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Going beyond SDG7: sustainable energy

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Selection of key terms

Bioenergy: energy produced from any organic matter (biomass)

Conventional energy: non-renewable energy, such as oil, gas and coal

Geothermal energy: heat from below the Earth's surface which can be used to produce energy

International Monetary Fund (IMF): an independent agency within the United Nations (UN) system that tackles global monetary cooperation within its 190 member countries whilst securing financial stability, sustainable economic growth and reducing poverty around the world (amongst other goals)

International Organisation for Migration (IOM): a UN agency that tackles SDG6 with its "Water, Sanitation and Hygiene" (WASH) services to prevent the spread of diseases

Hydropower: energy that comes from the flow of water, including wave and tidal power

Kyoto Protocol: adopted in 1997, ratified in 2005, 192 parties follow the non-binding Kyoto Protocol which tackles industrialised countries and economies in transition to limit and reduce greenhouse gases emissions according to individual parties' pledges and targets

Millennium Development Goals (MDG): global effort tackling poverty that started in 2000 and was replaced by the SDG in 2012

Paris Agreement: legally binding international treaty on climate change, adopted by 196 parties.

Renewable energy: energy from sources that are naturally replenishing and inexhaustible in duration

Smart grids: combines and coordinates the creation, storage and usage of energy, to optimise economical and environmental sustainability

Sustainable Development Goal (SDG): 17 goals set by UN General Assembly for 2030

Sustainability: the ability to maintain a process continuously over time, neither impeding the current nor the future generation's possibility to maintain it.

United Nations Framework Convention on Climate Change (UNFCCC): an international treaty set up to address human-made interference with the climate, especially addressing the emission of greenhouse gases

Introduction

While there are 17 different Sustainable Development Goals (SDGs), this conference focuses on the seventh Goal (SDG7), affordable and clean energy, yet recognising that SDG7 cannot be achieved in isolation, but that many of the SDGs are interrelated.



Image source¹

The history of the SDGs can be traced back to Agenda 21, which was a comprehensive plan of action to build a global partnership for sustainable development to improve human lives and protect the environment. Agenda 21 was created in June of 1992 during the Earth Summit in Rio de Janeiro, and over 178 countries adopted it.

A step on from Agenda 21 was the establishment of eight Millennium Development Goals (MDGs) at the United Nations (UN) Millennium Summit in New York in September of 2000, designed as a set of guidelines to reduce extreme poverty by 2015. During the World Summit on Sustainable Development in South Africa in 2002, the global community's commitment to poverty eradication and the environment was reaffirmed. This was built on the existing Agenda 21 and the MDGs but with an increased emphasis on multilateral partnerships.

At the United Nations Conference on Sustainable Development (Rio+20) in Rio de Janeiro in 2012, the document "The Future We Want" was created. This detailed a plan to build upon Agenda 21 and the MDGs. Rio+20 also established the UN High-Level Political Forum on Sustainable Development. Rio+20 also led to other sustainable goals like helping to finance small island developing nations.

In 2013 an Open Working Group was set up by the General Assembly to develop the SDGs and in 2015 the General Assembly started its debate on the post-2015 development agenda. This process ended in September 2015 at the UN Sustainable Development Summit with the 2030 Agenda for Sustainable Development, and the 17 SDGs we know today.

¹ <https://www.undp.org/sustainable-development-goals>

2015 was not only the year of the current SDGs, but also the year of further important agreements that are included in this landmark year. Three of them are:

- Sendai Framework for Disaster Risk Reduction (March 2015)
- Addis Ababa Action Agenda on Financing for Development (July 2015)
- Paris Agreement on Climate Change (December 2015)

The Paris Agreement was created in 2015 to strengthen the global response to the threat of climate change by financing modern technology and creating an enhanced capacity-building framework. The Paris Agreement also works to strengthen the ability of countries to deal with the impacts of climate change.

Two further summits in 2019 discussed two distinct aspects, one was dedicated to climate change (Climate Action Summit) and the other to the SDGs. The 2019 Climate Action Summit was dedicated to continued commitment to the reduction of greenhouse gases. It was also considered a boost in momentum, cooperation, and ambition. The 2019 Sustainable Development Summit followed up on the target goals and reviewed the progress in the implementation of the 2030 Agenda for Sustainable Development and the 17 SDGs. The summits were mostly successful, and the Assembly was committed to these goals. However they are not on track to meet these goals by 2030.

The UN also has put various “Acceleration Actions” into place, which aim to inspire and mobilize actions around the world to promote the implementation of the SDGs. They also aim to build resilience and bring inclusive recovery from the Covid-19 crisis, so that the global economy, planet, and people can emerge stronger from the realities we live in.

