



Policy Brief #2 Recommendations on Energy

for the UN General Assembly Open Working Group on Sustainable Development Goals (OWG on SDGs)

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The recommendations on energy presented here have been compiled from three civil society consultations conducted by UN-NGLS from 2012-2013: a teleconference-based consultation that resulted in the report [Advancing Regional Recommendations on the Post-2015 Agenda](#); an [online consultation](#) on four post-2015 reports to the Secretary-General; and a [teleconference and meeting-based consultation](#) on the UN Secretary-General's Sustainable Energy for All Initiative. This brief also draws on the [Women's Major Group energy recommendations](#) for the OWG on SDGs.

Civil society organizations (CSOs) recognize that several sets of proposed SDGs have included a goal on energy, often incorporating the three targets used by the Sustainable Energy for All Initiative: a) ensuring universal access to modern energy services; b) doubling the global rate of improvement in energy efficiency; and c) doubling the share of renewable energy in the global energy mix. Among CSOs, there is widespread support for including a goal on energy in the post-2015 sustainable development agenda. The majority of organizations, however, are not satisfied with the proposed goals so far, and advocate for more comprehensive, specific and ambitious targets. Consistent with the prevailing call from CSOs for the post-2015 development agenda to take a human rights-based approach, consultation participants asserted that all energy policy and implementation by the private and public sector must be consistent with existing UN human rights commitments. CSOs resoundingly called for energy targets to include a strong focus on reducing emissions and excessive energy use in the industrialized world. They further advocated that governments must promote development and energy generation that does not result in dangerous by-products, particularly those with the capacity to trigger global-level destruction. Detailed recommendations are presented below, organized according to the following five objectives:

1. Achieving universal energy access;
2. Ensuring clean, safe, and locally appropriate energy generation;
3. Advancing energy efficiency;
4. Enabling effective financing for energy; and
5. Establishing the roles of stakeholders.

1. Achieving Universal Energy Access

- a) Address energy access as a common good to be provided as a public service.
- b) Agree to a global energy access standard that incorporates civil society definitions of energy access and sustainability, such as [Practical Action's Total Energy Access Standards](#).

- c) Design impact metrics to measure socio-economic benefits of energy access, using a participatory approach. Assess progress by the number of people able to access energy services that meet or exceed a minimum agreed international standard for lighting, cooking, heating, cooling, and communications.
- d) Prioritize access to free energy for the energy-deprived, and modernization of traditionally free and local energy sources. Reduce energy waste to support affordability and maximize availability, through measures such as retrofits to homes and businesses. Affordability must be the fundamental consideration in delivering sustainable energy access.
- e) Centre energy access strategies and implementation on equity. Mainstream gender issues and women's empowerment in discussions about sustainable energy and reducing poverty.
- f) Ensure energy access and *control over energy choices* for people living in poverty, in line with the principle of energy sovereignty. Link the term "sustainable energy" to peoples' capacity to design, manage, operate, and maintain energy facilities. Fund and support local capacity building to enable the achievement of energy objectives.
- g) Promote regional energy access project incubators; build cooperatives to increase impacts of energy projects.
- h) Use a variety of efficient energy sources, equipment and appliances at a variety of scales, as the traditional power sector alone will not and cannot deliver an end to energy poverty. On-, off- and mini-grid approaches, and a variety of cooking and mechanical power options, will be required to create universal energy access. 55% of the new generating capacity created over the coming years will need to be mini-grid or off-grid if the goal of universal access is to be achieved by 2030.¹
- i) Implement climate resilient energy sources to meet the goal of universal access. According to International Energy Agency reports, this will require off-grid renewable solutions.
- j) Adapt and innovate existing energy solutions to respond to new contexts. Effective business strategies of many "socially-oriented energy enterprises, organizations and financiers that understand the energy needs of low-income consumers in developing countries" are described in the World Resources Institute report [Implementation Strategies for Renewable Energy Services in Low-Income, Rural Areas](#).
- k) To scale up energy service delivery, implement predictable, supportive and consistent government policy and regulation that prioritizes or incentivizes energy access.
- l) Avoid nuclear energy in plans for energy access. Particularly in developing countries, nuclear energy is an impractical and dangerous choice due to its excessive and growing upfront costs; inability to compete with more cost-effective, fuel-free energy sources (wind and solar) and demand-reduction/management strategies; long construction periods (see 2.f below); poor economic performance in terms of cost per job created; legacy costs for management of radioactive waste (hazardous for millennia), decommissioning and environmental remediation; and security costs including protection against nuclear proliferation risk. In addition, the economic impact of nuclear accidents – overwhelming even for advanced industrial nations – would easily outstretch the economic and technical capacity of most nations. Nuclear generation supply is declining in nearly all nations where the industry is most advanced,² and recent attempts to revive it have failed primarily due to economic factors. Environmental trends resulting from climate change (surface water warming, drought, and sea-level rise) will exacerbate the negative economic trend by reducing the generation capacity, reliability, and revenues of nuclear units, while raising their operating costs. Countries building new nuclear reactors are disregarding the economic and safety liabilities. Small modular nuclear reactors must not be promoted as a form of distributed generation as "vendors are cutting corners on important reactor safety features, such as containment structures," to save capital costs, and any generic defects in mass-produced modular units would spread throughout the entire reactor fleet.³

