal rating).

Other benefits outside policy level interventions, also include women simply acting as a positive role model for younger girls/women (based on studies in India). Further studies have shown that female politicians seem to be less corrupt than male politicians (therefore the costs are lower, increasing benefits). However, even if the cost of female politicians is equal to men – the benefits are still huge.

g) by 2030 end child, early and forced marriage

RATING: GOOD. The benefits of later marriage are quite high, and different studies suggest a variety of ways to achieve this (e.g. campaigns, access to education). Benefits include better health (young mothers and their children are higher risk, and delayed marriage has positive correlations with education). The BCR ratio of this goal is therefore generally quite high, but there is still a need for more evidence. The goal wording also needs to be better clarified; e.g. definition of who is a ‘child’. Also, forced marriage is related more to violence so should be put in another category to define this goal better.

h) by 2030 reduce the burden of unpaid care work

RATING: UNCERTAIN. This goal needs to be better clarified as it is unclear what it is referring to in ‘unpaid care work’ – related to children specifically, or general household management? Perhaps it should be changed to a new wording such as ‘provide women with better facilities for child care’. It is not the burden itself, but the supportive facilities that are available that make the difference.

i) by 2030 ensure universal access to sexual and reproductive health and reproductive rights

RATING: PHENOMENAL. This is a very crucial goal: without having control of their own reproductive health, women would not receive the appropriate amount of education, and can suffer from serious negative health consequences due to early childbearing etc. While specific BCRs are not available, this is such a basic right of women that the benefits are undeniable. It should also be added here: access to basic health care/rights – which underlie sexual and reproductive health.

j) promote the availability of gender disaggregated data to improve gender equality policies, including gender sensitive budgeting

RATING: POOR. We already have sufficiently available gender disaggregated data, and there is no need for extra measures in this area. ‘Gender sensitive budgeting’ is a goal that just adds extra bureaucracy and costs to existing infrastructures that are not necessary. At the end of the day, helping women also helps men (through boys in their families), so it is impossible to truly ‘disaggregate’ this data into female-specific benefits. The costs are too high relative to any potential benefit.

FOCUS AREA 6.

WATER AND SANITATION FOR A SUSTAINABLE WORLD

Water and sanitation for a sustainable world

- a) *by 2030, provide universal access to safe and affordable drinking water, sanitation and hygiene, especially for women and girls*

RATING: GOOD for sanitation and hygiene, and **FAIR** for water if focused on access within the household. The costs for basic options (pit latrine, pour flush, community well) are low, and the *quantifiable* benefits are considerable (time saved and health benefits). Additionally there are social benefits that cannot be quantified so these are potentially an underestimate. For more complex sanitation improvements such as providing piped water and sewer sanitation, the costs are naturally higher. Within this setting, the rating is **FAIR**. (see Hutton, 2012; Rijsberman and Zwane, 2012; Whittington et al. 2008)

For locations outside the household, such as schools, health facilities and refugee camps, the economic evidence is **UNCERTAIN**.

- b) *by 2030, improve wastewater management, recycling and reuse by x%*

RATING: UNCERTAIN though limited evidence suggests **FAIR** BCR (Asian Development Bank, 2013; Aram and Malinova, 2003). A large part of the benefit is environmental which is difficult to quantify which entails complex cost-benefit analyses that need more research and time to assess properly. This target appears to be a subset of f, with the addition of a reuse/recycle component.

- c) *by 2030, improve water-use efficiency by x% in all sectors, with particular focus on agriculture*
 d) *implement integrated water resource management, including appropriate trans-boundary co-operation*
 e) *by 2030, bring fresh water extraction in line with sustainable supply, protect and restore ecosystems, to provide water-related services*

RATING: UNCERTAIN – The above goals entail complex cost-benefit analyses that need more research and time to assess properly.

- f) *by 2030, significantly improve water quality, eliminate pollution and dumping of toxic materials in water bodies, and protect aquifers*

RATING: UNCERTAIN though limited evidence suggests **FAIR** BCR. See reasoning for target (b)

- g) *invest in water harvesting and storage technologies, and double the rainwater harvested by 2030*

RATING: UNCERTAIN

- h) *decrease by x% mortality and serious injuries, and decrease economic losses caused by water-related disasters, by 2030*

RATING: UNCERTAIN though likely to be **FAIR** or **GOOD**. The costs and benefits of preventing water related disaster is context, location and disaster specific – and challenging to do on a global scale. Previous Copenhagen Consensus Center research (Kunreuther and Michel Kerjan, 2012) shows that installing flooding prevention measures (elevating houses and installing community walls) is costly, but can save some lives over a 50 year time frame. Early warning systems have much lower incremental absolute costs (around

\$1B globally), and can provide benefits in terms of lives saved and economic losses avoided between 4 and 36 times the investment, depending on the assumptions (Hallegate, 2012).

