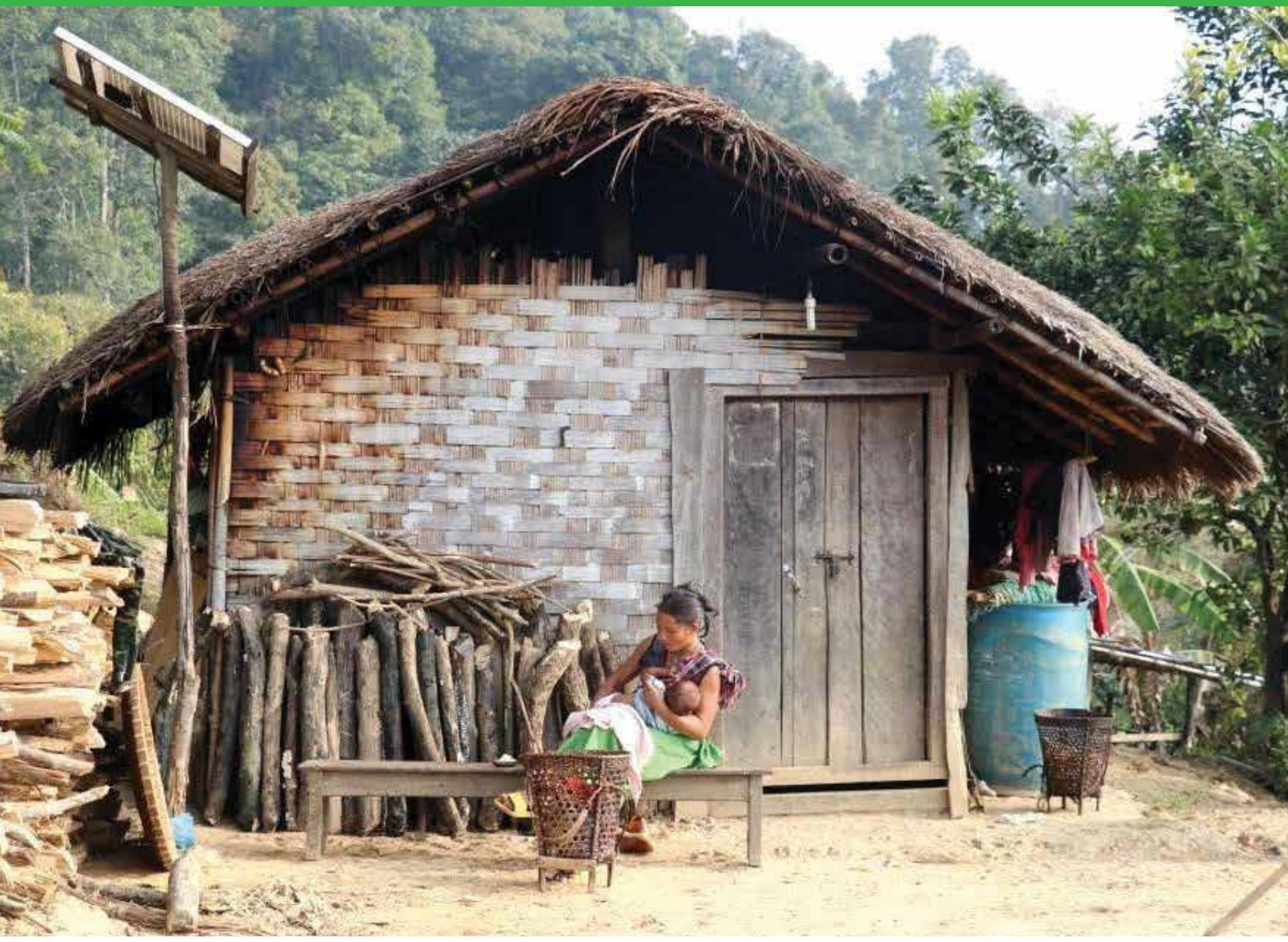
RENEWABLE ENERGY & INDIGENOUS PEOPLES

BACKGROUND PAPER TO THE RIGHT ENERGY PARTNERSHIP

MAY 2018



Patterns of Progress & Investment

IN RENEWABLE ENERGY

The negative impacts of poorly planned renewable energy on

INDIGENOUS COMMUNITIES

The potential of indigenous-led renewable energy

TO LEAD THE WAY

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1. INTRODUCTION

THE GROWING IMPORTANCE OF THE RENEWABLE ENERGY SECTOR

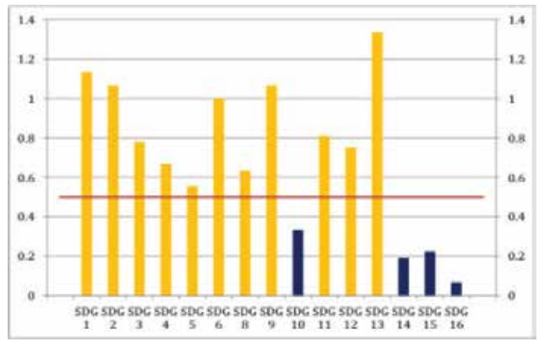
The renewable energy sector is experiencing prominent and rapid expansion globally, forming a formidable new front for infrastructure and economic development. International consensus on the need to tackle climate change and development challenges around energy production, consumption and access make the industry a unique focal point for expansion, **spurred by international policy and public investment.** The Sustainable Development Goals (SDGs) comprise a major international development process contributing to this dynamic. Sustainable Development Goal 7 (SDG 7) aims to "ensure access to affordable, reliable, sustainable and modern energy for all".

The Global Tracking Framework of the World Bank (2017a) gives the dimensions of sustainable energy as being: access to electricity; access to clean cooking; energy efficiency; and renewable energy. The SDGs refer to and are consistent with the Paris Agreement on climate change, another major global policy initiative which has an explicit focus on reducing global carbon emissions from the energy sector through a transition to renewable energy production.

The energy sector inhabits a distinctive role in sustainable development as it has profound implications on other sectors. Current analyses indicate that SDG 7 relates strongly to almost all the other SDGs, with a significant inter-relation with the achievement of at least 11 of the other SDGs (see Box 1).

It is recognised that **energy is an essential enabling factor that cross-cuts to contribute to progress across the SDGs.** Energy emerges as a critical component for ending poverty (SDG1) and hunger (SDG2), and is related to economic development, job creation (SDG8) and women's empowerment (SDG 5) among others. Critically, renewable energy is a central factor in combatting climate change (SDG 13) which also has cross-cutting impacts on the other SDGs and is tied to the implementation of the Paris Agreement on climate change.

Box 1. Correlation between SDG 7 and the other SDGs



Values from 0.5 to 1.5 indicate a significant enabling relationship (highlighted in yellow) values below 0.5 indicate a consistent relationship (highlighted in blue). Taken from Alloisio et al. (2017).

This intersection manifests itself in myriad ways. Energy is an enabling factor for key economic sectors (e.g., agriculture, industry, health, education and technology), including the production of goods and services that generate employment. In terms of food security and combatting hunger, energy facilitates agricultural food production and distribution. The use of electricity allows for the replacement or more effective management of time consuming rural activities, especially for women and children, thus playing a role in gender empowerment. Improved energy access can support the provision of safe drinking water. Clean energy for cooking, heating and lighting additionally has health benefits given the huge negative health impacts of dirty fuel used at the household level. Better access to energy also contributes significantly to increasing education outcomes (Alloisio et al. 2017; OECD and IEA 2017).

INDIGENOUS PEOPLES AND RENEWABLE ENERGY

The strong interlinkages between SDG 7 and the other SDGs highlight the need to ensure that any action towards SDG implementation that seeks to leave no group behind must carefully consider how the energy targets are met. **Indigenous peoples' ability to achieve the other SDGs will be negatively impacted without consideration of their specific needs and circumstances.** Equally important, **efforts towards achieving SDG 7 risk violating international human rights law, and further disadvantaging indigenous peoples.** Table 1 provides an overview of the inter-relation between relevant targets under SDG 7 and the UN Declaration on the Rights of Indigenous Peoples (UNDRIP), providing an indication of how rights-related issues should be considered in tandem with the implementation of SDG 7.

Table 1. Relation between SDG 7 targets and indigenous peoples' rights (1)

SDG 7 Targets	Relevant UNDRIP Article
SDG 7: Ensure access to affordable, reliable, sustainable and modern energy for all	
7.1 By 2030, ensure universal access to affordable, reliable and modern energy services.	21.1 Indigenous peoples have the right, without discrimination, to the improvement of their economic and social conditions, including, inter alia, in the areas of education, employment, vocational training and retraining, housing, sanitation, health and social security.
	21.2 States shall take effective measures and, where appropriate, special measures to ensure continuing improvement of their economic and social conditions. Particular attention shall be paid to the rights and special needs of indigenous elders, women, youth, children and persons with disabilities
7.b By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States and landlocked developing countries, in accordance with their respective programmes of support.	21.1 Indigenous peoples have the right, without discrimination, to the improvement of their economic and social conditions, including, inter alia, in the areas of education, employment, vocational training and retraining, housing, sanitation, health and social security.
	32.2 States shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free and informed consent prior to the approval of any project affecting their lands or territories and other resources, particularly in connection with the development, utilisation or exploitation of mineral, water or other resources.

1 Taken from the Matrix on Sustainable Development and Indigenous Peoples from the Indigenous Navigator: http://nav.indigenousnavigator.com/images/documents-english/tools/sdg-undrip-matrix-en.pdf

According to the OECD and the IEA (2017) 14% of the world's population currently has no access to electricity and 84% of these people live in rural areas. Indigenous peoples, while representing only 5% of the global population, comprise 15% of the world's extreme poor and make up a staggering one third of the world's 900 million extremely poor rural people (IFAD 2018). **Indigenous peoples are therefore a critical demographic that need to be put at the centre of the global dialogue on energy** if SDG 7 on ensuring access to affordable, reliable, sustainable and modern energy for all is to be achieved.

Despite this fact, **indigenous peoples suffer invisibility when it comes to our understanding of energy access.** There is little consistent and comparable disaggregated data available to provide a clear global picture of indigenous peoples' access to energy in contrast to non-indigenous populations. Even major reports from key initiatives aligned with SDG 7 (e.g., CAF 2013; OECD and the IEA 2017; SE4ALL 2017a) either don't mention or only superficially refer to indigenous peoples and fail to examine their unique challenges as a distinct group with regards to energy access. However, available information shows that even in relatively wealthy countries, the disproportionate levels of energy poverty in indigenous communities is notable (see Box 2).

There is an acute need for a more nuanced and holistic approach to examining "sustainable" energy promotion. This must **take into consideration the human rights dimensions of energy developments and seek to maximise local empowerment, benefit distribution and even local ownership.** Approaches to SDG 7 implementation must accommodate the self-determined development aspirations of the communities they aim to serve, without simply imposing top-down models of sustainable development.

Box 2. Examples of inequality in energy access in indigenous communities

Australia: Low-income large-family households most exposed to energy poverty comprised the greatest proportion of households in indigenous communities (KPMG 2017).

Bolivia and Guatemala: The gap between indigenous and non-indigenous households that have access to electricity ranges between 18-25% (World Bank 2003).

Canada: Of the 292 remote Canadian communities that are not connected to the electricity grid or natural gas network, over half (170) are indigenous (AANDC and NRCan 2011).

Lao PDR: Ethnic minority groups other than majority Lao-Tai have a higher incidence of poverty which is attributable to a number of factors including access to electricity (World Bank 2017b).

