



Climate Action Network

Energy and the Post-2015 Development Agenda

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Climate Action Network (CAN) is the world's largest network of civil society organizations working together to promote government action to address the climate crisis, with more than 900 members in over 100 countries. www.climatenetwork.org

Recommendations:

Any Energy SDG should recognize that access to sustainable, affordable, safe and reliable energy is a pre-condition for eradicating poverty and sustainable development.

To achieve sustainable development, the post-2015 framework must leverage the shift away from fossil fuels and nuclear to zero carbon renewable and climate resilient energy systems. This includes transforming fossil fuel subsidies, with protection for poor and vulnerable groups, to finance new renewable and energy efficiency usages while also providing adequate support and technology transfer to poorer countries.

Both a dedicated sustainable energy goal and integration of energy-related targets across the framework to capture its impact on many development areas are required.

An Energy SDG should include the following targets:

1. Universal access to sustainable, affordable, safe and reliable energy for household, community and productive services.
2. Tripling (compared to 2010 levels) the share of renewables in primary energy use and energy infrastructure globally, to at least 45%.
3. Substantially grow annual energy intensity improvements globally to 4.5%.

Introduction

Reliable, safe, sustainable and affordable access to energy is essential to eradicating poverty and building shared prosperity. Apart from lighting and heating homes, energy services are vital for progress in many development areas (otherwise known as “nexus” issues, such as ensuring food and water security, sanitation, healthcare, education, and also for promoting sustainable livelihoods and reducing gender inequality).

However, billions around the world still have no access to modern energy services: “Nearly one person in five on the planet still lacks access to electricity. More than twice

that number, almost three billion people, rely on wood, coal, charcoal or animal waste for cooking and heating.”¹

Generally over half the world’s population, mostly in developing countries in Asia and Africa, only has access to irregular and unreliable energy supplies, affecting quality and reliability of residential, commercial and industrial energy services. Indoor pollution using inefficient locally sourced biomass such as fuel wood and animal waste causes around 4 million deaths annually.

In addition, to not exceed 1.5°C compared to pre-industrial levels by 2100, requires global, cumulative CO₂e emissions to not exceed 815Gt CO₂ by 2050 (IPCC, 2014) - this translates into an annual carbon budget going forward of 50Gt CO₂e.

The energy sector accounts for about two thirds of all global GHG emissions.² To stay well below 2°C of warming, more than two thirds of all current fossil fuel reserves need to stay in the ground.³

Climate Action Network believes that transforming our present energy system by providing sustainable energy⁴ for everyone is a huge opportunity both to reduce poverty and to protect our climate, ensuring sustainable development.

Background

Shifting to low or zero carbon energy has been recognized as crucial for sustainable development in the context of discussions around the post-2015 development framework that will follow the Millennium Development Goals even before the Rio+20 negotiations in 2012.

In April 2011, the International Renewable Energy Agency (IRENA) was established to promote the increased adoption and sustainable use of renewable energy. In September 2011, the UN launched the *Sustainable Energy for All* initiative. It has three goals: universal energy access, doubling the annual rate of energy efficiency and doubling the share of renewable energy in the global energy mix by 2030. Thus far, 82 countries have signed up for the initiative.

¹United Nations (2014) Sustainable Energy for All, Vision:

² International Energy Association (IEA) (2013): CO₂ emissions from fuel combustion report 2013, page 8. <http://www.iea.org/publications/freepublications/publication/co2emissionsfromfuelcombustionhighlights2013.pdf>

³IEA, World Energy Outlook (2012): (<http://www.worldenergyoutlook.org/>) and CarbonTracker (2013), Unburnable Carbon/ Wasted capital and stranded assets: (<http://www.carbontracker.org/site/carbonbubble/>).

⁴ CAN considers sustainable energy to be largely only renewable energy, however not all renewables are sustainable. Excluded from our understanding of sustainable energy are: large hydropower, that displaces people and erases ecosystems from the map; and agro-industrial biofuels that to date have been more associated with land-grabs, subsidies and the continued promotion of fossil fuel burning engines than with GHG emissions reductions. Within this framework however, there is space for some fossil transition technologies, such as Liquid Petroleum Gas (LPG) as a medium-term replacement only for other, more heavily polluting or otherwise harmful, energy sources. Furthermore, energy service provision can only be considered sustainable when tailored to the development needs of local end-users, i.e. when the technologies and services applied are locally appropriate..

At Rio+20, Parties recognized that improving “energy efficiency, increasing the share of renewable energy and cleaner and energy-efficient technologies are important for sustainable development, including, addressing climate change.”⁵

The UN Open Working Group (OWG) on Sustainable Development Goals (SDGs), part of the post-2015 framework, has proposed an energy SDG to “Ensure access to affordable, reliable, sustainable, and modern energy for all”.