The difficulty with this target is that deaths from natural disasters do not exhibit a trend over time (Hallegate, 2012), so reduction in mortality and injury needs to be standardized according to some measure (intensity of disaster, number of disasters). Finding the right measure to standardize on is a non-trivial exercise.

FOCUS AREA 7.

ENERGY

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

a) *by 2030 ensure universal access to sustainable modern energy services*

RATING: As written this target is **POOR**, because achieving universal access requires large infrastructure investment over a relatively short period of time which will likely be extremely costly. However, if the target is set more realistically – and the word ‘sustainable’ is qualified – then the rating is **PHENOMENAL**. Increasing access to modern energy has very large benefits from an economic, health and education perspective. The costs are not trivial, but the benefits are potentially enormous.

‘Sustainable’ should not only refer to renewable energy – this would be costly and unrealistic target by 2030. If sustainable were to include a suite of energy options such as nuclear and natural gas, then this justifies the phenomenal rating (Centurelli (2010)).

b) *double the share of renewable energy in the global energy mix by 2030*

RATING: POOR – the costs to achieve this will be large and the impact on climate change will be very small, especially since total global energy consumption will increase in the future. This target should be reworked as “half the share of carbon based energy in the global energy mix by 2030”. This implies a reduction of fossil fuel based energy from 82% of the current mix to 65% by 2035. This is a 20.7% decrease versus the 8.5% decrease that is currently forecast to 2035. To meet this goal, the preferred renewable options are nuclear and hydro over wind and solar, given the cost profile and poor energy reliability of the latter. However, the former options are not without consequences (such as environmental externalities), which complicate the cost and benefit assessment for the target.

c) *Double the global rate of improvement in energy efficiency, including in buildings, industry, agriculture and transport, by 2030*

RATING: GOOD – though this should be the focus for developed countries (for developing economies the focus should be accessing modern energy in the first place). This could be achieved through the implementation of governmental standards for energy use in the sectors mentioned.

d) *by 2030 increase by x% the share of clean and low- or zero-emission energy technologies, including sustainable biomass and advanced cookstoves*

RATING: UNCERTAIN – however, the increase in advanced cook-stoves component has a rating of **GOOD**. The evidence suggests that advanced cookstoves can be provided cheaply and have large health benefits in the near term. The rest of the target cannot be subject to economic analysis with the available evidence.

e) *by 2030 phase out fossil fuel subsidies that encourage wasteful consumption*

RATING: PHENOMENAL if done on a coordinated, global scale (though it is more likely to be accomplished by around 2050). If uncoordinated, then rating is **FAIR** by 2030. While reducing subsidies will generate large efficiency benefits, there will be distributional consequences, particularly for the poor in developing countries. ‘Encouraging wasteful consumption’ is a vague and open term: it will be possible that actors use this phrase to justify limited or no reduction of fossil fuel subsidies. (IMF, 2013; Cambridge Econometrics, 2013)

FOCUS AREA 8.

ECONOMIC GROWTH, EMPLOYMENT AND INFRASTRUCTURE

Promote sustainable, inclusive and sustained economic growth and decent jobs for all

a) *sustain income growth of the bottom 40% of the income distribution of each country to reduce income inequalities by 2030*

RATING: Not assessed.

b) *achieve full and productive employment and decent work for all who seek employment including for marginalized groups by 2030*

RATING: This target is similar to 1e and therefore has a similar rating. **POOR** – this is a poorly specified goal. Some level of unemployment is necessary to generate efficient labor markets. Additionally, there is no tangible, well known policy response to achieve full, productive and decent employment for all.