Mexico: 96.6% of the population has access to electricity but 3.5 million people remain without access; 60% of those without electricity access are indigenous peoples (World Bank 2017c).

United States: 14% of households on Native American reservations had no access to electricity, compared to 1.4% of households nationally (EIA 2000).

APPROACHES TO SDG 7 IMPLEMENTATION MUST ACCOMMODATE THE SELF-DETERMINED DEVELOPMENT ASPIRATIONS OF THE COMMUNITIES THEY AIM TO SERVE, WITHOUT SIMPLY IMPOSING TOP-DOWN MODELS OF SUSTAINABLE DEVELOPMENT.

2. PATTERNS OF PROGRESS AND INVESTMENT IN RENEWABLE ENERGY

GEOGRAPHICAL TRENDS IN ACCESS TO ELECTRICITY AND RENEWABLE ENERGY

As mentioned earlier, 14% of the global population still lack **access to electricity**, with great regional variations. The regions that are most challenged are Africa followed by Asia-Pacific, but even within more advanced regions there are countries that are lagging behind. Urban areas are advancing in energy access more quickly than rural areas (OECD and IEA 2017; World Bank 2017a).

The 20 high-impact countries for access to electricity are those with the largest absolute access deficit. These countries hold around 80% of the people currently unserved by electricity access, some 846 million people in 2014. The 20 fast-moving countries are those that have increased their access rate the fastest in 2012-2014. Of these 14 countries are in Africa and five in Asia, Honduras is the only Latin American group in this category (see Annex).

With regards to the **transition to renewable energy**, the objectives of SDG 7 and the Paris Agreement depend on the performance of the 20 largest energy-consuming economies, which account for about 75% of global energy consumption. These are termed high-impact countries for renewable energy as their performance in renewable energy will have a high impact on the performance of the world as a whole. Fast-moving countries in the field of renewables are those that made the fastest progress in increasing renewable energy consumption in 2012-14 (World Bank 2017a). It should be noted that in some countries much of the renewable energy share comes from unsustainable biomass use (e.g., India, Indonesia, and Nigeria) and hydropower (e.g., Brazil and Canada). Brazil also leads in in the use of liquid biofuels (World Bank 2017a).

A wind park in the southern Mexican state of Oaxaca, where local communities and indigenous peoples are fighting the installation in their territory. Photo courtesy of the International Service for Peace (SIPAZ)

Annex provides a full list of high-impact and fast-moving countries with regards to access to electricity, and renewable energy. It is important for indigenous peoples to understand patterns of energy development flows based on SDG 7 related action. With regards to high-impact countries, these are the countries where the focus will be on expanding electricity access and renewables are likely to be focused in the next 15 years. Indigenous populations in target countries should engaged in decision-making to ensure that developments promoting access to electricity and renewables benefit, and do not harm, indigenous communities. It is also useful to examine experiences in fast-moving countries, to see how rapid growth in both energy access and renewables has been managed. For instance, to understand how this growth has impacted indigenous communities, how equitably the benefits have been shared and how indigenous rights have been respected, in order to anticipate the kinds of issues that are likely to emerge.

GENERAL TRENDS IN FINANCING FOR ACCESS TO ELECTRICITY AND RENEWABLES

Finance flows required to ensure universal access to electricity in the countries whose efforts are critical to the achievement of SDG 7, or "high-impact countries" (Annex), are estimated at US $45 billion per year (SE4ALL 2015). However, current finance flows are less than half of what's needed at US $19.4 billion and this finance is currently not getting effectively to the countries and populations that most need support (SE4ALL 2017b). Even though the renewable energy sector is expanding, **current investment in renewable energy is not enough to reach climate and development goals.**

Only a quarter of electricity access finance went to high-impact countries over 2011-2015 and under-disbursement was often a problem, showing that there needs to be improved efficiency and flow of financing. The most significant donors, in terms of overall commitments, to these high-impact countries were: World Bank Group (27.2%); the EU (20.3%, with half of this commitment from Germany); Japan (14.6%); the Asian Development Bank (13.8%); and donors that are not geographically restricted (e.g., bilaterals and global multilateral donors) allocated an average of around 20%. Of these investments, 25% went towards renewable energy, 46% to transmission and distribution projects, 15% to energy policy and administrative management, while 13% went to fossil fuels (SE4ALL 2017c).

In terms of renewable energy, the International Renewable Energy Agency (IRENA) estimates that in order to keep to the goals of the Paris Agreement, **the world needs to double its renewable energy share by 2030**. This would require annual investments of US $415 billion per year. As a point of comparison, this is less than the US $493 billion invested to support fossil fuels over 2014 (IRENA 2016).

The **largest absolute increase in renewable energy sources has come from hydropower**, which continues to be the largest source of renewable energy globally (IRENA 2012; WEC 2016).

Solar and wind power has seen the most rapid growth rates, but starting from a much smaller base than hydropower (World Bank 2017c), which showed an average growth rate of 4% a year over 2005-2015 (WEC 2016).

In terms of geographical patterns of investment for hydropower: Chinese entities are investing heavily in Africa, East Asia, and South America; Norway's Statkraft and SN Power have investments in Turkey, Zambia, and Panama; South Korea has investments in Nepal, Pakistan and the Philippines; Thailand has invested in Myanmar; and Iran has investments in Tajikistan. A large proportion of new hydropower development is concentrated in China (26% of the global installed capacity in 2015), Latin America and Africa. However, Asia is seen to have large potential for hydropower and expected to therefore emerge as a market for future development (WEC 2016).

In 2015, investment in non-hydropower renewables was US $285.9 billion, with most of these investments going to solar (US $161 billion) and wind (US $109.6 billion). In terms of sources of financing, the bulk of this (US $199 billion) was asset finance of utility-scale projects such as wind farms and solar parks. Other investment sources included a mix of raising finance on public markets, research and development financing from both government and corporate sources, and venture capital investments.

With regards to the geographical spread of investments, 2015 was the first year during which investments in renewables (excluding hydropower) were greater in developing countries compared to developed countries.

Of these, some notable countries that showed high investments in renewables include: China, India, Brazil, South Africa, Mexico, Chile, Morocco, Turkey and Uruguay (IRENA 2016).

Streams of investment from climate financing initiatives are a significant contributor to the expansion of renewables. Reducing emissions from energy production, both through a switch to renewables and through reducing consumption, is a core goal of climate mitigation finance. Ensuring that rural electrification is carried out in a manner that minimises carbon emissions, for instance through an emphasis on renewables, is another major objective. Some key mechanisms include: The Clean Technology Fund (CTF), a mitigation-focused sub-fund of World Bank-administered Climate Investment Funds; mitigation finance under the Green Climate Fund (GCF), which was established under the framework of the UN Framework Convention on Climate Change; and mitigation finance available under the Global Environment Facility. Between just these three mechanisms, over US $8.3 billion in project finance have been approved between 2003-2017. The UK, USA, Japan, Germany and France are some of the major donors to climate mitigation funds (Bird et al. 2017).

“THERE HAVE BEEN NUMEROUS CRITICISMS THAT CLIMATE FINANCE IS BEING USED TO SUPPORT RENEWABLE ENERGY PROJECTS THAT HAVE NEGATIVE SOCIAL AND ENVIRONMENTAL IMPACTS."

There have been numerous criticisms that **climate finance is being used to support renewable energy projects that have negative social and environmental impacts**. It is possible that this trend is driven by the pressure for climate funds to disburse finance quickly and demonstrate success. For instance, the GCF has been accused of falling short of its mission to support "transformational" and "paradigm-shifting" change and instead supporting business as usual projects, including large dam developments. In response to this, 272 civil society organisations wrote an open letter(2) to the Board of the GCF registering their concern over large dam proposals in the GCF pipeline that posed threats to communities and ecosystems. A number of these projects were subsequently approved by the GCF despite these concerns.

TRENDS IN ENERGY FINANCING FOR MORE MARGINALISED POPULATIONS

There is little consolidated, systematically recorded information how much energy financing goes specifically towards marginalised populations. However, SE4ALL (2017a) recently carried out analyses of organisations and initiatives focused on energy and social inclusion, including gender equality. Though this research was not comprehensive and had a relatively small sample size of 174 relevant initiatives, it provides some indication of the patterns of assistance energy projects focused on these issues.

Support for marginalised populations was found to be geographically concentrated in Sub-Saharan Africa (35%), followed by South Asia (18%), Latin America and the Caribbean (15%), and East Asia and the Pacific (11%). With a focus on supporting activities on advocacy, research, capacity building, training,networking/convening, and awareness raising. Implementation of activities is largely being led by NGOs and grassroots organisations, who work usually through partnerships. Training and research institutes, and the private sector are other actors involved in implementation.

The main funders for this work appears to be development institutions and government institutions, who funded 45% of programmes. Government funders were largely foreign governments, the majority of which are in the European Union, directly supporting countries abroad through cooperative agreements. Foundations and charities funded 20% of programmes, the majority of which are based in the USA and Europe but are moving capital to the regions where the activities are taking place, mostly through grant-based funding. Corporate financing was more prevalent in Europe, Central Asia, and North America. Though some corporate financing was going to South Asia, Latin America and the Caribbean, Sub-Saharan Africa received very little corporate financing.

Challenges identified by SE4ALL with regards to support to marginalised populations include: a general lack of funding, especially multi-year funding; low awareness of the importance of integrating gender and social inclusion, as well as climate change considerations, in the design and delivery of energy services; inhibitive social and cultural norms and a very low number of policy instruments addressing these overall issues.

2 An open letter signed by 272 organisations was sent to the GCF on 31 March 2017: https://carbonmarketwatch.org/wp/wp-content/uploads/2017/03/letter_on_large_hydro_and_the_gcf_march_2017.pdf

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GENDER AND ENERGY

Gender inequality continues to be a critical issue for the implementation of SDG 7. Energy access has gendered implications that mirror the gendered nature of poverty. For example, the burden of gendered tasks that are physically demanding and time consuming that could be reduced through better energy access. Women and children bear disproportionate health costs of air pollution from biomass-based cooking fuel. The need to collect fuel from remote areas and lack of lighting pose security risks to women (UNIDO 2013). Furthermore, as solutions are developed, women continue to be underrepresented in the energy workforce due to gendered barriers in the industry (SE4ALL 2017a).

Energy projects can particularly affect women. For instance, discrimination against women is reported in oil palm plantations where women workers reportedly receive lower wages than men and face health hazards from chemical pesticides and fertilisers (Colchester and Chao 2011; Basnett et al. 2016). Some women are forced to work without pay in order to help their husbands meet production quotas (Croft-Cusworth 2017). In addition, they are expected to carry out domestic chores and childcare, while facing increased vulnerability to domestic violence (Bledsoe 2016). Furthermore, indigenous women's traditional livelihoods and important role in the community as food producers and nurturers of the land can be undermined if energy projects result in access being denied to their traditional land, territories and resources.

However, **there is transformative potential for improved sustainable energy systems to benefit women**. In addition to tackling some of the problems identified above, they can support income generating activities and result in better educational outcomes (UNDP 2016).

Solutions include increasing the participation and leadership of women in the energy sector and in the design and implementation of activities, providing targeted training for women, and improving women's access to credit. Such activities need to be underpinned by gender sensitive policy frameworks for energy and dedicated financing. Furthermore, energy interventions need to align themselves more closely with other sustainable development goals, including gender equality measures (UNIDO 2013). Given this, the challenges of indigenous women must be specifically understood. This includes the need for gender disaggregated information within indigenous communities, in addition to disaggregating indigenous data and experiences from non-indigenous communities, as well as a strong emphasis on including and differentially targeting indigenous women as leaders and beneficiaries in activities.