However, while this is to welcome, without defining what “access” means and without concrete and ambitious targets on increasing renewable energy and energy efficiency, such a goal is meaningless. We strongly urge that access be defined as access to the full range of energy services needed to eradicate poverty and support sustainable development, for example, energy services for households, businesses, health clinics, schools, etc.⁶

Additionally, the OWG proposal does not include a sufficiently ambitious and specific target for renewable energy, calling only to ‘increase substantially’ the share of renewables in the energy mix. This makes the target vague, open to interpretation, difficult to measure and does not encourage action consistent with keeping below 2°C of global warming.

An energy goal also needs to be in line with a 100% decarbonization of the energy sector by 2050, the level required to keep well below 2°C target. From 2015 to 2030 a significant amount of new infrastructure is likely to be built or at least planned. The proposal by the OWG to enhance access to “advanced and cleaner fossil fuel technologies” will not ensure decarbonization by the middle of this century. Given that coal and gas plants operate for approximately 40-50 years, encouraging more investment runs counter to prioritizing renewables and energy efficiency.

Furthermore, the current OWG proposal lacks a comprehensive and integrated approach to energy across the post-2015 framework. By not explicitly recognizing the importance of energy for many other goal areas, such as health, education, women’s empowerment etc., the risk is that energy access is seen as an end in itself, rather than as the facilitator of poverty alleviation (i.e. through enabling refrigeration of vaccines, lighting for schools and hospitals, provision of heating and cooling, productive uses, etc.).

This paper outlines CAN’s position on how to address energy in the post-2015 framework, through concrete and strong targets on emission reductions and sustainable energy access for all by 2030.⁷

⁵United Nations (2012), Rio+20, The future we want, Art. 128: <http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N11/476/10/PDF/N1147610.pdf?OpenElement>

⁶Garside, B., Leopold A. & Wykes, S. (2014): *Energy in the Post-2015 Development Framework*. See: <http://www.cafod.org.uk/Policy/Climate-and-energy>.

⁷Definition sustainable energy:

Eradicating poverty and tackling climate change as the pre-conditions of sustainable development

The next 15 years are critical for decarbonizing the energy system. To achieve sustainable development, the post-2015 framework must promote the shift away from fossil and nuclear fuels to energy systems which are low-impact, low-carbon, low-risk and climate resilient. There is also a social justice dimension to this: the current unsustainable consumption of energy is driven by over-consumption by the wealthy and middle classes.⁸

The SDGs should encourage/incentivise countries' to move quickly towards renewable energy while reducing overall energy demand through investments in reducing energy intensity and increasing energy conservation. This includes by removing subsidies for fossil fuel production and consumption, while adequately protecting poor and vulnerable groups of people.

Many of the same low-carbon and renewable energies required to avoid catastrophic climate change are also those needed to achieve universal access to modern energy services. This is particularly the case with electricity where decentralized (mostly renewable) solutions are needed for universal access.

It is more feasible, sustainable and cost-effective to connect rural communities, which form the vast majority of the energy poor, to small/mini and off-grid-connected energy sources (mostly renewable).⁹ Studies show that to reach the target of universal access by 2030, at least 55 per cent of new electricity generation will have to come from decentralized (mostly renewable) energy sources.¹⁰

Grid-connected solutions help to overcome some of the problems with storage of excess power and 'net metering' can alleviate some of gaps between power generation and power needs, for instance with solar PV, unless batteries are abundantly available.

It is vital that countries have the means of implementation (financial, technical, technological, and institutional) to incentivize their adoption of low or zero carbon energy systems. In addition, the SDGs must encourage democratic and inclusive planning processes so any negative impacts of decarbonizing energy on poor and vulnerable groups can be mitigated, and governments and other actors develop policies maximizing social and environmental "co-benefits".

⁸CAN/Beyond2015 (2014): UN thematic consultations on energy.

<http://www.beyond2015.org/sites/default/files/UN%20thematic%20consultation%20on%20energy.pdf>.

⁹IEA (2011) World Energy Outlook. International Energy Agency.

Craine, S./ Mills, E./ Guay, J. (2012) Clean Energy Services for All: Financing Universal Electrification. Sierra Club.

¹⁰Pachauri, S. et al (2013): Pathways to achieve universal household Access to modern energy by 2030, Environ Res. Lett. 8, <http://iopscience.iop.org/1748-9326/8/2/024015>.

What would an effective and integrated approach to energy in the SDGs look like?

As energy is a crucial enabler of poverty eradication and sustainable development, both a dedicated sustainable energy goal and integration of energy-related targets across the framework to capture the 'nexus issues' are needed.