It would be better restated as ‘remove barriers to productive employment’. In particular, targeting increased female participation in the workforce has **PHENOMENAL** benefits relative to costs. There is compelling evidence that the growth miracles of certain Asian economies were driven by low cost policies that allow and incentivize women to work.

c) *halve the number of youth not in employment, education or training by 2020*

RATING: UNCERTAIN – the evidence to achieve reductions in youth unemployment is unclear. For education, the rating is **FAIR**. For training the evidence is **UNCERTAIN**.

d) *by 2030 improve by x% the energy and resource productivity of economic activities and reduce by y% their waste and emissions per unit of output*

RATING: Not assessed

e) *create appropriate climate for SMEs, entrepreneurship and innovation by 2020*

RATING: UNCERTAIN what an ‘appropriate climate for SMEs, entrepreneurship and innovation’ means. However, early limited evidence suggests this may be in **GOOD** category but more research required. There have been randomized controlled trials that suggest certain interventions such as providing early stage risk capital, and improving basic skilling have high benefits, relative to costs. Evidence is not clear enough to provide more confident recommendation.

f) *increase the share of high productivity sectors and activities in the economy, and strengthen productive capacities through technological upgrading and greater value addition, with a particular focus on LDCs*

RATING: Not assessed

g) *develop sustainable infrastructure accessible to all, with attention to needs of countries in special situations, and by 2030 provide access for 100% of rural populations to basic infrastructure and services*

RATING: UNCERTAIN, though unlikely that 100% of rural populations can be served with infrastructure and services without significant cost

h) *protect the rights of all workers, including migrant workers, in compliance with ILO fundamental rights at work*

RATING: Not assessed

i) end child labour by 2030

RATING: Not assessed

j) encourage formalization of informal sector activities and employment

RATING: POOR evidence shows that formalization of employment does not necessarily confer benefits

FOCUS AREA 9.**INDUSTRIALIZATION AND PROMOTING EQUALITY AMONG NATIONS****Promote sustainable industrialization and equality among nations**

Due to the short turn around time, none of the targets under Focus Area 9 were assessed.

- a) ensure adequate policy space and a conducive policy environment for industrial development, including encouragement of industrial entrepreneurship and enterprise formation with inclusion of SMEs*
- b) create decent industrial sector jobs and promote job-rich industrial development*
- c) achieve high productivity levels across industrial sectors in all countries*
- d) by 2030 increase industrial diversity particularly in developing countries, with a focus on shifting towards higher value-added activities*
- e) by 2030, increase by $x\%$ the resource-efficiency of industry, reduce by $y\%$ harmful chemicals used and waste generated, and decrease by $z\%$ the intensity of carbon emissions from the industrial sector*
- f) increase by a factor of x the share of environmentally sustainable products and services in GDP*
- g) by 2020 implement plans and measures to strengthen the technological capabilities of industrial sectors, including plans to accelerate development and adoption of environmentally sound industrial technologies and processes*
- h) by 2030 retrofit $x\%$ of existing industries on global level based on energy and resource-efficient technologies and environmentally sound industrial processes*

FOCUS AREA 10.

SUSTAINABLE CITIES AND HUMAN SETTLEMENTS

Build inclusive, safe and sustainable cities and human settlements

Overall message: When individuals agglomerate in cities, the increased density provides numerous benefits – for example lower per capita environmental impact and energy use, improved livelihood opportunities and lower per unit costs of providing services and infrastructure. There is a tradeoff, particularly in the developing world, between encouraging more people to move to a city, and controlling the way in which the individuals in the city are accommodated. Put differently, it is beneficial for more people to move to a city, but if regulation and city planning are overly restrictive, this could discourage or prevent people from moving to the city in the first place.

The priorities for cities should be (most important, first): water quality, natural disaster prevention, crime / security, and congestion.

a) *By 2030, ensure universal access to adequate and affordable housing and basic services for all, and eliminate slum-like conditions everywhere*

RATING: FAIR The focus should be on providing affordable, mass produced, temporary housing to those that wish to move to cities in the developing world to 2030. The benefits are large, and the costs are relatively low. Housing does not need to be permanent because wealth in developing nations will increase over the medium term, and preferences for the type of housing are likely to change. Regarding slums, from an economic perspective, it can be preferable to accommodate more individuals in cities, even in unstructured housing, than to have planned housing but less people in cities.

b) *By 2030, provide access to safe, affordable, accessible and sustainable transport for all, improve road safety and urban air quality*