3. THE NEGATIVE IMPACTS OF POORLY PLANNED RENEWABLE ENERGY ON INDIGENOUS COMMUNITIES

RENEWABLE ENERGY AND THE RIGHTS OF INDIGENOUS PEOPLES

There is a **long history of negative experiences endured by indigenous peoples and other local communities with relation to renewable energy development.** Large hydroelectric, geothermal and wind power plants, while considered "clean" and "green" energy, have been seen to affect communities significantly and reported to have negative impacts on the environment that are not being accounted for.

A critical gap is the lack of clear and consistent human rights standards in the renewable energy sector. A preliminary study by the Business and Human Rights Resource Centre based on a survey of wind and hydropower companies observed that while 68% of companies surveyed had human rights policies, only 51% refer to international human rights norms and standards (BHRRC 2016). Given that companies have a responsibility to respect human rights under the UN Guiding Principles on Business and Human Rights, it is clear that renewable energy companies need to improve their alignment with international human rights standards. The Guiding Principles further point towards the need for businesses to pay particular attention to vulnerable groups, including indigenous peoples, and to use relevant UN instruments in that regard.

When indigenous peoples' rights to free prior and informed consent (FPIC) are not respected and where affected peoples resist, this can be met with **political repression, harassment and intimidations and even cases of extra-judicial killings**. State and private security forces have committed human rights violations against local leaders and legitimate dissenters of energy projects, which threaten the internal security of communities and engender numerous conflicts. Deaths of anti-dam and environmental activists continue as highlighted by the killing in 2016 of Berta Caceres who headed protests against hydroelectric projects in the Lenca region of Honduras. Conflicts have arisen between affected communities and security forces, government agencies, company management, contractors and employees, among others.

Tensions have also been created among indigenous communities themselves (e.g., between pro and anti-project groups within the community, between directly affected and unaffected or indirectly affected communities). The promoters of these projects, including government agencies and companies, often undermine indigenous peoples' traditional community cohesion, cooperation and solidarity in the process of planning, development and implementation. Further aggravating the situation are the internal limitations of affected peoples, such as illiteracy, low level of awareness and negotiating capacity, and weakened local indigenous governance institutions, making them extremely vulnerable to violations of their rights.

The environmental impacts of some renewable energy projects can be severe. These include the destruction of forests, farms, pasturelands and peat lands and diversion of river systems. There has been significant loss of species of ecosystems and biodiversity due to dams and oil palm plantations for biofuel (Imhof et al. 2002; Vijay et al. 2016). These environmental impacts have direct consequences for indigenous communities that depend on these resources.

LARGE HYDROPOWER DEVELOPMENTS

Large dams, in particular, have caused widespread displacement of indigenous peoples and communities, infringing on their rights to land, territories and resources, even destroying the cultures and livelihoods of these peoples. The World Commission Dams (WCD)(3) concluded in a definitive report on the impact of dams that the **economic, social and environmental costs of large dams often outweigh their benefits** (WCD 2000). The report revealed that large dams have forced 40-80 million people from their homes and lands, with impacts including extreme economic hardship, community disintegration, and an increase in mental and physical health problems (Imhof et al. 2002).

Furthermore, **large dams have seriously and disproportionately affected indigenous peoples and ethnic minorities**, many of whom have been made worse off than before the dams were built. Among the significant impacts experienced by indigenous peoples are loss of land and livelihood, undermining of the fabric of their societies, cultural loss, fragmentation of political institutions, breakdown of identity, and human rights abuse (Colchester 2002).

For example, three large hydroelectric projects in Malaysia, the Batang Ai, Bakun and Murum dams, have already been built in the state of Sarawak. These are part of an industrial development initiative called the Sarawak Corridor of Renewable Energy (SCORE) by the Sarawak Government and state-owned company Sarawak Energy Berhad. A series of up to 12 large-scale hydroelectric dams will be built and are expected to inundate an area of more than 2,100 sq. km, submerging forests, cultivated areas and villages, and forcibly displacing tens of thousands of indigenous people from their customary lands. The dismal situation of the thousands of displaced indigenous people affected by the Batang Ai, Bakun and Murum dams is a source of deep concern. Investigations by human rights institutions have revealed the substandard living conditions in the resettlement sites, unfulfilled promises of livelihood support for the displaced families, the denial of peoples' rights of access to information and the use of coercion, threats and intimidation against those raising questions or objections to the dam projects (Lee et al. 2014).

Lower Sesan 2 Dam Photo by Mekong Eye

Due to the grave social and environmental impacts of large dams, in 2015, a joint manifesto(4) was issued by more than 300 civil society organisations from 53 countries denouncing large hydropower projects as a false solution to climate change. The manifesto called on governments, financiers and other institutions to exclude large hydropower projects from initiatives to address climate change given that dams have a number of negative impacts on climate action.

Large hydropower projects can also have significant negative environmental impacts. They can disrupt river ecosystems, both upstream and downstream from dam developments. Reservoirs associated with dam developments may actually constitute a major source of methane emissions, thus contributing directly to climate change (Lima et al. 2007). Additionally, the natural carbon capture function of streams and rivers, which play a major role in the carbon cycle (Galy et al. 2015), may be interrupted by dam systems, which have a significant impact on river flows (Kumar et al. 2011). Dam building can make water and energy systems more vulnerable to climate change by exacerbating flood disasters in fragile mountain areas.

Meanwhile, changes linked to climate change such as glacial retreat, changes in rainfall patterns and droughts increase the economic risks of large hydropower systems and make them a potentially unreliable and unstable energy source (Lutz et al. 2015). Thus, instead of building large dams, the manifesto pushed for appropriately planned wind power, solar power and micro hydropower.

Transboundary issues related to dam developments in river basins that cut across several countries such as the Mekong River and Amazon River basins, have also been reported. Dams affect downstream areas by blocking or diverting the water flow, causing sections of affected rivers to dry up and resulting in the reduction of nutrients in the water for agriculture and fisheries downstream from the dams. Dams have also blocked the migration of fish upstream to higher levels of the river where they are known to spawn, thereby affecting food supply of fisheries-dependent communities (Ziv et al. 2015; Mekong Watch 2015b).

CASE STUDIES: INDIGENOUS PEOPLES' EXPERIENCES WITH HYDROPOWER

Lower Sesan 2 Dam, Cambodia

The Lower Sesan 2 Dam is a hydropower project located on the Sesan River in Stung Treng Province, northeast Cambodia. It was built 1.5 km downstream from the confluence of the Sesan River with the Srepok River and 25 km from where the two rivers meet the Mekong River mainstream (Oxfam n.d.). The completed dam is approximately 75 m high and 8 km long and will create a reservoir of 33,560 ha. The floodgates closed in September 2017 and the power plant is expected to generate its full capacity of 400 MW before the end of 2018 (International Rivers n.d.).

A consortium of Chinese, Cambodian and Vietnamese companies funded and developed the project, including China's Hydrolancang International Energy Co. Ltd (51%), Cambodia's Royal Group (39%) and EVN International Joint Stock Company, a subsidiary of the Electricity of Vietnam (EVN) (10%) (Open Development n.d.). The dam cost a total of US $977 million and is expected to earn an estimated annual revenue of US $29.59 million. Cambodia's Ministry of Mines and Energy reported that the company plans to sell the electricity at a fixed rate of US $0.07 per kilowatt hour, which is significantly lower than current national rates at US $0.20 (International Rivers 2018).

The Lower Sesan 2 Dam will have major impacts on the fisheries and biodiversity of the entire Lower Mekong Basin. A 2012 PNAS study found that the construction of the Lower Sesan 2 Dam is highly detrimental and its impact is much greater than other dams planned along the Mekong for 2030. The study projected that the dam would cause a 9.3% drop in fish stocks in the Mekong River basin, while threatening more than 50 fish species. Further, the study warned that the Lower Sesan 2 Dam would alter the hydrology of the Mekong River and the Tonle Sap Lake, causing a reduction of sediment flows by approximately 6-8%, thereby depriving valuable nutrients from the water and soil for agriculture. These impacts would be felt as far downstream as the Mekong Delta in Vietnam and as far upstream as Laos and Thailand (Ziv et al. 2015).

The dam is expected to forever alter the lives of tens of thousands of people living along the Sesan and Srepok rivers, whose livelihoods and cultural traditions are closely linked to the river system and its rich natural resources. More than 5,000 people, most of whom are indigenous and ethnic minority groups, will be displaced by the dam's reservoir (Mekong Watch 2015a). In addition, at least 78,000 villagers living upstream of Lower Sesan 2 dam will lose access to migratory fish (Mekong Watch 2015b). Resettlement and compensation packages offering a 80 sq. m house and 5 ha of plantation land per family fail to meet the needs of the affected people in terms of land, housing, food security and livelihoods.

"We who are living along the Sesan River have already been negatively affected by hydropower, including the Yali Falls Dam upstream in Vietnam. We can testify from our experience that, like other dam projects, LS2 will not only flood our village, it will change the water quality and flow of the rivers and that these changes will affect the health, life and livelihoods of all the communities living both downstream and upstream of the project." - Srekor resident (International Rivers 2018).

Opposition to the project has been going on for many years as civil society and affected communities raised concerns over inadequate consultation and attention to address the negative impacts of the dam. Hundreds of ethnic Punong, Tampuan, Kreung, Brao and Laos communities living along the Sesan and Srepok rivers opposed the project, having experienced the adverse downstream impacts of Vietnam's hydropower dams for more than a decade. In a petition submitted in 2016, seven affected communes of indigenous peoples demanded that the government and company ensure the quality of houses in the relocation site and delay relocation for one year. The communities refused to move from their homes unless their issues were adequately addressed. They also sought assurance that the community sacred forest would not be harmed and that they could continue their cultural practices (Oxfam n.d.).

Hundreds of families from five affected villages have transferred to the resettlement sites. But many indigenous Bunong and minority Lao people remain in their homes, fearing the loss of their ancestral sites, cultural traditions and identities as they watch the floodwaters rise. Some 63 families have moved to a nearby community forest, where they hope to secure the legal right to remain.

3 World Commission on Dams (WCD) was a multi-sectoral body established in May 1998 by the World Bank and the International Union for the Conservation of Nature (IUCN) to review the development effectiveness of large dams and assess alternatives for water resources and energy development.

4 Ten Reasons Why Climate Initiatives Should Not Include Large Hydropower Projects. A Civil Society Manifesto for the Support of Real Climate Solutions. Accessed on 1 April 2018 at: https://www.internationalrivers.org/node/9204

Representatives of the remaining families are negotiating with the government and project developers, seeking compensation for lost homes, property, gardens, and farmlands. At the new resettlement site, residents reported numerous issues, including less fertile land, poor water quality and the financial burden of purchasing drinking water. Villagers are also protesting the imminent inundation and removal of a bridge that provides access to Stung Treng town where medical services, schools and markets are available. No replacement route has been provided. As of 2 February 2018, the thriving community of Srekor, including homes, farms, temples, fishing grounds, riverbank gardens, ancestral graves, a Buddhist temple and a historic ritual site is now fully submerged.

"I had tears in my eyes when I saw my flooded home and village. Every time I think about my life before our village was flooded, I long to go back to that time," said Bong Kheun, a Srekor resident. Another woman from Kbal Romeas said, "Our ancestral graves cannot be compensated with cash or moved from our village. Our culture, traditions, identity, and guardian spirits have strong connections to the land, which is our home. These strong connections enable us to use natural resources in the forest and river in sustainable ways. This has been recognized and respected as the right of indigenous people. We will not move from our home village!" (International Rivers 2018).