For instance, in relation to proposed Goal 2, "End hunger, achieve food security and improved nutrition, and promote sustainable agriculture", target 2.3 could include a reference to increasing access to productive energy services (i.e. milling, water-pumping or tilling) for small-scale agriculturalists.

For proposed goal 3 on health, a target or clause should be added under an existing target of "providing a level of reliable, affordable energy to all health care facilities by 2030 that will ensure a good standard of care for common procedures (common procedures to be defined by WHO)." Additionally, target 3.9 should specify "outdoor and indoor" air pollution, given the negative impacts of indoor smoke pollution on health and mortality, and specify a specific numerical target for this reduction.

For proposed goal 4, "Ensure inclusive and equitable quality education and promote life-long learning opportunities for all", target 4.1 should be modified to read "by 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes in education facilities equipped with reliable sustainable energy services." Schools that are too hot, too cold, and too dark not only dis-incentivize the attendance of students, but also of teachers.

Proposed Goal 5, "Achieve gender equality and empower all women and girls", target 5.b should be modified to read "enhance access to enabling technologies, in particular ICT and modern forms of productive energy services, to promote women's empowerment." A new target could also be created around bringing energy sources important to women and girls into national energy policy (i.e. biomass for cooking), and disaggregating energy data (and other data) by gender to illustrate and address the important gender inequalities in energy production and use.

a) A holistic understanding of energy access

To measure access in terms of what matters to those living in energy poverty, the post-2015 framework should adopt a 'total energy access' approach where individuals, households, enterprises and communities have sufficient, reliable and affordable access to the full range of energy supplies and services required to eradicate poverty and support sustainable development.¹¹ This requires indicators to measure the affordability, quality, safety and reliability of energy services provided to end-users,

¹¹Garside, B., Leopold A. & Wykes, S. (2014). See further elaboration of Total Energy Access (TEA) approach see <http://practicalaction.org/totalenergyaccess>

rather than ones that merely capture energy supply through grid connection or megawatts of power generated.

Tier three of the World Bank's *Global Tracking Framework* can be used as a guideline. This comprises: "a low but adequate level of electricity available for eight hours a day, a package of energy services including lighting, phone charging, radio and television and an electric fan, food processing applications or a washing machine. For cooking, it would mean at least the use of a rice cooker and good quality solid fuel stove which meet a set of requirements for maintenance, convenience, and appropriateness to end-user needs."¹² As above, further indicators are also needed to ensure progress in cross-cutting development areas such as health, education, gender and so on.

In order to achieve universal energy access by 2030, increased financial, political and technical support is needed for decentralized (off-grid) energy solutions, especially for electricity access.

b) Strong support for renewable energy and energy efficiency

To not exceed 1.5°C warming, the current fossil fuel-based energy sector has to fundamentally change over the coming decades. Due to the maturity of relevant technologies, renewable energy (which has reached grid price parity in many contexts already) and scale-up of energy intensity offer clear environmentally and socially sustainable, cost-effective ways to reduce emissions while benefiting poor and vulnerable groups.¹³

Presently, renewables account for approximately 18% of the global energy supply (excluding traditional and inefficient biomass use in developing countries, the number is about 10%).¹⁴ A post-2015 framework should include a target of at least 45 per cent of all primary energy use and energy infrastructure coming from renewable energy, which is both possible and necessary.¹⁵ Because renewable energy technology and energy intensity are mutually reinforcing, a target of 4.5 per cent annual global rate of improvement in energy intensity ¹⁶(energy/ unit GDP) by 2030 is also needed.¹⁷

¹²Garside, B., Leopold A. & Wykes, S. (2014)

¹³ Just to name some of the potential co-benefits of scaling-up renewable energy and energy efficiency: minimizing local environmental impacts, improved health due to reduced air and water pollution, poverty reduction through decentralized energy access, potential for industry development etc.

¹⁴ WWF (2013): WWF Submission on increasing pre-2020 Mitigation Ambition through scaled up Renewable Energy and Energy Efficiency Initiatives.