RATING: FAIR – transport is important, but lower on the priority list relative to other concerns such as water quality, disaster prevention and crime. That said, in selected urban environments, such as cities in China, introducing congestion taxes for cars will have very high payoffs in terms of air quality and congestion at relatively low cost with benefits in the **PHENOMENAL** range.

c) *enhance capacities for integrated urban planning and management*

RATING: FAIR it is important to integrate land use and transport planning, but it is difficult to do this well.

d) *by 2030, reduce the ecological footprints of cities by x%*

RATING: UNCERTAIN – developing indicators for this target will be difficult. Additionally, it is important that this target does not unnecessarily shrink urbanization (and the benefits associated with high density living). For example, it is likely to be preferable, from an environmental standpoint, for many people to live in a high-density apartment than for the equivalent amount of people to be spread out in a low density suburban housing – though the former may appear less ‘environmental’.

e) *by 2020, increase by x% the number of cities adopting and implementing policies and plans towards resilience and adaptation to climate change and natural disasters*

RATING: GOOD Due to the increased density of living, the impact of natural disasters in cities can be high. It is therefore, cost beneficial to implement plans against disaster. The focus should be on identifying 'high risk' cities and ensuring a large percentage of these implement disaster mitigation strategies (as opposed to x% of all cities).

f) *by 2030 enhance social cohesion and personal security, and ensure universal access to inclusive and safe public spaces*

RATING: UNCERTAIN, given that social cohesion is difficult to measure. However, more specific phrasing around reducing homicide rates and reducing vulnerability to crime would make this a **FAIR** or **GOOD** target. Reducing crime can be difficult and costly – however, there have been cases where reduction in crime has led to (or is correlated with) increased economic benefits.

g) *by 2030 ensure that all cities are accessible and offer opportunities to persons with disabilities*

RATING: UNCERTAIN – It can be a complex exercise to retrofit a whole city for disability access. Depending on the development of the city, there may be other, more beneficial investments that would provide benefits for the disabled, other minority groups and the general population (e.g. improving disaster resilience). The question of improving disability access should be made on a city-by-city basis.

h) *protect and safeguard the world's cultural and natural heritage*

RATING: UNCERTAIN – developing indicators for this target will be difficult. As with target (d) it is important that this does not unnecessarily shrink urbanization (and the associated benefits).

What is missing?

Promoting improved water quality in cities can have a **PHENOMENAL** benefit to cost ratio. The infrastructure required is expensive, but the benefits accrue to many individuals. Also improved water quality can prevent water borne diseases, which can be very damaging if an outbreak of disease were to occur in high density, urban environments.

FOCUS AREA 11.

SUSTAINABLE CONSUMPTION AND PRODUCTION

Promote sustainable consumption and production patterns

a) *by 2030 achieve sustainable management and use of natural resources*

RATING: UNCERTAIN – this target is not specific enough to assess costs and benefits.

b) *by 2030 reduce waste by x% through prevention, reduction, recycling and reuse*

RATING: UNCERTAIN – likely to be some values of x where the benefits would exceed the costs and the rating could be **FAIR** or **GOOD**. However, more specificity is required around this target

c) *improve the resource productivity of economic activities by x%, including through sustainable supply chains by 2030*

RATING: UNCERTAIN

d) *by 2030 redouble efforts to raise awareness for creating a culture of sufficiency and sustainable lifestyles, including sustainability information on products and services*

RATING: FAIR – improving information quality and availability is unlikely to be harmful; consumers will undoubtedly benefit, and markets may then create incentives to improve along sustainability measures, although the environmental benefits are speculative and likely modest. The benefit to cost ratio will depend on the nature of the information requirements (compulsory or voluntary, the adequacy of the metrics, and the extent of the reporting burden), the ability of the consumers to understand the information, and the ability of the information to change behavior.

e) *by 2020, encourage economic incentives that promote sustainable consumption and production patterns including through a product life-cycle approach*

RATING: GOOD – using economic incentives to drive behavior can be beneficial, and, if done properly can yield favourable BCRs. Examples include a small levy on plastic bags, surcharges on inefficient appliances, or a carbon price.

f) *by 2030 increase by x percentage points the share of companies reporting on corporate social and environmental responsibility, including integrated reporting*