¹ Practical Action, [Total Energy Access – The Facts about Energy Poverty](#).

² [The World Nuclear Industry Status Report](#), 2013.

³ Union of Concerned Scientists, "[Small Modular Reactors Won't Solve Nuclear Power's Safety, Security and Cost Problems](#)," September 2013.

2. Ensuring Clean, Safe and Locally Appropriate Energy Generation

- a) Indicate clear criteria for clean energy. Require public and private sector energy projects to comply with the highest social and environmental standards, including the [recommendations of the World Commission on Dams \(WCD\)](#).
- b) Ensure that deployment of energy production and distribution systems, including for renewable energy, does not lead to land-grabbing or human rights violations.
- c) Set more ambitious and comprehensive targets than those of the Sustainable Energy for All Initiative, which would not keep global atmospheric temperature rise below 2 degrees Celsius – and 2 degrees itself is not safe.⁴ According to the International Energy Agency, this requires at least 40% renewable energy and a 50% reduction in energy intensity by 2030.
- d) Work towards a carbon-free, nuclear-free energy future. Two studies, [Reinventing Fire](#) by Rocky Mountain Institute, and [Carbon-Free and Nuclear-Free: A Roadmap for US Energy Policy](#) by Institute for Energy and Environmental Research, demonstrate how to achieve this goal by 2050 in the United States. Greenpeace International's report [Energy \[R\]evolution](#) presents a scenario in which 94% percent of global electricity is generated by renewables in 2050.
- e) Aggressively phase out the use of fossil fuels. Research by the Potsdam Institute calculates that to reduce the chance of exceeding 2°C warming to 20%, only 20% of the total current reserves of 2,795 GtCO₂ can be safely burned.⁵
- f) Aggressively phase out nuclear energy and recognize that it cannot benefit the climate. Major studies⁶ agree that 1,500-2,000 large new atomic reactors would have to be built for nuclear power to make a meaningful dent in greenhouse emissions. This would cost trillions of dollars and take decades, and could only be accomplished with massive public subsidies because private companies and banks consider it a high-risk investment. Despite claims that theoretically superior, but not yet tested, new designs for nuclear production will exceed the capacity of renewables, the data demonstrates that renewable energy is scaling up faster than nuclear. Current nuclear models require a construction period of 6-8 years in China and 10-12 years in the US; proposed new designs will take even longer to deliver. Proposed models for a “new generation” of nuclear reactors are remarkably similar to existing reactors or previously failed technologies, all of which have well-established safety vulnerabilities and are uneconomical (see 1.j, above). Truly new proposed designs will require a period of development, pilot-scale testing and then scaling up if appropriate, to avoid the pitfalls of the current nuclear reactor fleet, which was deployed before comprehensive testing. A 2009 assessment by the IAEA under its Innovative Nuclear Power Reactors & Fuel Cycle (INPRO) program concluded that for proposed 300 megawatt small modular reactors (SMRs), 43 units could be in operation around the world by 2030 in the low case, and 96 units in the high case, totaling 13 or 29 gigawatts of capacity over the next 17 years. By comparison, Bloomberg New Energy Finance projects that in 2013 alone, 37 gigawatts of solar photovoltaic capacity and 36 gigawatts of wind energy capacity will be added globally.⁷
- g) Reform the energy market to give renewable energy generators priority access to the grid. Implement [smart grid solutions](#) to enable a fast and less expensive transition of existing infrastructure away from central moderation of supply and demand to real-time two-way communication between source and consumer, relieving rigid constructs in favor of flexible generation, storage and design elements.
- h) In developed economies, mandate micro-grid development to maximize efficiency and renewable generation while minimizing uncertainty in demand on central supply.

