7 Affordable and Clean Energy
How business leadership can advance Goal 7 on Affordable and Clean Energy

The world falls significantly short of ensuring access to affordable, reliable, sustainable and modern energy for all and meeting the targets it has agreed for clean energy penetration and energy efficiency. More than 1 billion people (15 per cent of the global population), mainly in rural communities, lack access to electricity. More than 40 per cent of the global population currently lacks access to clean fuels and technologies for cooking. The share of renewable energy in final energy consumption remains at around 18 per cent, and, despite recent advances in solar and wind power, much of this is through hydroelectric power. There are particularly acute challenges to increasing the share of renewable energy in the heat and transport sectors, which together account for 80 per cent of global energy consumption. Despite improvements, many of the world’s largest energy consuming countries are not increasing their rates of energy efficiency at the speed that the global community has agreed is necessary.

Businesses have an essential part to play in driving the financing and development of technologies needed to achieve Goal 7. The private sector accounts for half of the world’s energy consumption, so it has significant scope to increase energy efficiency and source energy from renewable sources. Businesses supply energy and energy-consuming products and services to consumers, which they can make clean and efficient in use. They can also make these affordable to enhance access for underserved populations.

Given the scale of the challenge and the vital role of business, there is significant scope for leadership. Companies with energy intensive operations can significantly increase energy efficiency and source remaining energy needs from renewable sources. Where companies have energy intensive supply chains, they can promote similar action through supplier selection and build capacity among their suppliers to do the same. Leading companies can also leverage their skills to create and deploy new, affordable sustainable energy and energy efficiency products and services. They can also develop and implement business models to deliver sustainable energy and energy efficiency technologies to new markets and communities, supporting the goal to create universal access to sustainable energy.

Improving access, efficiency, and sustainability in energy supply around the world provides a significant market opportunity for business. Investment of $1 trillion each year required to deliver Goal 7, several times larger than current levels of spending on energy efficiency, renewable energy, and energy access. Energy efficiency and low-cost renewable energy sources offer cost reduction opportunities for businesses in their own production activities. Powering new communities with renewable energy technology supports complementary markets for business products and services, and the market for clean cooking solutions is starting to mature, providing opportunities for business.

Expanding access to sustainable energy supports progress on other SDGs. It is a crucial input to reducing poverty (Goal 1) and improving health (Goal 3), increasing productivity, enhancing competitiveness and promoting economic growth (Goal 8), and the energy transition is a necessary enabling factor for climate action (Goal 13) and sustainable cities and communities (Goal 11). Companies should carefully manage the risk that action on Goal 7 leads to negative impacts on other SDGs. Increasing energy access through supply of additional hydroelectricity, for example, could have an adverse impact on environment (Goals 14 and 15) and local communities dependent on land near water resources for their livelihoods (Goal 1 and 2). Expanding supply with fossil fuel-based energy sources could endanger the delivery of Goal 13. Leading businesses manage these risks to support the full SDG agenda.
Business Actions in Support of Goal 7

Targets of Goal 7

7.1 Universal access to affordable, reliable and modern energy services

7.2 Increase the share of renewable energy in the global energy mix

7.3 Double the global rate of improvement in energy efficiency

Business Actions

1. Significantly increase energy efficiency, source remaining energy needs from renewable sources, and promote the same action across the supply chain through supplier selection and support

2. Research, develop, and deploy affordable sustainable energy and energy efficiency products and services

3. Develop and implement business models to deliver sustainable energy and energy efficiency technologies to new markets and communities
Do your actions satisfy the Leadership Qualities?

**Intentional**
- Is your company committed to supporting the achievement of Goal 7? Have you developed a holistic strategy that reflects this commitment, covering end-to-end operations and the wider community?
- Are you committed to learn from your actions and do you have processes in place to improve them accordingly?
- Is your strategy supported by the highest levels of management, including the Board of Directors?

**Ambitious**
- Do your actions achieve long-term outcomes that greatly exceed those resulting from current industry practice?
- Are your actions aligned with what is needed to achieve Goal 7?

**Consistent**
- Is support for Goal 7 embedded across all organizational functions?
- Are staff and board incentives aligned with achieving Goal 7?

**Collaborative**
- Do you proactively look for opportunities to partner with Governments, UN agencies, suppliers, civil society organizations, industry peers and other stakeholders to inform how to advance Goal 7?

**Accountable**
- Do you publicly express your commitment to advance Goal 7?
- Do you identify, monitor, and report on impacts, including potentially adverse impacts?
- Do you mitigate risks associated with your action?
- Do you remediate negative impacts associated with this action?
- Do you engage stakeholders in a meaningful way?