RATING: UNCERTAIN but likely to be FAIR – the costs are unlikely to be very high, particularly for large companies that are already reporting financial information – though it will depend on the regulatory burden. Regarding benefits, the impact of corporate social and environmental responsibility programs enacted by companies is highly variable – so it is uncertain to what extent reporting on these programs adds value. That said, a strong argument in favor of this target is that it would generate increased transparency, particularly in countries with low levels of corporate reporting – which could yield large, but uncertain benefits.

g) *by 2030, all financial sector actors incorporate sustainable development principles in their business practices*

RATING: UNCERTAIN but likely to be FAIR or GOOD – this could be beneficial if financing is curtailed to investments that have large negative environmental impacts, with limited additional social ben-

efits, in favor of more sustainable investments. It will be difficult to reach the 100% requirement implied by 'all financial sector actors'.

b) create incentives for sustainable tourism

RATING: POOR - this is an overly narrow focus. Most of the development and environmental impacts of tourism are local, and thus incentives are likely to exist already; tourism is a single sector, and a case would have to be made that it has sufficient leverage over global resource problems.

FOCUS AREA 12.

CLIMATE CHANGE

Take urgent and significant action to mitigate and adapt to climate change

Build a climate change goal based on the outcome of COP21 of the UNFCCC

a) *hold the increase in global average temperature below an $x^{\circ}\text{C}$ rise in accordance with international agreements*

RATING: POOR – very difficult to draw link between temperature rises and targeted, efficient policies to tackle climate change (the causation chain moves from temperature increases to global carbon PPM targets, to individual country carbon PPM targets, to policies set within national contexts). Targets that cannot be transferred into metrics should be avoided. (Meinshausen et al 2009, Rogeli et al 2013)

b) *build resilience and adaptive capacity to climate induced hazards in all vulnerable countries*

RATING: RATING: PHENOMENAL – benefits are large in terms of avoided economic damage, while costs are manageable (Kull, Rojas et al., UNFCCC 2009, UNFCCC 2011). Tends to be evaluated on a specific case by case basis. Examples in “ASSESSING THE COSTS AND BENEFITS OF ADAPTATION OPTIONS AN OVERVIEW OF APPROACHES” find BCAs between 1 and 5 with a 10% discount rate. Will be much higher with a lower discount rate.

c) *integrate climate adaptation and emissions reductions into development plans and poverty reduction strategies*

RATING: FAIR from a global perspective, though individual countries might face GOOD or PHENOMENAL benefit-to-cost ratios depending on their circumstances. Certain countries may be able to draw in increased development financing by integrating climate change into poverty reduction strategies, which can help accelerate development outcomes (e.g. NAMAs), (Bassi et al, 2013; Tomkins et al 2013).

d) *introduce instruments and incentives for investments in low-carbon solutions in infrastructure, industry and other sectors*

RATING: UNCERTAIN – the rating for this target depends on the instruments and incentives. Implementing a very low carbon tax (\$5/tonne) to fund R&D has a **PHENOMENAL** rating though high carbon taxes and feed-in tariffs have a **POOR** rating. Regulations such as fuel standards can have phenomenal ratings as well, if the required technologies to achieve these standards exist.

e) *improve education and awareness raising on climate change*

RATING: UNCERTAIN – but the BCR could be quite large given costs of education and awareness are typically modest. However, there is limited economic evidence to assess moreover the benefits although greater than the costs would likely also be modest.

What is missing?

A target on increasing % share of GDP going into R&D for new, low-carbon technologies.

An additional target could be ‘Reduce coal’s share of gross power generation from 41% to 25% by 2030’. This is a highly ambitious goal but with the current state and progress of natural gas extraction technologies could still maintain GOOD benefit cost ratios

FOCUS AREA 13.**CONSERVATION AND SUSTAINABLE USE OF MARINE RESOURCES,
OCEANS AND SEAS****Take urgent and significant actions for the conservation and sustainable use of marine resources, oceans and seas**

Due to the short turn around time, none of the targets within Focus Area 13 were assessed.

- a) by 2030, prevent, control and reduce by x% marine pollution and marine disposal of waste and tailings, including from land-based activities*
- b) by 2030, restore and protect marine ecosystems from destruction, including by halting and preventing ocean acidification*
- c) by 2030, regulate harvesting to restore fish stocks to ecologically safe levels that can produce maximum sustainable yield, and support sustainable small-scale fisheries*
- d) develop and ensure the full implementation of existing regional and international regimes governing oceans and seas, including for resources in areas beyond national jurisdictions*
- e) by 2020, eliminate illegal, unreported and unregulated (IUU) fishing and destructive fishing practices*
- f) establish Marine Protected Areas, consistent with international law*
- g) by 2030, eliminate fishing subsidies which contribute to overcapacity and overfishing*

FOCUS AREA 14.