⁴ “Global warming of 1°C relative to 1880 - 1920 mean temperature (i.e., 0.75°C above the 1951 - 1980 temperature or 0.3°C above the 5 - year running mean temperature in 2000), if maintained for long, is already close to or into the ‘dangerous’ zone. The suggestion that 2°C global warming may be a ‘safe’ target is extremely unwise based on critical evidence accumulated over the past three decades.”

From: James Hansen, et al. [The Case for Young People and Nature: A Path to a Healthy, Natural, Prosperous Future](#), p. 7.

⁵ Carbon Tracker Initiative, [Unburnable Carbon – Are the World’s Financial Markets Carrying a Carbon Bubble?](#), 2011.

⁶ By MIT, Commission on Energy Policy, and International Atomic Energy Agency.

⁷ RenewEconomy, [“Solar PV overtakes wind in annual capacity additions, for first time,”](#) September 2013.

- i) Incorporate a “just transition” for workers as part of the transformation of the energy sector, following an equitable path and providing concrete solutions to all workers.
- j) Revise the preamble and Article 4 of the [Treaty on the Non-Proliferation of Nuclear Weapons \(NPT\)](#) to offer signatories expertise and support for development of a sustainable, non-nuclear, renewable energy base, and end the global promotion of plutonium production and uranium enrichment for nuclear energy. Such a revision would relieve the UN from its contradictory role promoting a technology that depends upon and also results in nuclear weapon-usable fissile materials, while supporting non-proliferation and nuclear disarmament.
- k) Outlaw uranium mining, as it is highly contaminating to land and water and the sites are often left unremediated, causing significant damage to health and livelihoods; this disproportionately impacts Indigenous peoples, violating their rights.⁸
- l) Revise radiation protection standards to apply to the most vulnerable part of the human lifecycle: female, early juvenile (embryo and 0-5 years), instead of to an adult male, and to account for bioaccumulation of ionizing radionuclides ingested via air, water and food. It has been scientifically established that low doses of radiation have health effects, and that there is a linear relationship between dose and cancer.⁹
- m) Establish an independent technology assessment mechanism to assess the ecological and health impact of new technologies at international, regional and national levels.

3. Advancing Energy Efficiency

- a) Recognize energy efficiency as one of the highest-return and lowest-risk investments.¹⁰
- b) Design effective energy generation and delivery systems. Retrofit poorly designed systems to maximize energy output and minimize energy loss, thereby ensuring maximum societal benefit from energy generation. Wasted energy directly translates to reduction of production, services and social benefit.
- c) Transition away from producing electricity through fuel-based thermal power plants: only 33-40% of the energy from fossil and nuclear fuels produces electricity; the rest of the heat generated is wasted and released into the atmosphere or absorbed by cooling water.
- d) Decentralize energy production to reduce energy waste, by enabling appropriately scaled, site-specific resource use (solar, wind, or hydro according to potential), and decreasing transmission and distribution distances, reducing significant line losses.
- e) Establish and enforce mandatory national energy-efficient building codes and tougher appliance and vehicle efficiency standards.
- f) Ensure efficiency measures are accompanied by measures to reduce energy consumption by the wealthy. Particularly in the case of gasoline usage, improvements in energy efficiency have not always led to energy savings because associated cost savings leads to higher consumption; e.g., improved vehicle fuel efficiency leads people to drive more.