Integration of the commitment to Goal 7 in the corporate strategy, and top-level leadership, are key to realize the fundamental shifts in business activities and deliver the required technology and business model innovation.

Ambitious action on Goal 7 galvanizes financial flows at scale towards the deployment of new technologies and business models for universal access to sustainable energy and energy efficiency. It has an impact that goes well beyond the company’s own operations and is consistent with the quantitative targets of Goal 7.

Advancing Goal 7 requires all organizational functions to be aligned so as to maximize cross-fertilization of ideas and to leverage all available resources; it is also essential that actions by one business unit do not negate positive impacts by other units.

Collaboration with other stakeholders is key to advancing Goal 7; it requires responsibly working with Governments on policy; cross-sector partnerships to exchange innovation; and engaging with communities to understand energy needs, can all drive progress.

The deployment of new technologies at scale carries many risks of negative impacts on local communities that need to be carefully managed, particularly where significant use of land and resources is required, such as for hydropower, biofuels, and large power plants and transmission infrastructure.
How taking action on Goal 7 is interconnected with other Goals

The Global Goals are inherently interconnected. Action taken toward one Goal can support or hinder the achievement of others. Identifying and addressing these interconnections will help business to build holistic and systemic solutions that amplify progress and minimize negative impacts. To help build a greater understanding, we have illustrated some of the ways in which the Goals connect. These are not exhaustive, and we encourage business to consider how they apply in their own operations.

Maximise likelihood of positive impact on:

Given the link between energy access, efficiency, economic growth, and green jobs (Goals 8 and 12), expanding energy access and increasing energy efficiency is likely to improve incomes, especially in rural areas, which can help reduce poverty and hunger (Goals 1 and 2). Clean energy, including for cooking, can reduce local and domestic pollution, contributing to health (Goal 3). Deploying renewable energy technology can provide access to energy without increasing carbon emissions. This will support national and international targets on climate mitigation (Goal 13). Expanding access to energy can advance goals related to infrastructure, especially in cities and developing countries, which is necessary to support sustainable development (Goals 9 and 11). Increasing access to energy can reduce inequalities between and within countries and sexes (Goals 5 and 10).

Minimise risk of negative impact on:

High impact energy generation projects including large hydroelectric dams can have adverse impacts by displacing people and erasing essential parts of their livelihoods, which could threaten progress on reducing poverty, hunger and inequalities (Goals 1, 2 and 10). If priorities are not carefully managed by businesses, the use of agricultural land for growing biomass crops can have negative impacts on reducing hunger (Goal 2) and cause deforestation (Goal 15).
BUSINESS ACTION 1
Significantly increase energy efficiency, source remaining energy needs from renewable sources, and promote the same action across the supply chain through supplier selection and support

A transition to a sustainable, clean energy system requires significant shifts in both the demand and supply of energy. On both sides, companies have a crucial role to play. All companies have a responsibility to seek energy efficiency improvements and source energy from clean sources. Leading companies inspire peers and other stakeholders to take action. They do so by committing to steep reductions in their energy use through efficiency improvements and fulfilling the rest of their energy requirements from renewable sources. They also support similar action throughout their supply chain, by building partnerships with, and capacity in, strategic suppliers, and through supplier selection. Businesses often undertake these activities at the same time as reducing the energy use associated with the consumption of their products and services.

Example practice

• A major furniture company drives energy efficiency throughout its supply chain. It focuses on energy efficiency improvements including through smart building management systems, LED lighting, and power quality optimisation and fuel cells; and makes significant advances towards its goal to produce more renewable energy than it needs by 2020

• A healthcare manufacturer sources all energy from renewables and maximises procurement of inputs from suppliers that use 100 per cent renewables, including through supporting waste-to-energy technology in its supply chain through sending manufacturing waste to cement kilns for reuse

Consider the leadership qualities and interconnectedness of your action, including...

Intention: action to fundamentally alter the energy needs and sources of a company requires top-level leadership and a strong commitment in the company strategy to drive credibility and commitment of employees.

Ambition: ambitious action has a wide scope, encompassing the supply chain. The improvements targeted within that scope should, where applicable, be consistent with or exceed quantitative ambitions set in the Goal 7 targets.

Collaboration: collaborations can be very effective to achieve energy efficiency and clean energy goals, not only with supply chain members, but also with peers and government; for example by setting an industry-wide renewable portfolio standard.