ECOSYSTEMS AND BIODIVERSITY

Protect and restore terrestrial ecosystems and halt all biodiversity loss

a) *By 2020 halt the loss of all biodiversity, including habitats, and protect threatened species.*

RATING: UNCERTAIN – very difficult to do a benefit cost assessment. Halting all of loss of biodiversity by 2020 seems optimistic given similar previous pledges, for example by EU in 2010, which were not met.

b) *By 2020 ensure conservation and sustainable use of ecosystems, including through restoration of degraded critical ecosystems.*

RATING: GOOD. Overall it is unlikely the target of sustainable use of ecosystems can be met. But if focus is on restoration of degraded critical ecosystems then the target may be achievable and the benefit to cost ratios should be favorable. Some effective policies include various kinds of payment schemes for ecological services (PES), international donor support for ecosystems with significant global environmental benefits etc.

c) *Maintain genetic diversity of both farmed species and their wild relatives*

RATING: FAIR – there is evidence that maintaining genetic diversity of farmed species is beneficial, particularly in valuable industries e.g. maintaining diversity in grape varieties to prevent disease – and the costs of doing so are likely to be low. Maintaining genetic diversity of wild species is a less certain proposition: estimated values for pharmaceutical uses for example do not come up with large values.

d) *By 2030, ensure sustainable management of all forests and mountain ecosystems, halting deforestation and increasing reforestation by x%*

RATING: GOOD if focus on forests and reforestation target is for example on all dense forests. Studies show benefit to cost ratios of between 7 and 20. Provides biodiversity and other important benefits, such as carbon storing. Addition of ‘mountain ecosystems’ seems out of place – forests grow on mountains, but also in other environments. And mountain ecosystems are not only about forests, but include other types of environments. Does not seem to fit well within this target.

e) *By 2030, achieve a land degradation neutral world*

RATING: UNCERTAIN – land degradation is a problem and has a high cost but the term is general and it covers all kind of use. Policy responses to achieve this target are not clear

f) *Ensure fair and equitable sharing of benefits derived from natural assets, including genetic resources*

RATING: UNCERTAIN – equitable sharing does not necessarily increase aggregate benefits unless there is value placed on distribution of benefits or unless the beneficiaries of equitable sharing are more inclined to protect natural assets. The latter may be the case but is not always clear. The target is difficult to assess.

g) End poaching and trafficking of endangered species

RATING: FAIR – certain interventions are effective such as multiple countries reaching agreements on trade restrictions in endangered species. However, other policies such as increased policing are resource intensive and often less effective.

h) by 2030, eliminate invasive alien species

RATING: FAIR. It is clear that alien invasive species do significant damage to ecosystems and we should take action. Difficulty is in knowing how to curtail invasive species effectively. Elimination is unlikely, but some effective policies include coordinated action to identify and control the spread, through trade and travel, of potentially harmful species. It also requires the generation and dissemination of information on invasive species risks and strengthening the capacity of the weakest countries to handle the movement of species through transport systems.

i) Ensure inclusion of indigenous and local communities in decision making, and promote traditional knowledge of indigenous peoples

RATING: UNCERTAIN – limited economic evidence on the benefits from such a target. To be sure traditional knowledge is important and can be beneficial but success of measures to promote it are less clear.

FOCUS AREA 15.

MEANS OF IMPLEMENTATION/GLOBAL PARTNERSHIP FOR SUSTAINABLE DEVELOPMENT

Strengthen global partnership for sustainable development

Means of implementation

Trade:

- a) *promote open, rules-based, non-discriminatory and equitable multilateral trading and financial systems, including complying with the agricultural mandate of the WTO Doha Round*

RATING: PHENOMENAL – It is well established that increased trade has very large benefits, with low costs (e.g. Anderson, 2008). The inclusion of the last phrase is crucial, since as much as 60% of the gains from liberalizing merchandise trade globally would come from agricultural policy reforms, particularly reducing import restrictions and agricultural subsidies (but also, in the case of countries such as Argentina, from reducing agricultural export taxes).