Belo Monte Dam, Brazil

In early January 2018, the government of Brazil announced an end to its mega-dam construction policy, after decades of vigorously pursuing dam-building projects in the Amazon basin (Branford 2018). While the implications of this decision are yet to be felt, environmentalists and indigenous groups welcomed the development in light of serious repercussions of mega-dam construction on the Amazon basin and its peoples.

An iconic case is the massive Belo Monte Dam, the world's fourth-largest hydroelectric dam ever built, along the 1,000 mile Xingu River, a major tributary of the Amazon. Belo Monte is a run-of-river dam, meaning its electrical generation depends entirely on the river's flow each day. Once the turbine installation is complete, 80% of the Xingu River's flow will be diverted from its natural channel to run the turbines. There are yet plans to build other dams upstream of Belo Monte in order to store water for release during the low-flow period. The Belo Monte reservoir was filled in December 2015 and full generation of the dam's installed capacity of 11,233-MW is targeted by 2019. Built by a consortium of construction companies, the project reportedly cost at least R$ 30 billion (USD $17 billion) (Leitão 2010). Brazil's National Bank for Economic Development financed 80% of the total cost, and the rest was obtained from pension funds and other sources (Fearnside 2017).

Belo Monte's reservoir flooded 260 sq. miles of lowlands and forest, and caused extensive damage to the Xingu River ecosystem. The dam will leave a 100-km stretch of the Xingu river with a reduced flow of only 20% of its normal flow, directly affecting three indigenous areas and traditional riverside dwellers or "ribeirinhos" (Anderson 2017). The reduced water flow is expected to diminish fishing resources that indigenous communities rely on for their daily subsistence. The dam displaced between 20,000 and 40,000 people and directly affected 13,000 persons in a number of communities. The dam will also contribute to the geographic isolation of the indigenous peoples and deprive them access to needed social services. There are claims that thousands of affected families have been compensated and relocated, but reports say that compensation was incomplete or non-existent (Anaya 2010).

Protections in Brazil's laws, constitution and international agreements were reportedly violated as the Belo Monte project advanced. The company, Norte Energia, failed to obtain free, prior, and informed consent from the Juruna and Arara indigenous tribes (Fearnside 2017). The affected indigenous people had not been consulted as required by International Labour Organization (ILO) Convention 169, which Brazil signed in 1991, ratified in 2002 and converted into Brazilian law in 2004 (Wragg and Hughes 2015).

Site C hydroelectric dam in Peace River Valley, British Columbia, Canada

The Site C hydroelectric dam is a large-scale earth fill dam now under construction in northeast British Columbia. It is a project of BC Hydro, funded by the provincial government, at a current estimated cost of more than CAD $10.7 billion. It is the third dam to be built on the Peace River, downstream from the existing W.A.C. Bennett and Peace Canyon dams. Estimated peak capacity of the Site C dam is approximately 1,100 MW, with an average output of 680 MW, and an annual output of 5,100 GWh of electricity.

The Peace River Valley lies within an important wildlife corridor stretching from interior British Columbia and Alberta north to the Yukon. It supports an abundance of traditional wild foods, including some of Canada's most fertile farmlands. The Valley's role in sheltering species like moose is crucially important because much of the surrounding landscape has already been massively impacted by extensive oil and gas development, mining, and other extractive industries.

The rich plant and animal life in the Peace River Valley is central to the health, wellbeing, traditional livelihoods and cultural integrity of the Indigenous Dunne-Za and Cree peoples. The Valley lies outside the boundaries of any designated First Nations reserves, but it is part of the traditional territory covered by an historic Treaty - Treaty 8 - and is used extensively for ceremony, subsistence, and traditional livelihoods. The Peace River Valley is particularly important as a place to sustain and revitalize indigenous cultures and traditions, because it is close to a number of First Nations communities and provides young people the opportunity to learn their cultural traditions from their elders.

The Site C project has drawn considerable opposition from several quarters due to its planned flooding of agricultural land, lack of support from some First Nations groups and local landowners, high cost of the project vs. projected revenues, uncertainty of future demand and future electricity prices, possible alternatives, and cost to the environment.

If completed, the Site C dam will flood more than 100 km of the Peace River Valley and its tributaries and will destroy a unique and irreplaceable cultural and ecological landscape vital to the cultures, traditions and heritage of the Dunne-Za and Cree Indigenous peoples. A joint federal-provincial environmental impact assessment concluded that flooding an additional large stretch of the Peace River Valley would cause severe, permanent, and irreversible harm to plant and animal life, including rare and threatened species, and make fish in the river unsafe for at least a generation because of the mercury that will be released.

The Treaty 8 Tribal Association, an organisation representing many of the First Nations in northeast BC that are signatories to Treaty 8, vigorously opposed the Site C dam alleging that Site C in combination with the two previous dams on the Peace River, constitutes an infringement of Treaty 8. Two other Treaty 8 First Nations, Prophet River and West Moberly, continue to fight the dam in court due to the fact the federal and provincial governments approved construction of the dam without consideration of their legal obligations under an historic, Constitutionally-protected Treaty with these First Nations. The Blueberry River First Nations also launched a broader legal case against the cumulative impacts of resource development on their traditional territory. Numerous regional and national Indigenous bodies including the Union of BC Indian Chiefs, the BC First Nations Summit, the Assembly of First Nations BC and the National Chief of the Assembly of First Nations continue to support opposition to Site C.

During its August 2017 periodic review of Canada, the UN Committee on the Elimination of Racial Discrimination called on Canada to immediately suspend construction of Site C dam and to "conduct a full review in collaboration with Indigenous Peoples of the violations of the right to free prior and informed consent, treaty obligations and international human rights law from the building of this dam and identify alternatives to irreversible destruction of Indigenous lands and subsistence."

Source: Prophet River First Nation et al. 2018

WIND, GEOTHERMAL ENERGY AND BIOFUEL DEVELOPMENTS

With the rapid expansion of renewable energy production, there has been an **increase in instances of poorly planned projects that fail to respect human rights.** There are emerging cases of geothermal plants causing violations of indigenous peoples' rights, aggravated by inadequate resettlement plans. Developments related to wind power, geothermal energy and biofuels can have a profound impact on indigenous peoples' territories, their traditional practices, have adverse effects related to noise as well as land and water pollution.

Wind farms, when sited in inappropriate areas that are biologically sensitive, can have a range of impacts on the environment. Birds and bats can collide with turbine parts and migration paths of birds, reindeer and other animals can be disturbed by the "barrier effect" of a windfarm, and this can result in indigenous peoples losing access to important sources of food and cultural identity. The physical installation of wind farms and geothermal power plants can also result in habitat loss or degradation (EU 2011).

Biofuels are often advertised as "green" sources of energy, because they are produced from renewable natural sources, such as oil palm. However, clearing of land and destruction of natural ecosystems for biofuel crops can take place on customary lands without the appropriate consent of relevant communities and can have a devastating environmental impact.

Clearance of forested land for biofuel production results in the release of emissions through deforestation and forest degradation.

Furthermore, the complete production chain of biofuels often requires the use of fossil fuel-based fertilisers, agrochemicals, machinery, transportation of raw materials, other inputs and energy intensive distribution of biofuels. Depending on the type of biomass used, processing of biofuels can require significant amounts of fossil fuel. A study by the State University of Campinas in Brazil was able to quantitatively show that biofuels are not renewable energy sources because crop production and processing for conversion to fuel are heavily dependent on fossil fuels (Ortega et al. 2014).

CASE STUDIES: INDIGENOUS PEOPLES' EXPERIENCES WITH WIND, GEOTHERMAL ENERGY AND BIOFUEL

Wind Farms in Isthmus of Tehuantepec Oaxaca, Mexico

In the Isthmus of Tehuantepec, Oaxaca, South Mexico, a wind corridor funnels extremely high-speed winds between the Pacific and Atlantic Oceans. Since 2008, energy investors have developed approximately 28 wind power projects, where 1,608 wind turbines have been installed in an area covering 17,869 ha (Wragg and Hughes 2015). According to the government of Oaxaca, the wind farms collectively generate 2,267 megawatts of energy out of a potential 10,000 megawatts of wind energy that the area is capable of producing (Santiago and Bessi 2016). Fifteen wind farms, located primarily on indigenous communal lands have already been completed (Bessi and Navarro 2014).

One of these is the Bií Hioxo Wind Farm, a 234 MW project located in Juchitán de Zaragoza in Oaxaca State, Mexico. Gas Natural Fenosa, a Spanish company, installed 117 wind turbines and began operating commercially in October 2014. The company has expressed its firm commitment to respect human rights and specifically, traditional ways of life, claiming that it has consistently worked to improve the living conditions in the affected community by developing programs to provide healthcare, education, infrastructure and other projects for different stakeholder groups (Gas Natural Fenosa n.d.).

However, indigenous communities report that the wind farm has disrupted their sacred places and ways of life and caused environmental and livelihood problems during the construction as well as operation phases (Environmental Justice Atlas n.d.). According to local residents, the wind farm is polluting aquifers with lubricants and other substances required by wind turbines. The concrete platforms at the base of the turbines interrupt traditional agriculture. The vibrations from the turbines may cause fish to leave and are thought to have pushed migratory birds to take alternative routes (Navarro 2014).

"Before, I could hear all the animals living in the areas. Through their songs and sounds, I knew when it was going to rain or when it was the best time to plant. Now though, it seems the animals have left due to the wind turbines." - 60-year- old Indigenous Zapotec man

Proper consultation processes were lacking, triggering conflict and resistance by the affected communities. Indigenous peoples complained of illegal land leasing contracts, privatisation and dispossession of their lands and local resources. Local peoples' organisations such as the Asamblea Popular del Pueblo de Juchitán (Popular Assembly of Juchitán) resisted the construction of the Bií Hioxo wind-farm for years, and human rights defenders reported cases of harassment, threat and intimidation (Amnesty International 2014).

In 2012, communities in Barra de Santa Teresa, Oaxaca organized the first major resistance against the wind farms in the Isthmus. Here, the Indigenous people of Binni Záa (Zapotec), Ikojts (Huave), and the Alvaro Obregon community stopped the Mareña Renovables wind project by blocking access to the area. The state sent in the police while companies began hiring local hitmen and persecuting local leaders, filing trumped-up lawsuits of kidnapping, attacks on roads, and damage to private property. Several attempts were also made to close down the radio station. In response to constant harassment and persecution, the Alvaro Obregon community on February 9, 2013 created a community police force called "Binni Guiapa Guidxi" that resisted until the government suspended construction of the wind farm. Following demonstrations by Indigenous peoples on May 8, 2013, the state of Oaxaca announced the cancellation of the proposed Mareña Renovables in the Barra de Santa Teresa, though plans to revive the project in other areas remain (Santiago and Bessi 2016).

Proposed Fosen Wind Farm in Norway

In the Arctic region, Europe's largest onshore wind farm located in the Fosen peninsula in Norway is expected to cause the loss of pastures and disturb local Saami reindeer herding communities. Construction started on the Fosen wind farm in April 2016. Most of the 278 wind turbines will be built in an area known for its conifer forests, lakes and mountains. Once completed, it will have a capacity of 1,000 megawatts (MW) and will produce 3.4 terawatt hours (TWh) of power annually, enough to supply 170,000 Norwegian households with electricity. Saami reindeer herders who use the land to graze their animals are concerned about the wind farm's impact on their traditional industry and culture. In Norway, the Saami have the right to use land for traditional activities, including reindeer herding. The Sami reindeer grazing area covers approximately 40% of Norway, provides pasture for more than 200,000 reindeer, and approximately 2,800 Sami take part in reindeer husbandry in Norway (Anaya 2011).