Interconnectedness: energy efficiency and clean energy contribute to Goal 12 (sustainable production and consumption) and Goal 13 (climate action). There are significant risks of negative impacts associated with clean energy provision that must be carefully managed. These include using agricultural systems to grow energy crops rather than food for consumption, which can negatively impact on Goal 2 (zero hunger).
BUSINESS ACTION 2
Research, develop, and deploy affordable sustainable energy and energy efficiency products and services

Companies can lead on Goal 7 by leveraging their skills to create and deploy products and services that are energy efficient and clean in use. They can also lead through researching, developing, and deploying products and services that improve access to energy for marginalized and disadvantaged groups. To be leading, these products and services should facilitate the fundamental changes that are necessary for a successful transition to a sustainable energy system and ensure access to sustainable energy for all, including through setting the right levels of affordability. Technological developments can tremendously advance energy access, energy efficiency and the use of clean energy across energy and industry, buildings and appliances, transport, and agriculture; but there is also significant scope for service innovation to achieve the same through, for example, developing innovative financial products. Leadership may also call for collaboration with customers to ensure the best possible product or service fit. This is particularly relevant for public procurement, which has large sustainability implications, but where capacity gaps may hinder adequate decision making.

Example practice

• A car sharing company converts to an all-electric fleet, deploying energy efficient transport technology across all of its markets

• A lighting company introduces community light centers, enabling social and economic development after dark for communities off the grid throughout Africa and Latin America. It also supplies LED lanterns that significantly reduce lighting costs, last ten times longer than traditional lightbulbs, and prevent women and children from inhaling smoke from indoor kerosene lamps and wood fires

• An electric utility launches innovative mobile finance technologies offering pay-as-you-go and blockchain models to provide affordable financing models to help communities access renewable energy, despite high upfront costs

• An engineering company pioneers innovations in technology and IT for low-voltage micro-grids that can help accelerate the roll out of renewable energy by facilitating the integration of small-scale wind or solar energy capacity with battery energy storage systems

Consider the leadership qualities and interconnectedness of your action, including...

Collaboration: collaboration with customers is often key to ensure product and service fit. Collaboration can also take the form of sharing intellectual property with peers to create an open innovation system with the capacity to produce breakthrough innovations

Accountability: the development of energy products and services for vulnerable groups requires adequate safeguards and management of any risks of negative impacts, including from technical failures, hazardous waste, and environmental pollution

Interconnectedness: investment in innovation around sustainable energy products and services can significantly advance innovation (goal 9) and climate action (Goal 13). However, electrification of transport and other energy services is only sustainable to the extent that electricity in the system is derived from low carbon sources.
BUSINESS ACTION 3
Develop and implement business models to deliver sustainable energy and energy efficiency technologies to new markets and communities

Over one billion people lack access to electricity, many of whom live in remote areas far from electricity grids, while 2.7 billion rely on the traditional use of biomass for cooking. Energy providers in such areas have a responsibility to work with Governments and other stakeholders to facilitate energy access. Leading companies can create and implement new business models, and bringing modern energy efficiency technologies to new markets and underserved communities. These can include business models around the installation and operation of mini- and micro-grids, energy storage systems, and recycling of car batteries to provide electricity to buildings, as well as innovative service models to deliver energy to communities that cannot participate in traditional tariff-based systems. Leading companies work across markets and sectors to develop new systems of energy generation, delivery, and efficiency in areas with low levels of sustainable energy supply.

Example practice

- An energy company **recycles spent EV batteries** to provide energy storage for renewable electricity systems on islands without access to grid-based energy
- A food manufacturer **generates electricity and advanced biofuels from renewables fuelled boilers** in its sugar mills, providing energy to local communities
- A heating and cooling company **launches a distributed energy and district heating product** enabling institutional heat and power consumers to control local energy supply and benefit from improvements in energy efficiency

Consider the leadership qualities and interconnectedness of your action, including...

**Accountability:** business models to deliver sustainable energy and energy efficiency solutions to new markets and communities often affect vulnerable groups. This requires adequate safeguards and management of any risks of negative impacts from the product and services that are deployed.

**Interconnectedness:** business models for sustainable energy and energy efficiency delivery can advance goals related to sustainable infrastructure (Goal 9) and communities (Goal 11). Improved access to sustainable energy and energy efficiency can have significant positive impacts on reducing poverty (Goal 1) and advancing health (Goal 3), especially in areas currently reliant on indoor combustion of biomass for energy; although care should be taken to minimise the risk of negative impacts on
References

SDG Compass
UN Global Compact Industry Matrix
Global Opportunity Explorer
Navigating the SDGs: a business guide to engaging with the UN Global Goals
Sustainable Development Knowledge Platform, Goal 7
SDG Reporting - An Analysis of the Goals and Targets
Sustainable Energy For All Global Tracking Framework
Energy efficiency: A compelling global resource
We Commit: Business for Energy Efficiency at COP21 briefing
Mapping Mining to the Sustainable Development Goals: An Atlas
Guide for responsible corporate engagement in climate policy