- b) *provide greater duty-free and quota-free market access to least developed countries in keeping with World Trade Organization decisions*

RATING: GOOD – it is not phenomenal, since there might be some unintended trade diversion from countries that are not categorized as LDCs.

- c) *improve market access for agricultural and industrial exports of developing countries, especially Least Developed Countries, and at least double the share of LDCs' exports in global exports by 2020*

RATING: PHENOMENAL – It is well established that increased trade has very large benefits, with low costs (e.g. Anderson, 2008).

Technology transfer, technological capabilities:

- d) *enhance regional and international cooperation for science, technology, and innovation and solutions-oriented research, and enhance knowledge sharing, including through North-South, South-South and triangular cooperation*

RATING: GOOD at least, but potentially PHENOMENAL. A focus on capacity building, increasing connectivity between scientific institutions globally, interchange of knowledge and scientists between regions is possible at relatively low cost, but with significant benefits. The costs should be relatively low because much of the communication infrastructure is already laid, though it could be improved in many developing countries. The large benefits would stem from linking scientists to research teams, grant funding, and knowledge sources (e.g., journals) in advanced countries, with consequent learning impacts on behalf of local personnel and greater access of local firms to technical innovations.

- e) *promote transfer and dissemination of clean and environmentally sound technologies to developing countries*

RATING: UNCERTAIN – depends on the definition of 'promote' – there is little economic evidence on the costs and benefits of literal technology transfer to developing countries. Also this target can be subsumed within other environmental focus areas.

f) fully operationalize the Technology Bank and STI Capacity Building Mechanism for LDCs

RATING: UNCERTAIN but likely to be **POOR** – Incentives would need to exist for private-sector firms to participate in sharing technologies, which has a limited record of success in advanced countries. If access to such technologies were to be bought (patent licensing rights) the costs would need to be subsidized with public funds, likely a high cost.

g) strengthen institutions and build capacities in developing countries to undertake research, development and adaptation of technologies, including clean and environmentally sound technologies

RATING: GOOD This is a valuable target because one of the largest impediments to effective technology dissemination in clean technologies is the high cost of implementation and adaptation to local needs, which requires scarce technical expertise. Note that the more appropriate policy response is similar to the one induced by target (d) – this is a narrower focus, and as such seems superfluous.

h) support fully research and development of vaccines and medicines for the common diseases of developing countries, notably LDCs

RATING: UNCERTAIN – this target can be subsumed within a health focus area.

Financing and debt sustainability – None of the targets in financing and debt sustainability were assessed. To make assessments possible, it is assumed that the costs and benefits of a target are independent of the financing.

Capacity building:

q) expand by x% globally the number of scholarships for students from LDCs to enroll in higher education programmes in developed countries and other developing countries, with focus on science, engineering and management

RATING: UNCERTAIN – potentially valuable with a BCR probably greater than 1 but limited economic evidence of technology gains in student-source countries. Evidence is emerging that doctoral students are effective channels of technology transfer when they return home, so there could be large gains from expanding those flows through scholarships and fellowships. Such extensions for undergraduate and MA-level training would likely involve much larger costs for small benefit gains.

r) substantially strengthen capacities for sustainable development data collection and analysis with a focus on generating disaggregated, timely and high-quality data

RATING: FAIR – Strengthening statistical capacity requires personnel and technical assistance, which represents a non-trivial cost, especially for certain countries where ability to analyse (as opposed to collect). The benefits can be large, but ‘high-quality’ is hard to define.

s) countries progressively introduce expanded measures of progress beyond GDP into national accounting, with supportive statistical capacity building in developing countries

RATING: POOR – this is a superfluous target, and the statistical capacity component is similar to r above. Introducing ‘measures beyond GDP’ is the purpose of the MDG / post 2015 agenda.

t) develop and implement capacity building programmes in developing countries, especially LDCs, in support of the national plans implementing sustainable development goals, including in agriculture, water, energy, health as well as in disaster prevention and reduction capacity and sustainable natural resources management

RATING: Not assessed

Strengthened global partnership for sustainable development

u) engage all stakeholders in implementation of the SDGs, including through effective, innovative and accountable partnerships in cooperation with governments that mobilize financial resources, develop and disseminate technologies and provide technical expertise

RATING: Not assessed

v) regular monitoring and reporting of progress on SDGs within a shared accountability framework, including means of implementation, the global partnership among Member States and multi-stakeholder initiatives and partnerships

RATING: Not assessed

What is missing?