The SDG7

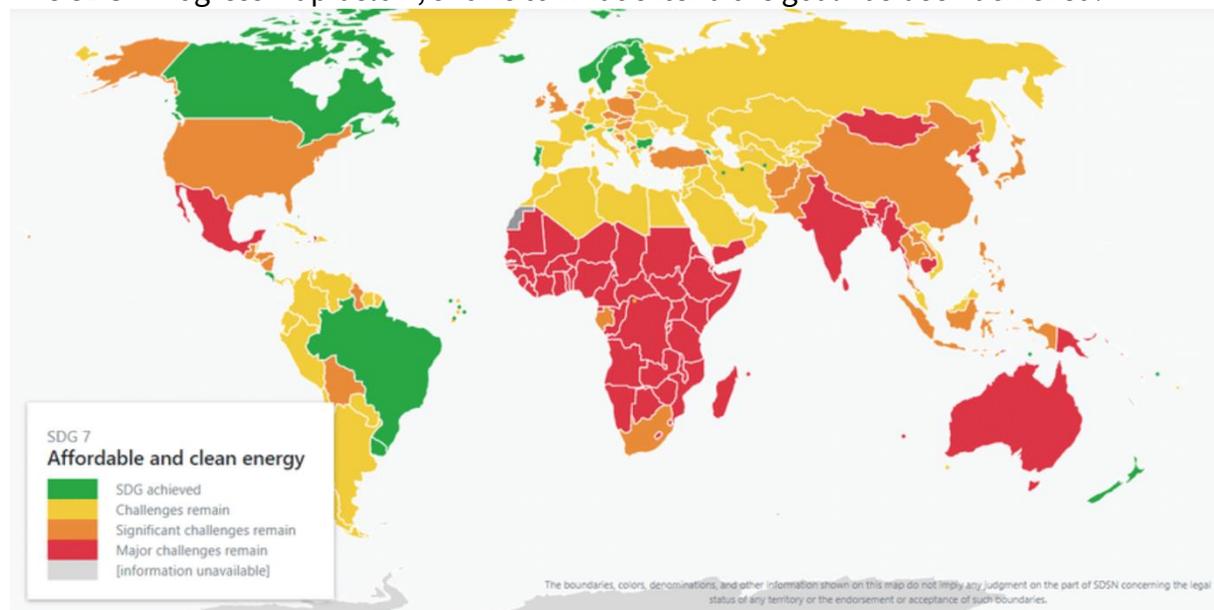
Summary

The SDG7, affordable and clean energy, is one of the 17 SDGs set by the UN in 2015.

The SDG7 was made to “ensure access to affordable, reliable, sustainable and modern energy for all”. It does so by setting five smaller goals:

- 7.1: universal access to modern energy
- 7.2: increase the global percentage of renewable energy
- 7.3: double energy efficiency
- 7.A: promote access to research, technology and investments in clean energy
- 7.B: expand and upgrade energy services for developing countries

The SDG7 Progress Map below, shows to what extent the goal has been achieved.²



Background

Our current world consists of numerous fossil-fuel driven economies, hence creating a dangerous and anomalous issue for humanity. The ongoing pattern of global warming has evidenced through storms, glaciers melting, floods, fires, and droughts, compelling an accelerating sense of urgency to put an end to the fossil fuel era.

In an increasing consensus, the views formed rely on the idea that the process of ending the use of fossil fuels should be completed mainly by the strategy of transitioning to renewable energy, in order to successfully address the current climate crisis. The topic of renewable energy, however, could be considered as controversial due to the variety of perspectives and approaches by different member states, influenced by factors such as financial availability, politics, geographical position, as well as the urgency of the issue of climate change.

² https://www.researchgate.net/figure/Map-showing-the-progress-of-sustainable-development-goal-7-SDG7-affordable-and-clean_fig2_341203774

Despite the growing seriousness of the issue, the installation of renewable energy sources and technologies has been refused or delayed due to the lack of finance and relatively high price of given reusable energy sources. Not all parts of the world view such technologies (i.e., solar panels, wind turbines) as investments, hence raising the question of whether implementing renewable energy sources is the dream strategy. Some countries geographically positioned in areas with large amounts of fossil fuels, benefits from the extraction, export and consumption of fossil fuels, therefore not acknowledging the issue, as the industry creates jobs, and its export and national consumption contributes to the Gross Domestic Product.

Since the Industrial Revolution, human activities have contributed substantially to climate change through greenhouse gas emissions and reflectivity or absorption of the Sun's energy. The key greenhouse gases, carbon dioxide, methane and nitrous oxide, and their concentrations are now more abundant in the Earth's atmosphere than any time in the last 800'000 years. These greenhouse gas emissions have increased the greenhouse effect and caused the Earth's surface temperature to rise.