Reindeer husbandry has been a part of the Saami culture for centuries and is said to be the bearer of the Southern Saami language and culture. Although fewer than 5% of the 40,000-60,000 Saami living in Norway are involved in reindeer husbandry, the herders in South

Fosen may have to stop their traditional practice as a consequence of the wind farm project. As the Southern Saami are small in number, they face a challenge to maintain their culture and language. Many say that the project violates Norway's obligation to safeguard the rights of the Saami, including their ability to maintain culture, languages and traditions. The reindeer herders are now preparing for a legal case to reverse the project (Løsnes 2016).

"It is evident that one of the largest onshore wind power facilities in Europe will have irreparable consequences for the reindeer owners who have drifted here since time immemorial." - Thomas Åhren, governing council member, Saami Parliament of Norway.

Geothermal power plants in Kenya

A study published by the International Work Group on Indigenous Affairs (Sena 2015), revealed that Kenya's geothermal resources are spread over 14 prospective sites in the Rift Valley with an estimated potential of between 7,000-10,000 MW. Kenya's current installed geothermal capacity is 350 MW, generated from the Olkaria geothermal area. KENGEN, the largest geothermal producer in Africa, operates four out of the current five geothermal projects, producing 302 MW. Orpower4 Inc. produces the remaining 48 MW. Proposed geothermal projects in Kenya include the Longonot geothermal concession covering 132 sq. km in the Mt. Longonot National Park, which has been granted to Africa Geothermal International Ltd (AGIL); the 400 MW Mt. Suswa geothermal project to be owned and managed by the government's Geothermal Development Corporation (GDC); the 70 MW Akiira geothermal project, a joint venture of Centum (37.5%) and American firms Ram Energy and Marine Power and Danish Frontier Markets (62.5%); and the Bogoria-Silali geothermal project located in Lake Bogoria which will be implemented by the GDC.

The same study further revealed that most of Kenya's geothermal sites in the Rift Valley are located on the ancestral territories of indigenous groups. Olkaria, Longonot and Suswa geothermal sites are found in Maasai territories. The Maasai community have been occupying the land in the Olkaria geothermal area for centuries. However, the Kedong Ranch Ltd. holds legal title to the land, which the Maasai are now challenging. The Bogoria-Silali site is in the ancestral home of the Endorois. Geothermal sites identified in Samburu and Turkana counties are located in the ancestral territories of the Sambur and Turkana communities respectively. These geothermal projects are causing violations of indigenous peoples' rights, aggravated by inadequate resettlement plans. KENGEN has no policy statement on human rights in its quality assurance or environmental policy statements. The Olkaria IV geothermal power plant affects an area comprising the Maasai community villages of Olo Mayana, Olonongot, Olosinyat. In the resettlement action plan, the company KENGEN and other Olkaria-based companies committed to provide for livelihood restoration, securing community land rights, housing and monetary compensation, constructing water systems and a cultural center at the resettlement site. However, Maasai community members complained of violation of their rights. Displaced families complained of being resettled without official land ownership documents in a relocation site located close to other geothermal drilling sites (Sena 2015).

"This project has totally affected our lives and instead of uplifting our livelihood or putting to our previous standard it has even stressed us a lot and many people by now are suffering from ulcers due to stressful life which one has been forced to." - Letter of complaint to World Bank Inspection Panel.

Oil Palm Plantations in Indonesia

The high global demand for biofuels is driving the expansion of oil palm plantations with grave consequences. A briefing paper prepared by a consortium of NGOs in October 2014 revealed the impacts of biofuel expansion on local and indigenous communities in Indonesia. It reported that oil palm plantations cover 13 million ha in Indonesia and that the government has declared an additional 14 million ha of forests for conversion to plantations by 2020. Oil palm companies are said to be expanding their plantations into significant areas of rainforests and peat lands. These plantations have encroached into communal lands, which local and indigenous communities use for farming, hunting and gathering food. Companies are taking over indigenous peoples' lands without their free prior and informed consent, burning and clearing forests without environmental impact assessments, and illegally setting up plantations. Land conflicts were reported to be on the rise as many communities are strongly resisting eviction. Women were also seen to be particularly affected as the oil palm plantations undermine their livelihoods, deny them access to land and weaken their position in their communities. Women working in oil palm plantations reportedly receive lower wages than men and face health hazards from chemical pesticides and fertilisers. Some women are forced to work without pay in order to help their husbands meet production quotas. In addition, they are expected to carry out domestic chores and childcare, while facing increased vulnerability to domestic violence (Down to Earth et al. 2014).

Numerous ecological impacts of palm oil plantations have been enumerated in a White Paper by the International Council on Clean Transportation (Petrenko 2016) including loss of carbon from the landscape, threats to rare and endemic species, depletion of land and water resources and pollution of air and water. It was said that although the industry indirectly employs up to 7.5 million people, the quality of life resulting from such employment was seen as minimal due to companies withholding promised compensation and benefits, resulting indebtedness and serious human rights abuses. The paper concluded that:
"[the] Majority of indigenous Indonesians suffer from the palm oil industry instead of benefiting from it. The detriments to humans come in the form of serious health impacts from fires and chemical pollutants, in addition to the loss of land rights and depletion of natural resources that indigenous peoples depend on for survival…. The lack of land, clean water and livelihood options for indigenous Indonesians, in addition to the destruction of culture and tradition, have been deemed unsustainable."

Large renewable energy projects planned by government and energy companies cause severe impacts on land, territories and resources of local affected communities. The featured case studies clearly show how **indigenous peoples are bearing the social, economic and environmental costs of these developments.** Indigenous communities are most often found where potential water, wind, geothermal and biomass energy resources are still to be tapped. Communities can live along or around rivers that have been earmarked for mega-dam construction in all continents and global regions. They occupy agricultural lands and forests that are targeted as sites for energy-related development. As a consequence, they are **dislocated or evicted from the land, territories and** resources that they have communally owned and managed for generations and that have supported their own survival, cultures and that of future generations. These ancestral territories are the basis of their unique indigenous identity. Displacement from their lands, territories and resources have caused and will continue to cause economic, social and cultural alienation leading to erosion and disruption of traditional practices and the loss of valuable indigenous knowledge, undermining the indigenous identity of whole communities and peoples.

Other economic impacts of ill-designed energy projects include **loss of traditional livelihoods, decreased incomes, short-term employment in construction and development work**, **and food insecurity.** Resettlement programmes for affected peoples have sadly proven inadequate to compensate for the devastating economic, social and cultural losses brought about by energy projects. Promises of land tenure instruments and replacement of lands lost with lands of equal quality, aside from compensation for loss and damage of property, have in many instances been broken. Housing, infrastructure, social and cultural facilities and services provided or promised in resettlement areas for displaced peoples and communities are sorely inadequate to ensure their wellbeing. Dislocated peoples have ended up in poor conditions, much worse off than before these projects were implemented.

4. THE POTENTIAL OF INDIGENOUS-LED RENEWABLE ENERGY TO LEAD THE WAY

Given the at indigenous peoples make up one third of the rural poor, **indigenous communities constitute a large proportion of those most in need of renewable energy sources** because of the lack of access to basic social services and economic assistance. Many indigenous communities are currently dependent on fossil fuel-based energy such as diesel, kerosene and liquefied petroleum gas for cooking, lighting, heating or cooling of homes. Given the low cash incomes of these communities, especially in agricultural and subsistence-level economies, energy costs become a limiting factor on human development. Other economic activities such as processing of agricultural products (e.g. rice or coffee threshing and milling), blacksmithing, woodworks, crafts and other livelihood activities, also need a steady source

There is an underlying, yet inaccurate, assumption that the pursuit sustainable energy expansion will result in only positive sustainable development outcomes. Instead of addressing these basic needs for sustainable development, energy projects are often designed to supply the grid and the demand of industries and urban populations. Even so-called "clean" and "green" sources like mega-dams, solar, wind and geothermal plants are often planned to supply the increasing energy demands for large-scale economic activities such as mining, manufacturing, commerce, transportation and tourism and for increasing urbanisation, rather than to meet the needs of rural communities. Many rural electrification programs are meant to extend supply from the grid, based on commercial or economic demands that aren't directly linked to increased human well-being. The push is to spread grid connections, primarily targeting groups or communities that already have the capacity to pay for the electricity. Thus, rural electrification of poor, local communities often remains the lowest priority when allocating energy supply (Lopez 2017).

On the other hand, **good practice examples of local, small-scale and community-based renewable energy projects highlight opportunities for people-initiated sustainable development.** These community initiated and managed renewable energy projects can offer better alternatives to mega-projects that come with severe environmental and social impacts as well as serious environmental impacts. Energy projects that are needs-based, affordable, directly benefit the poor, do not displace communities, are environmentally benign and culturally appropriate, should be the way of the future for local energy generation (Lopez 2017).

CASE STUDIES: RENEWABLE ENERGY INITIATIVES LED BY INDIGENOUS PEOPLES

Community-based Renewable Energy Systems: Cordillera Region, Philippines

For decades now, community-based energy systems (CBRES) including micro-hydro, hydraulic ramp pumps, wind, solar and biomass-fired systems have been established in many off-grid villages in the Philippines for community and household use. CBRES are defined as small and decentralised energy supply systems usually built in poorest communities with significant participation of organized communities and multi-stakeholder support, which are owned, managed and sustained by local organisations (Lopez 2017).

Indigenous peoples' struggle against the construction of four mega-dams along the Chico River in the Philippines during the 1970s motivated the development up of micro-hydro energy systems in different parts of the Cordillera region. In 1986, the Butbut tribe in Buscalan, Kalinga built a water-powered rice pounder to ease the burden of women who usually manually pounded the rice each day. This inspired the Butbut people in Ngibat, Tinglayan to set up a micro-hydro project (MHP) in 1994 that would produce electrical power to run a rice mill, thresher and blacksmithing (Cariño 2012).

The Butbut people are upland farmers who subsist on growing rice on terraced land and vegetables on swidden farms. Before the MHP was built, the villagers relied on pine pithwood or saleng for lighting. The Ngibat community exercised their traditional system of cooperation called allayon in building the MHP. Men and women carried gravel, rocks and concrete, hauled the massive penstocks and machines almost 100 m vertically up to the village and down the mountainside to where the powerhouse was built. The construction lasted for eight months and was completed in December 1994 (SIBAT 2012).

Ownership and maintenance of the MHP and the watershed is based on the traditional system of communal ownership and customary practices of natural resource management. A collective decision-making process is practiced, wherein everyone has the right to be heard. The community collectively agreed on a tariff to pay for the electricity used based on what is fair for each household to contribute in order to maintain such a system. By selling rice, root crops and beans, they were able to raise the cash needed to operate and maintain their MHP. At times, cash was not enough to replace the expensive parts, and typhoons eroded canals and disrupted operations. It was the deep-rooted traditional cooperative spirit and organisation of the Butbut people that enabled them to overcome those difficulties. The MHP has provided Ngibat with lighting and power for more than two decades. It continues to operate until today, mainly to run the rice mill. About 61 MHPs have been set up in different parts of the Cordillera region (SIBAT 2012). These are operated and managed by the indigenous communities themselves, with assistance from different development NGOs including the Montañosa Research and Development Center (MRDC), Center for Development Programs in the Cordillera (CDPC), Cordillera Disaster Response and Development Services (CorDisRDS) and Sibol ng Agham at Teknolohiya (SIBAT).