At least double the number of work visas issued by participant countries within “innovation zones” (the larger the country coverage the better), where these visas would last for 10 years and permit free mobility among countries within the zones. The economic costs would be small (though political constraints could be high) and gains in terms of technology transfer and information diffusion should be substantial.

FOCUS AREA 16.

PEACEFUL AND INCLUSIVE SOCIETIES, RULE OF LAW AND CAPABLE INSTITUTIONS

Peaceful and inclusive societies, rule of law and capable institutions

Creating peaceful and inclusive societies:

a) *by 2030 reduce by x% crime, violence and exploitation especially of children and women including by reducing organized crime and human trafficking*

RATING: UNCERTAIN, but the potential benefits are very high – because they are so prevalent. While organized crime and trafficking generate much harm, it is likely that the environment in which children and women suffer the most violence is in the home. For example, up to 16% of children are punished by very violent methods and up to 30% of all partnered women experience inter-personal violence in their lifetime. While eliminating some small fraction of this violence would have very large absolute benefits, there is limited evidence for interventions that could successfully reduce violence and crime – and most of these studies come from high-income countries.

b) *by 2030 eliminate discriminatory laws, policies and practices, empower marginalized groups, in the social, political and economic fields*

RATING: UNCERTAIN – changes in laws do not always result in changes in practices. For example, out the 29 countries for which female genital mutilation is most prevalent, 26 have outlawed the practice.

c) *by 2030 establish inclusive, participatory decision-making, including at local governments, taking into consideration the interests of future generations*

RATING: Not assessed

d) *by 2020 provide information and education on a culture of non-violence*

RATING: UNCERTAIN – but the BCR could be very high, since the costs of information are low and the potential benefits, large.

e) *by 2030 implement planned and managed migration policies*

RATING: GOOD Increased migration provides benefits for both the receiving and originator country of the migrant, at low cost. Benefits are augmented if the costs of remittances are lower.

Rule of law, capable institutions:

Overall message: Good governance is not only important as an enabler of development outcomes, but also, arguably, inherently valuable. Yet experience with institutional reform has been disappointing and the success of external pressure to improve governance particularly difficult. The economic evidence for specific governance interventions is small, and where it is available, it focuses on specific case studies that may lack applicability in different context. The evidence does not concern how to enact large, transformational reform that improves overall governance and promotes effective institutions. As such, we do not rate the rule of law and capable institutions targets according to the economic categories, but provide qualitative assessments.

In general, appropriate governance targets should focus on outcomes and measure how well institutions function, and not the form those institutions should take, which will vary across countries and contexts. Targets need to be carefully crafted and concrete, and should measure meaningful change toward better governance in specific areas, rather than broad goals.

a) *by 2030 develop effective, accountable and transparent institutions at all levels*

This target is too general, and unrealistic.

b) *by 2030 provide equal access to independent and responsive justice systems including related to property and tenure rights, employment, business, taxation, trade and finance*

It is important to focus on the functioning of justice systems, though the focus of this target seems skewed towards economic aspects of law.

c) *by 2020 provide public services for all, including legal identity*

Legal identity provision can be a good, simple indicator of how well a government is functioning. It will be more useful as an indicator of government effectiveness than of providing public services, which is too generally stated to be helpful.

d) *improve access to information on public finance management, public procurement and on the implementation of national development plans*

Access to quality information can be an important indicator of effective governance and institutions. It is likely to be relatively inexpensive to implement with large benefits, however only when the political cost of providing information is low and when the ability of both government and civil society to make productive use of the information is sufficient.

e) *by 2030 decrease by x% corruption in all its forms...*

Reduction of corruption is important, but evidence suggests it is difficult to achieve on a wide scale. It is difficult to measure, but this formulation is better than alternatives, as it focuses on an outcome of anti-corruption efforts.

...and illicit financial flows

Preliminary evidence from Cobham (2014) suggests that the benefits of reducing illicit financial flows – through increased sharing of tax data across jurisdictions – are likely to exceed the costs.

f) *remove unnecessary restrictions of freedom of media, association and speech*

It is unlikely that a definition of ‘unnecessary’ will be found that can be universally applied to countries world-wide. There are likely better targets for good governance and capable institutions.

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