4. Enabling Effective Financing for Energy

- a) Increase annual global investment in energy access to more than five times the 2009 level, and shift over half of this global investment to off-grid markets. According to the International Energy Agency, these measures are necessary to achieve universal access by 2030.¹¹
- b) Ensure access to adequate financing for small enterprises, social enterprises and end-users of renewable technologies, especially for people living in poverty. Target dedicated funds and investment vehicles to

⁸ The Navajo Nation banned uranium mining and processing via the [Diné Natural Resources Protection Act of 2005](#). The Košice Region (KSK) of Slovakia approved regulations for a ban on mining of radioactive minerals in Čermel' - Jahodná in April 2013: <http://www.wise-uranium.org/upsk.html> - KURISKOVA.

⁹ US National Academy of Sciences, [Health Risks from Exposure to Low Levels of Ionizing Radiation, 2006, p.10](#).

¹⁰ Rocky Mountain Institute, [“Climate: Eight Convenient Truths,”](#) 2010.

¹¹ International Energy Agency, [World Energy Outlook 2011](#).

provide appropriate financing instruments for low-income energy consumers and businesses at various stages of development. Local, micro and commercial financial institutions are efficient avenues for allocating and administering financing to the targeted assets.

- c) Rebalance investment in energy away from fossil fuels, large-scale hydro, and nuclear and towards delivering access to people living in poverty.
- d) Eradicate direct and indirect subsidies to the fossil fuel, nuclear, large hydro, and industrial wood-based bioenergy and biofuels industries. These subsidies are a major barrier to wise deployment of decentralized, renewable, climate friendly systems that do not violate human rights.
- e) Institute an escalating tax on carbon and apply some of the funds to the expansion of clean, safe energy generation; create tax incentives and increase research and development budgets for decentralized, renewable energy generation and efficiency.
- f) Ensure that multilateral development banks as well as export credit and investment guarantee agencies ambitiously pursue renewable energy targets in a manner that respects human rights. The recommendations in the World Bank's [Extractive Industries Review](#) should be followed.
- g) Establish accountability and monitoring mechanisms to ensure that donors and development banks invest in mini-grid and off-grid generating capacity, and not just in extending traditional power structures and grid areas. Ensure that CSOs have a formalized path for inputting their extensive expertise into the creation and implementation of these mechanisms.
- h) Implement a globally funded system of Feed-in Tariffs (FiTs), based on the model described in the paper [A Global Green New Deal for Climate, Energy, and Development](#), to support technology and finance to deliver energy access with clean sources. Fund FiTs internationally with new and additional public finance from sources such as financial transaction taxes, bunker fuels levies, IMF special drawing rights, and addressing tax evasion.
- i) Promote [third party financing for solar power](#), through leasing models and Power Purchase Agreements (PPAs), to lower the costs of installation and maintenance of solar systems.
- j) Provide capacity building for micro and commercial financial institutions to better understand the value proposition of sustainable energy service companies.
- k) Provide challenge funds with transparent, market-oriented competitions to identify and promote innovative business designs.
- l) Standardize and simplify application and reporting procedures for international donor funding.

5. Establishing the Roles of Stakeholders

- a) Include those who do not have energy, particularly women in developing countries, in decision-making about their technical options, implementation, and impact monitoring. Real sustainability will only result if communities themselves respect, understand, and drive the processes.
- b) Involve CSOs in the development of locally appropriate energy technologies and innovative markets, as well as policy formation and advocacy. CSOs need to be involved in the national planning phase in order to fully participate in the implementation phase and help to fulfill the needs of the people, especially those who are living in rural areas.
- c) Provide consistent opportunities for CSOs to participate in energy gap assessments conducted by developing countries participating in the Sustainable Energy for All Initiative, as well as in the design and implementation of action plans following the completion of the gap assessments.
- d) States must play an important policy role in regulating the energy market, ensuring that deprived communities are guaranteed access.
- e) As many communities living in poverty cannot afford to buy energy from a private sector provider, invest in strengthening public sector delivery systems to meet local energy access needs.
- f) Profile and support small and medium enterprises as part of the wider systemic solution.