To try and tackle this climate crisis, many governments have recognized and started to implement policies to promote the use of renewable energy sources that do not require the burning of fossil fuel to run, to produce fewer or no greenhouse gases.

Installing plants for such new energy sources like solar power and wind energy sources needs manual labour. Wind turbine technician is the fastest growing job in the US and solar photovoltaic installers are currently in third place. This will only grow as we turn more to renewable energy sources to slow environmental damage and find alternatives to dwindling fossil fuels.

As with any technology that has already been established for some time, fossil fuels are much cheaper to fund. When adding up the cost of installing solar panels, for example, one must consider the cost of purchasing each piece of equipment, transporting it to the site, and maintaining it once it has been installed. In addition, the equipment and parts required to construct wind turbines or solar panels often have to be shipped nationally or globally. This use of long-distance transportation is certainly a culprit for more pollution, though far less when compared to the long-term impact caused by extracting fossil fuels. There is also the geographic limitation as for example, wind energy can only be harnessed in areas that get a lot of wind. Wind farms are most often seen on the tops of hills or offshore; natural locations not present in every country.

Concerns relating to the SDG7

The SDGs are set to be achieved by 2030. These goals were built on the idea of abolishing poverty worldwide and are based on the assumption that they are all interconnected, and that only the combined effort of all nations to address these goals will be make it possible to achieve them.

Several of the SDGs are closely related to the SDG7. Just one example is SDG1, no poverty: sustainable and clean energy brings very little to those who live in poverty and are focused on surviving from day to day.

The other SDGs are concentrated on other parts of diminishing all sorts of poverty, yet are closely related, for instance:

- the SDG6 is established to “ensure availability and sustainable management of water and sanitation for all”, which is aimed to achieve by, but not limited to, reducing pollution, implementing integrated water resources and expanding international cooperation.
- the SDG8 is set up to “promote sustained, inclusive and sustainable economic growth, full productive employment and decent work for all,” by achieving higher levels of productivity and promoting development-oriented politics.
- the SDG10 is to “reduce inequality within and among countries,” which is to be achieved by empowering and promoting the social, economic and political inclusion of all and ensuring enhanced representation and voice for developing countries.
- the SDG11 was created to promote housing and cities that are not only safe to live in but also safe for the environment. It aims to help people living in slums exit these areas and potentially rebuild them into sustainable eco-friendly housing and residences. Over 1 billion people living in slums live in 1 of 3 main areas. By focusing their attention to these areas, the UN can increase the safety of housing along with the sustainability of cities. Many of these slum filled areas can be turned into sustainable housing with minimal resources and the UN aims to do this with SDG11. SDG11 also aims to provide more easily accessible public transport. While over 150 nations have created National Urban Policies to reduce slums and increase sustainability, only roughly half of these nations are in an implementation phase.
- the SDG12 aims reduce the consumption of harmful waste and pollution as well as limiting the production of such. E-waste counts for an overwhelming 70% of all toxic waste with between 20-50 million tons being produced each year worldwide. Much of this e-waste is precious metals such as gold and silver which, if recycled, can be put to good use in creating sustainable products. Further, plastic waste accounts for most of all waste with 5 trillion plastic bags, commonly found in supermarkets, being thrown away each year. The US alone uses 17 million barrels of oil every year, enough to power roughly 1.3 million cars for a year for plastic consumption.
- The SDG13 focuses on fighting the ever-growing threat of a climate crisis. As pollution rises at an unprecedented rate, CO₂ emissions rise causes global warming. The global average temperature as of 2020 is 1.2°C above the pre-industrial baseline. The Paris Agreement, aimed to stay at or below 1. 5°C by 2050 is becoming dauntingly close to seeming implausible if change is not made quickly.

- SDG15 aims to promote the sustainable use of land and sustainably manage forests whilst preventing desertification, land degradation and biodiversity loss. Around over one fourth of the species listed on the International Union for Conservation of Nature (IUCN) red list are close to extinction. However, the UN and nations have been taking measures to protect biodiversity and ecosystems with 43% of key terrestrial area protected, 42% of freshwater areas and 41% of mountainous regions. Progress has been made to prevent deforestation and increase forest sustainability but in the past 2 decades, over 100 million hectares of forest have been lost.

While the SDGs mentioned above are distinct from the SDG7, it should also be clear that they all are interrelated.

Diverging opinions of Member States

Different countries have distinct perspectives on how to address the SDG7 and the other SDGs, due to diverse amounts and types of resources, political leaders and opinions of the populations. In addition, countries located in different part of the world have experienced or are anticipating the impact by climate change differently. That then gives the impacted countries different incentives to address the current situation.