Activities under the CBRES community-led renewables initiative in the Philippines. Photos by SIBAT

Community Based Micro-Hydro for rural electrification in Sabah and Sarawak, Malaysia

Remote and dispersed indigenous communities in Sabah and Sarawak, Malaysia have found an alternative to costly "conventional methods" of rural electrification (e.g., grid connection and diesel generators). The high volume of rainfall almost all year round and the mountainous terrain are ideal conditions for community-based micro-hydro systems, which are cost effective and easy to operate and maintain. A micro-hydro system is environment friendly because it is designed based on the available flow of the river and does not require any dams that will obstruct water flow and submerge vast areas. It is carefully designed so that not more than 60% of the water flow is used to ensure that the river continues to flow and support aquatic life. A small diversion weir is all that is needed to divert water to an intake then to a penstock pipe that will run the turbine (Lasimbang n.d.).

Community-based micro-hydro projects emphasise people's participation in all aspects of project conceptualisation, design, installation, and implementation. These projects have the greatest likelihood of long-term successful operation because community residents are invested in designing and maintaining the systems.
Since they have invested their time, energy, and resources into project development, they have ownership over the project and work to keep it successfully running over the long term. The micro-hydro systems directly serve the communities through increased capacity and availability of electricity, clean water, and agro-processing equipment powered by the new electricity system. The villagers are the direct beneficiaries of the trainings that are designed to empower the entire community (Lasimbang n.d.). This innovative and award-winning rural electrification program was initiated through cooperation between PACOS Trust(5) and ERA WIRA Sdn. Bhd(6).

Community-based solar project in Barkly, Northern Territory, Australia

Two remote indigenous communities in Barkly, in the Northern Territory of Australia have started a community-based solar project that has drawn the Aboriginal Kunapa communities of Ngurrara and Kurnturlpara to return to their own land, recapture self-sufficiency and sustainability, and re-establish their indigenous culture. The Manungurra Aboriginal Corporation, representing the Kunapa clan group, initiated the solar project in partnership with the Indigenous Business Australia (IBA). IBA provided about AUS $240,000 to build the project, with a total of 36 kW of solar panels and 67 kWh of gel battery storage.

The Manungurra Aboriginal Corporation and the residents share in the lease repayments, which come up to less than half of what they used to spend for diesel. Switching from diesel to solar power has brought significant financial and other "life changing" benefits. Power costs have dropped, the solar panels provide additional roof shading and insulation, people no longer have to make the long trip for diesel, and they are able to cool their homes without the constant noise of generators, or the smell of fumes. Alleviating the power cost has had the desired effect of bringing people back to the community, where they have been able to set up a School of the Air for the children and expect to develop their cattle and farming economy. By returning to their homes and land, they are able to ensure that their traditional culture and practices continue (The Guardian 2017).

Wind, solar and biodigestor energy in Nicaragua

BlueEnergy is an organisation that delivers energy, water and sanitation services to some of the world's most isolated, marginalised communities. It has provided installations in indigenous and afro-descendent communities both for household and community uses. BlueEnergy reported that in its 14 years of existence, its work has directly impacted over 11,000 people, with many more receiving indirect benefits, through projects conceived as models of energy innovation for the region.

BlueEnergy launched its project on the Caribbean Coast of Nicaragua in May 2004 to establish renewable energy services and to build local capacity needed to sustain these services. BlueEnergy first worked with the Rama indigenous people and the Kriol people, by developing small wind power systems (500 W and 1 kW) paired with small solar systems (50 W to 1 kW) to charge batteries. It eventually worked in partnership with the Gobierno Territorial Rama - Kriol (GTR-K) and helped inspire the inclusion of renewable energy in the GTR-K 30-year development plan. Later, it worked with the Miskitu communities of Kahkabila and Set Net and the Creole community of Pearl Lagoon. BlueEnergy has also built a pioneering biodigestor system at the Municipal slaughterhouse in Bluefields, converting animal waste into methane gas for cooking, electricity production and fertilizers. By 2011, it discontinued its work with wind turbines due to shifts in the global solar power market, lower than expected wind resource, maintenance challenges, and production quality challenges, while expanding its use of small scale solar energy solutions.

For the last five years, BlueEnergy has been working with the agro-forestry school of Wawashang, a school serving hundreds of students from diverse ethnic backgrounds. The Wawashang project is a solar micro-grid of over 40 kW of solar panels combined with two diesel generators that run specialty equipment in the wood shop and provide backup power, with a distribution network connecting over 25 structures on the campus. The Wawashang project is at a much larger scale and is intended to be a model for the region, with the students of Wawashang taking what they have learned about renewable energy back to their home communities as part of their service commitment (Craig 2018).

5 PACOS trust is a community based NGO working on social and environment issues since 1993. The organization has been responsible for community mobilising, socioeconomic and watershed management component of the micro-hydro projects.
6 ERA WIRA SDN. BHD is a renewable energy consultancy company which was responsible in designing, installing and commissioning the successful micro-hydro system in Long Lawen, Terian and Bantul.

Batzchocolá Micro-Hydro Community Central, Guatemala

In Guatemala, the RijatzulQ'ij has developed several renewable energy initiatives in isolated areas for new users who previously had no access to electricity. One is the Batzchocolá Micro Hydroelectric Community Central, which generates 90 kW and provides electricity to 804 users from 141 families and 19 small businesses in three communities in the department of Quiché. A small community company, the Hydroelectric Development Association Integral Norte del Quiché (ASHDINQUI), is in charge of the administration, operation and maintenance of the Batzchocolá project. ASHDINQUI actively participated in the project implementation process and also opened up access to other basic services and productive infrastructure. Initial results from the project show positive social, cultural and economic impacts, highlighted by the active participation and organisational strengthening of the community.

Economic benefits mentioned were savings in terms of costs, time and resources arising from discontinued use of candles, kerosene and forest products for fuel. Particularly for women, having electric light has allowed them to work at night and some have acquired blenders that contribute to quicker, more hygienic and diversified preparation of food. The use of electric mills has lessened women's physical effort in grinding nixtamal and allowed them more rest and longer sleeping hours. The shift from firewood and ocote to electricity produces less smoke, contributing to better health of people and the environment. It has also helped in the preservation of food and vaccines needing refrigeration. The technical operation of the micro-hydro project and other projects using energy such as mills, raising and selling chickens and the intercultural technological centre have generated jobs for the community. Some families have also set up or expanded small businesses thereby increasing their income for subsistence (FILAC 2018).

Ixtepec community-owned wind project, Oaxaca, Mexico

In August 2009, the Assembly in Defence of the Land and Territory of the Indigenous People in the Isthmus of Tehuantepec and other local organisations held a Forum in Juchitán on indigenous communities, self-determination and energy sovereignty. This Forum was a venue to discuss alternatives to the private wind farms that were spreading throughout the Isthmus. Here, the Yansa Group, a foreign foundation, introduced the idea of community wind-farms. The commune members of Ixtepec and the Yansa Team then started working together to develop the idea. From 2009 to 2010, three communal assemblies were held in Ixtepec to plan out a community wind farm project. Additional enabling activities were conducted by Yansa, including community meetings and working groups, environmental assessments, contract negotiations, and siting logistics. This project shared some similarities with private wind-farms, particularly the scale (in terms of number of windmills and installed capacity) and the amount of investment required. However, the community wind farm plan was different in terms of ownership, revenue distribution and decision-making processes. It entailed the active participation of the community both through existing communal institutions and new spaces of decision-making through women and youth forums (Environmental Justice Atlas n.d.).

However, the Yansa-Ixtepec project was unable to meet government requirements in obtaining permits for construction and operation of the wind farm, which favored other private companies. Eventually a private company, Enel Green Power, were awarded the right to develop the project. Even so, the Ixtepec community and Yansa continued to pursue their project, while demanding restitution if a private company is allowed to operate in their territory (Environmental Justice Atlas n.d.). Ixtepecans are hopeful that if they are successful in implementing this project, it will generate enough revenue to significantly change the social landscape of the town, revive their farming tradition and create long-term jobs through democratic mechanisms (Wragg and Hughes 2015).

Kayenta Solar Project, Navajo Nation, USA

Near the sandstone buttes of Monument Valley along the Arizona-Utah border, the Kayenta Solar Facility has begun supplying electricity to power about 13,000 Navajo homes. The solar plant is the first utility-scale solar project on the Navajo Nation, advancing renewable energy on the reservation long known for fossil fuel development.

The Navajo Tribal Utility Authority, which owns the solar plant, said that the contractor hired and trained 200 Navajos to build the plant, leaving a qualified workforce for other projects. According to the tribal utility, the US $60 million cost of the solar plant was funded through federal solar investment tax credits to avoid passing the cost to its customers. A two-year power purchase and renewable energy credit agreement with the Salt River Project will cover loan repayments for the plant's construction. The solar project comes at a time when the area's energy landscape is shifting with the impending closure of a nearby 2,250 MW coal-fired power plant in December 2019. When the coal plant eventually retires, it will leave behind major power lines that could be used by utilities to take power from renewable energy projects, which are seen as the best energy alternative in the region (Associated Press 2017).

Similar initiatives are being developed to establish renewable energy projects on Native American lands, where it is reported that some 14% of the entire country's renewable energy potential are found, and where nearly 15% of Native American households still

have no access to power. South Dakota ranks fourth in the nation for potential wind power production and was found to be ideal for solar energy development. Leaders of the Pine Ridge Reservation in South Dakota hope to capitalise on this potential by establishing a renewable energy infrastructure powered by wind, solar, and biomass. Research is also underway at South Dakota State University on the viability of switchgrass as a potential biofuel crop for the people of the Pine Ridge Reservation. Switchgrass reportedly requires minimal irrigation, fertilisers and pesticides to produce high density fuel and can be grown on lands not suitable for other crops (Henri 2017).

Similarly, the Standing Rock Sioux Tribe has plans to power its 12 communities with renewable energy, using award money it received in June 2017 from the first Henry Wallace Award for their effort in the #NoDAPL movement. This award included a US $250,000 gift for the tribe, as well as an investment guarantee of up to US $1 million for renewable energy development to support tribal independence and sovereignty.

"If Native tribal nations can say we are 100% powered and 100% of what we consume is renewable energy, that builds awareness for other communities and maybe the nation." - Standing Rock's Tribal Chairman Dave Archambault II (Henri 2017).

Indigenous participation in renewable energy projects in Canada

A national survey released by Lumos Energy in 2017 revealed that participation of indigenous peoples in Canada's renewable energy sector has increased rapidly over the past two decades. In this survey, participation by indigenous peoples was defined to include ownership, partnerships, impact benefit agreements, royalty agreements, and lease agreements amongst others. The survey reported that over 1,200 small renewable energy projects have been constructed with indigenous participation in order to meet local energy needs of First Nations, Metis and Inuit communities. In addition, 152 medium- to large-scale solar, wind, hydro and bio-energy projects with indigenous participation are now also in operation. All these have a total generating capacity of 19,516 MW, representing nearly one-fifth of the country's overall power production, and enough to power 7.5-9.5 million homes. Lumos Energy further estimates that indigenous communities have invested CAD $1.8 billion in equity in clean energy projects, sourced from various sources such as community funds, funds from treaty settlements and land claims, debt financing or direct grants from project development partners, external borrowing provided by government, indigenous financial organisations or project partners. The norm is for indigenous communities to hold approximately 25% ownership of clean energy projects (Lumos Clean Energy Advisors 2017).

