

Energy systems should safeguard the environment

UN General Assembly Interactive Thematic Dialogue

Energy Efficiency, Conservation and New and Renewable sources of Energy

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In terms of safeguarding people and the environment, IUCN recommends:

- Prioritizing efficiency measures as the best option for lowering emissions at the least cost and with minimal risks to people or nature.
- Establishing legal and regulatory policies that are robust and which safeguard the environment and people as an important part of the enabling framework for renewable energy.
- Engaging relevant stakeholders in design and implementation of equitable and ecologically sustainable energy technologies.
- Investing in natural systems that underpin energy futures in the region.

Human development depends on access to reliable and sustainable sources of energy, as IUCN Members have affirmed through Resolution WCC 4.082. The current energy mix, on the other hand, contributes significantly to biodiversity loss, pollution of the Earth's air and water and is the primary cause of climate change, which threatens the future of the Earth's environment. IUCN applauds the UN General Assembly for taking the initiative to promote greater use of energy efficiency and renewable energy technologies.

These technologies can help nations move towards delivery of the UN Millennium Development Goals, while meeting the objectives of the UN Framework Convention on Climate Change. Energy efficiency and renewable energy technologies also offer the additional strategic advantages of significantly decreasing greenhouse gas (GHG) emissions, producing financial savings, reducing dependence on energy imports, and conserving valuable natural resources.

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IUCN is the world's oldest and largest global environmental network. IUCN is a democratic union with more than 1,000 government and NGO member organizations, and some 10,000 volunteer scientists in more than 150 countries. IUCN's work is supported by 1,100 professional staff in 62 countries and hundreds of partners in public, NGO and private sectors around the world.

1. Energy efficiency and conservation measures should be pursued as the highest priority strategy for reducing emissions without risk to people or the environment.

Energy efficiency measures can be expected to reduce projected energy needs in 2050 by *one third*, with associated reductions in GHG emissions. In the building sector, for example, implementing efficiency measures could produce global savings of 1.4 Gt CO₂/year by 2030, thereby producing savings of about \$7 trillion. Energy efficiency can be broadly implemented through stronger standards and regulatory frameworks for sectors such as durable goods, buildings and transportation. Investing in energy efficiency measures is also within the financial means of most nations as these investments often pay for themselves through the savings generated by reduced energy consumption.

2. Renewable energy technologies hold much promise for delivering energy with reduced environmental impacts, but legal and regulatory frameworks are needed for them to fulfill their potential.

Developing renewable energy resources provides an opportunity to diversify energy supply mixes and to phase out increasingly expensive fossil fuels. The wide range of available renewable technologies (including wind, solar, geothermal, biomass, and hydro) allows policy-makers to choose an optimal mix of resources best-suited to their environment. By some estimates wind power could supply as much as 12% of global electricity needs in 2050, while solar (both photovoltaic and thermal) and geothermal offer similar potential. Renewable energy technologies provide the additional advantage of their ability to be deployed on a smaller scale, thus creating opportunities for rural electrification and lower cost as compared to large, central generating stations and their associated extensive transmission grids. Furthermore, as fossil-fuel fired generation becomes more expensive due to scarcity and the inclusion of environmental costs, renewable energy will become more cost competitive and will represent a prudent and preferable long-term investment.

In IUCN's experience, the perceived and real adverse impacts of some renewable technologies on the environment and on people's livelihoods have resulted in delaying or even halting the pursuit of some renewable energy projects. Through robust legal and regulatory frameworks, however, the implementation of renewable technologies can be fostered while safeguarding the environment and peoples' livelihoods.

3. Communities and countries should be empowered to design and implement appropriate energy options.

Important challenges in enabling renewable energy resources to deliver on their potential over time are making the technology available to developing countries and rural communities on the one hand and in ensuring their acceptance and adoption by rural communities. Engaging stakeholders (including, in particular, women and vulnerable groups) in the choice of technologies helps build commitment to investments, ensures the sustainability of the investment, and can assist in developing financing mechanisms that accommodate the project and local circumstances. National policies should encourage communities to embrace renewable energy technologies, and to make informed decisions in adopting technologies that are well-suited for the local environment. Donors supporting energy projects should respect national priorities and decisions about appropriate technologies and sites for energy infrastructure.

4. The natural systems supporting many energy options need to be conserved.

Ecosystems like water catchments are needed by energy systems such as hydropower, bioenergy and power plants (which rely on water for cooling). The Millennium Ecosystem Assessment, on the other hand, has found that more than two thirds of the world's ecosystems are degraded or in decline, which poses significant threats to our energy future. Investing in ecosystem services for energy options should be part of national and global energy security strategies as well as corporate investment programmes.

IUCN stands ready to assist the United Nations in advancing equitable access to ecologically sustainable, socially equitable and economically efficient energy systems. For more information on IUCN's work on energy see www.iucn.org/energy.

An appendix to this statement with background information is also available at www.iucn.org/energy.