Countries unaffected or less affected might not recognize the issues until having to deal with them first-hand. For example, recent and extreme flooding in Germany has resulted with the country setting a target of 100% of its energy usage coming from renewable resources.

While the need to take action is accepted by most member states, the thoughts about who should take action and what type of action that must be taken differ. For instance, can it be expected that poorer countries take action, when our current issues to a large extent stem from centuries long pollution of the developing world? Although the long term benefits may be clear, how should one cope with the short run increasing costs? To what extent should the SDG7 be prioritized, both in relation to the other SDGs and in relation to other expenditure (education, military, health care etc.).

Selection of approaches to the question of sustainable energy

- Transitioning from conventional energy sources to renewable energy sources, whilst also ensuring that these renewable energy sources are green and do not emit greenhouse gases.
- Aiming to consume less energy by improving and modernizing energy infrastructure such as smart grid solutions and cities, whilst also replacing old devices with energy efficient ones.
- Promote investments in energy infrastructure refurbishing the energy infrastructure.
- Raising awareness in the general population and increasing energy efficiency initiatives amongst individuals, done through campaigns, advertisements, and posters in public spaces.
- Expand infrastructure and upgrade technology in developing countries.
- Increasing access to electricity in less-developed countries, also encouraging the usage of renewable, reliable, efficient energy sources. This includes improving the access to clean and safe cooking fuels and technologies.
- Providing a global reporting platform to register progress on energy statistics, such as access, efficiency, and renewability.
- Expanding the use of renewable and green energy beyond the electricity sector, such as including renewable energy access within the industrial and working towards green transportation.
- Reducing the strain on natural resources by decreasing the overconsumption of energy, in doing so prevention or reliance on coal, fossil fuels, and oil.
- Further reducing energy waste, which will increase our energy savings, but requires both individual and collective action.
- Ameliorating the energy distribution system, therefore decreasing the number of malfunctions and power outages, which can raise expenses.
- Increase focus on storage technologies such as batteries and making these more accessible and cost-effective, which will move people towards renewable energy sources and make them more effective.
- Improve the operation and regulation of the grid, including the way customers access the grid and how they pay for their energy supply.
- Etc.

Bibliography & further reading

United Nations sources

www.sdgs.un.org/goals
www.un.org/development/desa/disabilities/envision2030.html
www.un.org/en/academic-impact/
www.un.org/en/chronicle/article/sustainable-urban-energy-future
www.un.org/en/climatechange/science/key-findings#collapseSeven
www.un.org/millenniumgoals/bkgd.shtml
www.un.org/sustainabledevelopment/
www.undp.org/content/oslo-governance-centre/en/home/sustainable-development-goals/background.html
<https://www.undp.org/sustainable-development-goals>
www.unep.org/explore-topics/energy/what-we-do/renewable-energy
www.unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement
www.unstats.un.org/sdgs/report/2021/goal-08/

News & magazine sources

www.bbc.com/news/world-australia-50980386
www.nationalgeographic.com/environment/article/why-is-it-that-other-countries-can-change-their-energy-mix-and-we-cant
www.nature.com/articles/s41598-021-03635-8#Sec7
www.reuters.com/business/sustainable-business/germany-aims-get-100-energy-renewable-sources-by-2035-2022-02
www.sciencedirect.com/science/article/pii/S2214629617303468
www.theguardian.com/environment/2020/jul/02/10bn-precious-metals-dumped-each-year-electronic-waste-un-toxic-e-waste-polluting
www.vox.com/energy-and-environment/2019/6/18/18681591/renewable-energy-china-solar-pv-jobs

Other sources

www.eea.europa.eu/signals/signals-2017/articles/energy-in-europe-2014-state-1
www.epa.gov/climatechange-science/causes-climate-change
www.habitsofwaste.org/call-to-action/plastic-bottles/
www.imf.org/en/About
www.irena.org/-/media/Files/IRENA/Agency/Publication/2016/IRENA_Measuring-the-Economics_2016.pdf
www.mitpress.mit.edu/books/renewables
www.oecd.org/fr/dev/developing-countries-and-the-renewable-energy-revolution.htm
www.postcarbon.org/controversy-explodes-over-renewable-energy/
www.power-technology.com/features/politics-and-energy/
www.researchgate.net/figure/Map-showing-the-progress-of-sustainable-development-goal-7-SDG7-affordable-and-clean_fig2_341203774
www.statista.com/statistics/266414/unemployed-persons-worldwide/
www.us19.campaign-archive.com/?e=&u=2dca09f67efb6fc090574a83f&id=d5de5ff834
www.weforum.org/agenda/2018/03/clean-energy-can-provide-100-of-a-city-s-electricity-here-s-how/