Benefits mentioned arising from these projects include: low to minimal ecological impact on lands, water, fisheries and wildlife; strengthening of community pride and affirmation of indigenous rights and territory; holistic community economic and social health; respectful relationships with government and project partners; and local employment and additional income. Indigenous participation was also found to generate tangible value for projects such as enhanced design to reduce ecological impacts through community consultation and traditional knowledge, accelerated environmental approval due to early community involvement, reduced project costs from more local and indigenous employment, and reduced project risks (Lumos Clean Energy Advisors 2017).

One example of good practice with community-level indigenous partnership in Canada is the T'Sou-ke-Skidegate Renewable Energy Partnership as documented by Ozog (2012). In 2009, the T'Sou-ke Nation developed a renewable energy project, the T'Sou-ke Solar Community Project, which included an energy conservation programme, installation of solar hot water systems in 38 homes, and three different applications of solar photovoltaic systems, with a total 75 kW capacity. The T'Sou-ke Solar Community Project brought numerous benefits to the community and its success attracted the attention of other First Nations, including the remote First Nation of Skidegate Band in Haida Gwaii, B.C. Subsequently, T'Sou-ke and Skidegate began a solar energy partnership in September 2010. T'Sou-ke and Skidegate shared similar goals regarding renewable energy. T'Sou-ke wanted to demonstrate how renewable energy could assist a remote community toward energy autonomy, and Skidegate, a remote community, was looking for new economic development opportunities that could reduce their high social assistance, thus allowing them greater autonomy from the federal government. After a collaborative process of implementation, the project partnership was deemed successful and beneficial as both communities achieved energy self-sufficiency, reduced community energy costs and built cooperation between the two communities. The project also lessened dependence on damaging forms of energy such as large hydroelectric dams and diesel generated electricity. Important lessons mentioned that were learned from the partnership are that projects must come from within the communities themselves, and that community engagement and organising needs to be enhanced before beginning a renewable energy project or partnership Ozog (2012).

The **potential benefits of community managed renewable energy projects are impressive,** as illustrated by these case studies. For one, these directly supply energy to the community and minimise dependence on the grid, forest resources or fossil fuels, which the poor have very little capacity to pay for. For instance, in the Cordillera region of the Philippines, communities previously dependent on pine wood and kerosene for lighting and cooking now have electricity provided by micro-hydro systems for which they pay a minimal fixed tariff per month, as agreed by the community.

This agreed tariff is much less than the previous energy costs for fuel, transportation and other needs such as rice milling. Similarly, in Australia, solar projects have significantly cut down on diesel costs, making it viable for the community to return to their ancestral land and revive their aboriginal culture.

Grid based solutions are not always the best solution for indigenous communities. Electricity supply from the grid rarely reaches remote areas where indigenous communities are found. The poor have very little capacity to pay for energy delivered by the grid or such grid-based supply to remote communities is irregular resulting in frequent brown-outs. Energy systems that are small-scale and community-based allow communities to avoid these problems (Lopez 2017).

Self-determined project development and proper FPIC processes can avoid risks and conflicts related to inappropriate project design. This includes allowing communities to assert what they want in terms of the design, implementation and management of the project. It also allows them to enter into productive and mutually beneficial partnerships with government entities, NGOs, industries or funders that are interested in supporting such endeavours, thereby avoiding conflicts in the long run.

These **community-based initiatives also serve as opportunities to showcase outstanding traditional knowledge and practices that are excellent alternatives to unsustainable development.** These include indigenous values such as community cooperation, self-reliance and volunteerism in the construction and management of the project. Care for the watershed is also an integral aspect of micro-hydro project development in order to protect the water source and maintain the strong volume of water to run the turbines. These indigenous values and development approaches provide valuable lessons that have proven viable in meeting the energy needs of indigenous peoples and local communities, with no or minimal damage to the environment and the community.

Readily available electricity supply from these community-based projects have brought **particular benefits for women as well as men in the community.** These include lighter work burden in food production and processing through mechanisation of tasks that were previously manually done (e.g. water fetching, irrigation, rice threshing, milling and pounding). It also facilitates cooking, washing, heating, cooling and other domestic needs that women are primarily responsible for. Indigenous women have expressed appreciation for micro-hydro systems that have allowed them to lighten their manual tasks and to use power tools for domestic use and community needs such as metal and wood works. This has lessened time spent on agricultural production and other livelihood activities and freed them to do other family tasks and contribute to community functions. Some micro-hydro run mills in have also been turned into community cooperatives, which generate cash for the community. They have helped upgrade health facilities and services in remote areas through the provision of electricity to community health centers.

Positive, inclusive approaches to renewable energy production safeguard against rights abuses and avoid negative development impacts on indigenous peoples. **These approaches should thus be promoted and adopted as part of the Sustainable Development Goals implementation and climate action frameworks.**

Indigenous peoples face resource constraints in implementing community initiated renewable energy projects by themselves. Dependence on outside funding poses certain risks that indigenous peoples should be aware of such as tied loans from international financial institutions or commercial banks that often come with strict conditions and interest payments. Significant commercial investments by private corporations give companies significant control over how projects are designed, implemented and managed to ensure a return on their investments. **Innovative approaches to financing renewable energy projects that balance private investment gains with social, economic and environmental benefits to communities need to be developed.**

5. LESSONS LEARNED AND RECOMMENDATIONS

1. A **rights-based approach** to renewable energy development is necessary in order to ensure the respect for and protection of human rights, both collective and individual rights of indigenous peoples. This includes adherence to the principles of free, prior and informed consent. The application of a human rights framework will ensure that rights to land tenure, territories and resources project are upheld. All forms of discrimination in energy development practices should be eliminated.

2. **Self-determined development** that is respectful of indigenous peoples' rights, culture, environment and future generations must be promoted and mainstreamed. Activities that exacerbate social and economic inequality should be avoided. The pursuit of social equity and justice should be promoted.

3. Renewable energy projects should utilise **locally appropriate technology** that have minimal ecological impacts based on local conditions and capacities, and available resources. Small-scale projects can have clear benefits over large-scale projects, such as in the case of micro-hydro over mega-dam projects. Cultural and environmental impact assessments need to be undertaken in order to avoid implementing energy projects that have negative impacts and to ensure that these do no harm, which is often irreversible for indigenous communities.

4. Renewable energy developments should be **consistent with indigenous concepts, knowledge and values** using local resources and protecting the environment for future generations. Local practices and systems of cooperation, inclusiveness, transparency and volunteerism can be a positive contribution to the successful implementation of any project in indigenous communities. Respect for indigenous knowledge and accommodation of customary practices are essential for effective project planning and implementation.

5. Indigenous peoples' full, meaningful and effective **participation throughout the whole project cycle** including project planning, implementation, management, monitoring and evaluation, is essential and should be ensured.

6. **Capacity-building and technical support** needed by indigenous peoples to be able to engage meaningfully and effectively should be provided as part of project planning. Inter-community exchanges for mentoring and learning from the experiences of others have also proven beneficial and should be explored and supported.

7. **Decision-making should be democratic,** consistent with the principles of free prior and informed consent, without coercion, fully informed of all positive and negative aspects of the project, and carried out in accordance with local and customary processes.

8. **Benefits from renewable energy projects** should go directly to local communities. Benefits may include affordable electricity for households, the alleviation of women's work burdens, enhanced sustainable livelihoods, greater food security, or job generation for local people.

9. **Respectful partnerships** need to be ensured whether with, between and/or among different entities and stakeholders, including governments, private sector, donors, consultants, community organisations, customary institutions and NGOs. The terms and relationships with such partners could be explored for mutual benefit depending on the interests of the community. Community consultations should be conducted at the earliest possible time in the project cycle to avoid risks and build trust.

10. **Diverse and innovative funding strategies** should be explored for renewable energy projects, including international, national, local, public and/or private financing. A range of various arrangements are possible from loans, grants, equity, co-ownership with indigenous peoples' local resources as co-contributions, technical and financial assistance, to full ownership or equity by local communities. New financing approaches that balance the desire to generate private profits with the needs to support social, economic and environmental outcomes need to be supported actively by development actors, donors and the private sector. International financing mechanisms should balance pressures to disperse funds quickly with the long-term benefits of building strong and truly transformational, paradigm-shifting solutions.

Indigenous concepts, knowledge and values

"Indigenous peoples in North America and elsewhere have always relied upon and developed intimate locally-grounded connections with and understanding of the natural world to survive and thrive, not just for esoteric spiritual inspiration. Successful communities learned and passed on strategies for using land and water, as well as harvesting animals and plants in ways that ensured not only the short-term survival of the people, but also the long-term well-being of the entire ecosystem." - Lowan-Trudeau (2017).

ANNEX: GEOGRAPHICAL TRENDS IN SUSTAINABLE ENERGY

Priority countries have been identified so that action to achieve SDG 7 can be targeted effectively (World Bank 2017). With relation to Target 7.1: "By 2030, ensure universal access to affordable, reliable, and modern energy services" and Target 7.2: "Increase substantially the share of renewable energy in the global energy mix by 2030" of SDG 7, countries are grouped as:

1. High-Impact Countries
   - i. For Target 7.1 these are the 20 countries with the largest absolute access to electricity deficit. These countries hold around 80% of the people unserved by electricity access, some 846 million people in 2014.
   - ii. For Target 7.2 these are the 20 largest energy-consuming economies, which account for about 75% of global energy consumption.
2. Fast-Moving Countries
   - i. For Target 7.1 these are the 20 countries that have increased their access rate the fastest in 2012-2014
   - ii. For Target 7.2 these are the 20 countries that made the fastest progress in increasing renewable energy consumption in 2012-14.

Table: High-Impact and Fast-Moving countries for electrification and renewable energy

Electrification: High-Impact Countries	Electrification: Fast-Moving Countries	Renewable Energy: High-Impact Countries	Renewable Energy: Fast-Moving Countries
Electrification		**Renewable Energy**	
Afghanistan	Bangladesh	Australia	Armenia
Angola	Brazil	Brazil	Azerbaijan
Bangladesh	China	Canada	Belarus
Burkina Faso	Colombia	China	Bulgaria
Congo, Democratic Republic	Egypt	France	Central African Republic
Ethiopia	Ethiopia	Germany	Cyprus
India	India	India	Estonia
Kenya	Indonesia	Indonesia	Germany
Korea, DPR	Iran	Iran	Jamaica
Madagascar	Iraq	Italy	Lao PDR
Malawi	Mexico	Japan	Liberia
Mozambique	Morocco	Korea, Republic of	Lithuania
Myanmar	Nigeria	Mexico	Macedonia
Niger	Pakistan	Nigeria	Myanmar
Nigeria	Philippines	Russia	Rwanda
Philippines	Saudi Arabia	Saudi Arabia	Senegal
Sudan	South Africa	Spain	Slovakia
Tanzania	Thailand	Turkey	Somalia
Uganda	Turkey	UK	Tunisia
Yemen	Vietnam	USA	UK

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THE RIGHT ENERGY PARTNERSHIP WITH INDIGENOUS PEOPLES

OVERVIEW

While representing only 5% of the global population, indigenous peoples make up a staggering one third of the world's 900 million extremely poor rural people. Given that the rural poor form the bulk of those without access to energy, **indigenous people are a critical demographic that needs to be put at the centre of the global dialogue on energy** if SDG 7 on ensuring access to energy for all is to be achieved.