¹⁵WWF (2012): The Energy Report 100% Renewable Energy by 2050

¹⁶ Energy Intensity is measured by the quantity of energy required per unit output or activity, so that using less energy to produce a product reduces the intensity. Energy Efficiency improves when a given level of service is provided with reduced amounts of energy inputs or services are enhanced for a given amount of energy input. At the level of the aggregate economy (or even at the level of an end-use sector) energy efficiency is not a meaningful concept because of the heterogeneous nature of the output. See also: Energy efficiency vs. intensity: http://www1.eere.energy.gov/analysis/eii_efficiency_intensity.html

¹⁷Wykes, S./Garside, B./ Leopold A. (2014): Energy in the Post-2015 Development Framework. See; <http://www.cafod.org.uk/Policy/Climate-and-energy>

Investments in renewable energy and energy intensity are not only crucial for tackling climate change and for sustainable poverty eradication but would likely return twice as much to investors through reduced energy bills. This is along with other co-benefits including improving energy security, health, environmental outcomes, workplace productivity, reducing fuel poverty and net employment gains.

c) Clear deadlines and transparent reporting for phasing out fossil fuel subsidies

Subsidies for fossil fuel production and consumption, estimated to range between USD 544 billion and 2 trillion, incentivise excessive demand for fossil fuel-based energy and disincentivise large scale renewable energy investment.¹⁸ Accordingly, to level the playing field for renewables and to keep open the reasonable possibility of limiting warming to 1.5°C, the post-2015 framework should call for the phase-out of fossil fuel subsidies no later than 2050.

Developed countries must lead these efforts, and also provide substantial financial, technological and capacity building support to poorer countries to phase out subsidies and develop low carbon energy systems, in line with CBDR-RC. This must include adequate protection for poor and vulnerable groups, such as social safety nets.¹⁹

This requires a measurable and much stronger target on removal of fossil fuel subsidies than the current OWG outcome document proposes. Again, any target should exclude support for “cleaner” or “advanced” fossil fuels (as is currently proposed by the OWG).

d) Adequate support for finance, technology transfer and capacity building

Finance and technology transfer is crucial and is currently one of the barriers to increasing renewable energy and energy efficiency globally. In August 2014, the Intergovernmental Committee of Experts on Sustainable Development Financing (ICESDF) stated that, without sufficient financing, sustainable development is doomed to fail²⁰.

Furthermore, access by poorer countries to the appropriate technical expertise, technologies and financing for delivering sustainable energy services is crucial.

The following is required for achieving a transformational shift.

¹⁸ International Institute for Sustainable Development (2014): Comparison of Fossil-Fuel Subsidy and Support Estimates, <http://www.iisd.org/GSI/fossil-fuel-subsidies>.

¹⁹ According to the Global Subsidies Initiative, “many [fossil fuel] subsidies are defended as benefiting disadvantaged groups [...] Some do that, but even those that do benefit disadvantaged groups often benefit richer people or companies even more”. In the case of India, recent research by GSI finds that “subsidies have provided little benefit to the rural population and to the poor, especially to two thirds of people who rely on biomass for cooking”. However, the path to a sustainable, pro-poor reform of subsidies must “mitigate negative impacts of reform for women, and rather increase access to sustainable energy and empowerment of women”. See: <http://www.iisd.org/gsi/supporting-country-reform-efforts/fuel-subsidies-india>.

²⁰ Report of the Intergovernmental Committee of Experts on Sustainable Development Financing (2014), page 7. Available at: <http://sustainabledevelopment.un.org/content/documents/4588FINAL%20REPORT%20ICESDF.pdf>

- Providing the 1.2 billion who have no electricity, and 2.8 billion who rely on inefficient and polluting cooking fuels and technologies, with energy services by 2030 requires an estimated US\$65 to \$86 billion per year of additional investment ²¹.
- Financing energy services for the poorest usually requires a combination of public-private partnerships, social enterprise initiatives and national government investment.
- Ramping up investment in renewable energy and efficiency of around USD 500 billion annually to 2030 is needed to finance sustainable energy technology development and to promote local capacity building in order to meet the energy needs of the poor.
- Reforms in bi-lateral and Intellectual Property Rights (IPR) processes that allow better access to technologies to developing countries are essential.

Finally, while additional financing and technology transfer are crucial, on their own they are extremely unlikely to result in effective scaling-up of services, especially for poor and vulnerable groups. The post-2015 framework must also incentivize ‘bottom up’, endogenous, participatory approaches to designing and delivering services to ensure the real energy needs and wants of end-users (energy poor communities) are met and services are appropriate for local contexts.

Last but not least, increasing the technical capacity of governments in policy development and planning, as well as capacity building at the community level, is needed to design, deliver and maintain efficient and sustainable energy services. ²²

²¹Pachauri, S., van Ruijven, B.J., Nagai, Y., Riahi, K., van Vuuren, D.P., Brew-Hammond, A. and Nakicenovic, N. (2013) “Pathways to achieve universal household access to modern energy by 2030”, in *Environmental Research Letters*, 8 (2013) (7pp). Available at: <http://iopscience.iop.org/1748-9326/8/2/024015/article>

²² Practical Action (2014): Poor people’s energy Outlook 2014. Available at: <http://practicalaction.org/ppeo2014>