Despite this fact, **indigenous peoples suffer invisibility when it comes to our understanding of energy access.** There is little disaggregated data on indigenous peoples' access to. Major reports from initiatives aligned with SDG 7 either don't mention, or only superficially refer to, indigenous peoples and fail to examine their unique challenges as a distinct group.

At the same time, **indigenous territories host renewable energy projects** without the respect for the rights of indigenous peoples to their lands and resources, and lack of meaningful consultation and consent by indigenous peoples. These projects have resulted in conflicts, displacements, destruction of livelihoods, and have violated indigenous peoples' rights and undermined their self-determined development.

To avoid this, activities to implement SDG 7 and promote renewable energy under the Paris Agreement and other initiatives, should **adhere to existing international human rights laws and norms relating to indigenous peoples.** The two main international instruments that explicitly define indigenous peoples' rights under international law, the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) and the ILO Convention No. 169, should guide sustainable energy related activities.

LACK OF INDIGENOUS INCLUSION IN CURRENT ENERGY PARTNERSHIPS

SDG 17 "recognizes multi-stakeholder partnerships as important vehicles for mobilising and sharing knowledge, expertise, technologies and financial resources to support the achievement of the sustainable development goals in all countries, particularly developing countries."

There are a number of existing national and international energy-focused partnerships centered on the SDG 7, including the Sustainable Energy for All (SE4ALL) partnership. With the exception of the "People-Centered Accelerator" of SE4ALL, very recently launched at the UNFCCC COP23 in November 2017, the majority of these partnerships appear to be multi-lateral and government led with a strong emphasis on partnerships with the private sector. **There is rarely much attention on active and substantive partnerships with local civil society and almost no mention of indigenous peoples.**

THE RIGHT ENERGY PARTNERSHIP WITH INDIGENOUS PEOPLES

Given these unique and significant challenges, the Indigenous Peoples' Major Group on the SDGs is developing the multi-stakeholder Right Energy Partnership (REP) with indigenous peoples

The goals of the Partnership will be to:

- Ensure that renewable energy projects are fully aligned with the respect and protection of human rights; and
- Provide at least 50 million indigenous peoples access to renewable energy by 2030 that is developed and managed in ways that are consistent with their self-determined needs and development aspirations.

This will be done through:

1. Ensuring the protection of rights to prevent the adverse impacts of renewable energy development on indigenous communities
2. Empowering indigenous communities in their self-determined sustainable development, specifically with regards to access to appropriate renewable energy with equitable community benefits; and
3. Strengthening knowledge exchange, solidarity and collaboration between indigenous peoples and other actors to contribute towards the goals of the Partnership.

The Right Energy Partnership will make a unique contribution to the sustainable development agenda with these valuable and distinct features:

- Indigenous-led partnership related to the SDGs
- Based on a rights-based framework - not "business as usual"
- Focused on indigenous led solutions with equitable benefits reaching the poorest and marginalised
- Empower indigenous women and communities
- Open, transparent and accountable

PARTNERSHIP PRINCIPLES

The Partnership and all participating partners must adhere to the following principles and values:

- **Respect and uphold human rights**, including uphold the UN Declaration on the Rights of Indigenous Peoples, the collective rights of indigenous peoples and the right of indigenous people to free, prior and informed consent (FPIC).
- **Equitable benefit sharing and the promotion of equity**. This includes a focus on actions that support the poor and not only wealthier community members who are better placed to participate and benefit from actions. Activities supported by the Partnership shouldn't create wealth and power gaps in the community and ensure that those further left behind are clearly targeted to include indigenous persons with disabilities, the elderly, and young people, among others
- **Full inclusion and empowerment of indigenous women**. This is a core objective of the Partnership and activities must have a strong gender focus to ensure the perspectives, concerns and aspirations of indigenous women are accounted for and they become key actors and beneficiaries.

- **Respect and promotion of self-determined sustainable development**. Activities will be focused on ensuring broad gains in self-determined sustainable development and livelihood that is culturally sensitive. This includes the holistic approach of indigenous peoples in addressing poverty, food insecurity and the overall wellbeing of indigenous peoples in the achievement of inter-related goals for sustainable development.
- **Full participation and empowerment of indigenous communities.** The Partnership will prioritise participatory approaches with a focus on community-led and -centred renewable energy and ensure that the poorest and most marginalized members of the community are included, such as persons with disabilities, elderly and young people, among others.
- **Uphold indigenous leadership** of the Partnership as a critical principle. By putting the target beneficiaries in the centre of designing and leading in solutions, there is a much higher chance of the Partnership being effective in reaching its goals. Furthermore, the traditional knowledge and innovation of indigenous peoples on the ground must be recognised and promoted in the implementation of SDG 7 and the Paris Agreement.
- **Transparency, accountability and mutual respect** must be the cornerstone of a partnership between indigenous peoples and other stakeholders to ensure that the Partnership can engender trust and positive, generative working relationships between different stakeholders. Additionally, indigenous stakeholders must uphold principles of transparency and accountability to build trust in the Partnership's activities.

POTENTIAL ACTIVITIES

Activity Area 1: *Ensure the protection of rights to prevent the adverse impacts renewable energy development on indigenous communities.*

Indigenous peoples continue to have their rights systematically upheld through energy planning and development processes, with big utilities, governments and private companies side-lining their human rights. Some renewable energy projects have negative impacts on communities and are not being implemented in a manner that respects their rights to their lands and resources and to their free, prior and informed consent (FPIC). Potential Activities:

- Develop and promote policy recommendations for ensuring indigenous peoples rights are respected in energy developments.
- Provide technical support, capacity building, advocacy and solidarity support for communities that are threatened by renewable energy projects and projects to expand energy access.
- " Monitor, document and share information on how indigenous peoples are being impacted negatively by renewable energy projects and projects to expand energy access.
- Develop position papers and policy guidance focused on communities likely to be at risk in advance of possible developments, for instance the mounting interest in expanding hydropower in Asia makes this a potential hotspot to focus on.
- Facilitate direct dialogue between impacted indigenous groups and actors involved in harmful projects (e.g., governments, multi-laterals, bi-laterals, private sector).
- Facilitate access to grievance mechanisms by affected communities as appropriate.
- Support remediation and rehabilitation activities for communities that have already been impacted by renewable energy projects.

Activity Area 2: *Empower indigenous communities in their self-determined sustainable development, specifically with regards to access to appropriate renewable energy to deliver equitable benefits.*

Millions of indigenous peoples do not have basic access to energy and there is a lack of capacity and knowledge in many communities to make an informed choice on what energy solutions can bring the most benefits and least harm to support their self-determined development.

Additionally, indigenous-led innovative and powerful energy solutions are not well recorded, recognized and promoted. Potential activities:

- Support, promote and amplify efforts to reach indigenous peoples without access to energy to gain access to appropriate renewable energy.
- Provide technical support and capacity building for communities that are in the process of developing indigenous-led renewable energy solutions.
- Support community-level pilot projects to build on and replicate best practice in indigenous-led sustainable energy solutions.
- Collaborate with other partnerships, initiatives and activities focused on implementing SDG 7 and the renewable energy goals of the Paris Agreement to ensure that activities that may impact indigenous peoples follow best practice.
- Document and promote best practice and develop and promote policy recommendations for supporting indigenous-led and focused energy developments that maximise sustainable development co-benefits.

Activity Area 3: *Strengthen knowledge exchange, solidarity and collaboration between indigenous peoples and other actors to contribute towards the goals of the Partnership.*

Documenting and sharing knowledge and best practice between indigenous and non-indigenous partners can amplify the outputs of the Partnership. Potential Activities:

- Create a knowledge platform and support knowledge exchanges and collaboration between indigenous communities as well as with other stakeholders.
- Develop targeted tools under a communications strategy to disseminate key messages, promote lessons learned and inspire further action.
- Carry out direct advocacy and policy influencing with relevant processes and initiatives.

Gender issues will be mainstreamed throughout the activities. This will include: emphasis on understanding the gender dimensions of negative and positive impacts; gender-based criteria to assess potential projects to be supported through the Partnership; gender specific recommendations and analysis for policy guidance and lessons learned documentation; and a gender track for activities towards knowledge exchange, solidarity and collaboration.

PARTNERS

The Partnership is open to different development actors and stakeholders provided they will commit to abide by the Partnership Principles as provided above and can make direct and concrete contributions in achieving the objectives and targets of the Partnership. As an open Partnership platform, those wishing to be part of this Partnership shall formally complete a Partnership form which will indicate their commitment to abide by the partnership principles and their concrete contribution that can be reported and verified on a regular basis. Partners may include, but are not limited to:

- Organisations and institutions working on indigenous peoples' and human rights
- UN Agencies, multi-lateral and bi-lateral agencies
- National and local governments
- Philanthropic institutions, foundations and funding agencies
- Research institutions
- Human rights organisations and institutions
- Advocate NGOs including those working on business and human rights, service NGOs, environment organisations, experts on renewable energy technologies

- Social Entrepreneur organisations and networks
- Private sector/renewable energy companies
- Indigenous-led and other media

MANAGEMENT AND COORDINATION OF THE PARTNERSHIP

The Partnership will be led by indigenous peoples and initially overseen by a Steering Committee composed of members of the IPMG and other IP leaders selected for their experience in energy issues, their integrity and demonstrated commitment, and regional representativeness and balance. The Steering Committee shall be accountable to the Global Coordinating Committee of the IPMG. Further, a Technical Secretariat shall be formed to manage and coordinate the day-to-day activities of the Partnership including in facilitating linkages and collaboration of partners to work together at the local, national, regional and global levels.

The Partnership shall prepare a consolidated report of its achievements, gaps and lessons learned every two years and will be submitted to the Partnership Exchange of the High Level Political Forum of the SDGs.

SELECTING COUNTRIES FOR THE PILOT PHASE

The Pilot Phase of the Partnership (2018-2020) will include support to pilot projects in select countries. Funding for the pilot projects may come from the Partnership's fundraising efforts, or projects that already have funding may be included in the Partnership's Pilot Phase and benefit from/contribute to technical support and knowledge exchanges via the Partnership. Criteria for identifying possible countries where pilot projects could be based are listed below.

- Community need for support: communities in the countries selected have a critical need for support (e.g. rights are threatened by energy projects; no access to energy/renewable energy)
  Likelihood of being targeted by SDG 7 related initiatives: These are communities in countries that are already experiencing or likely to experience attention and investment in renewable energy.
- Capacity to engage: existing organisational capacity to engage effectively in pilot phase (e.g. strong local institution/organisation/s; awareness of their rights; ability to implement own plans etc)
- Regional and thematic representativeness: supported activities should cover broad enough number of regions and context/conditions, so that the Pilot Phase draws lessons and learning from a representative range of contexts.

Selected countries do not need to fulfill all criteria. Below are the initial list of countries to be considered:

Africa	**Asia**	**Latin America/Caribbean**	**Oceania**
Democratic Republic of Congo	India	Brazil	Pacific Island states (tbd)
Kenya	Indonesia	Colombia	
	Philippines	Mexico	
		Nicaragua	

In addition to this, the following developed countries could be included in the Pilot Phase:

- USA - due to the number of tribal institutions/governments already providing renewable energy to their communities.
- Australia and New Zealand - have communities with positive experiences that can be built on and shared.

This is an initial list that will be subject to further analysis and coordination. Early activities will include a scoping study to establish: baseline data; indigenous community needs, opportunities and problems with renewable energy developments; assess potential forms of appropriate energy; potential partners and financing.

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