MODULE 5
Sustainable Development
Goal No 13

13 CLIMATE ACTION

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Agenda

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List of abbreviations

MDG – Millennium Development Goals
SDG – Sustainable Development Goals

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1. Introduction to SDGs

On September 25th, 2015 world leaders unanimously agreed on adopting an ambitious and more focused plan of action that takes over after the end of mandate of the Millennium Development Goals (MDGs). This new agenda, "Transforming our world: the 2030 Agenda for Sustainable Development" (Sustainable Development Knowledge Platform, 2017) incorporated 17 Sustainable Development Goals (SDGs) defined as well as sub-operationalized with 169 targets to be achieved by 2030. The SDGs attempt to make sustainable development a lived reality for everyone. This long-term strategic approach to address global challenges is an important factor of the SDGs.

They seek to realize the human rights of all peoples, to achieve gender equality, reduce poverty, and ensure a better quality of life for all. For sustainable development to be achieved, it is crucial to harmonize three core elements: economic growth, social inclusion and environmental protection. These elements are interconnected and all are crucial for the well-being of individuals and societies. Thus, current challenges are not typical only for some countries, but reflect common issues and thus require joint focused interdisciplinary actions that should mobilize all communities. Most governmental programmes and action plans have a rather short life span, and the sustainability of these programmes or action plans is often questionable by changes in the government and political agenda on all levels. In this regard, the SDGs set targets for the long-term, aiming at the next 12 years. This has the potential to minimize the risk of failure during implementation.

1.1 Defining SDG 13

According to the United Nations (2015a), Goal 13 is "take urgent action to combat climate change and its impacts", acknowledging that the United Nations Framework Convention on Climate Change[1] is the primary international, intergovernmental forum for negotiating the global response to climate change.

The targets of this SDG are:

- Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries;
- Integrate climate change measures into national policies, strategies and planning;
- Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning;
- Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly $100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible;
- Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and Small Island developing States, including focusing on women, youth and local and marginalized communities.

Each target will have its indicators monitored throughout the next 15 years. More details about the indicators and their framework are listed in the United Nations Statistics Division (2017).

1.1.1 Significance of SDG 13

Having a specific SDG for Climate Change is an advance when compared to the Millennium Development Goals (MDGs). Although the MDGs was also committed to climate action, having a specific goal with their own targets is a progress in terms of monitoring and ability of measuring success. The Millennium Development Goals Report (United Nations, 2015b) concluded that climate change is an environmental challenge the world is facing and its impacts represent a step back to MDGs, remaining much work for post-2015 period.

In order to allow all the nations to take urgent action and assume climate change as a priority, it is necessary to understand how it happens and its impacts. Figure 1 shows the

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[1] The United Nations Framework Convention on Climate Change (UNFCCC) was created in 1992, during the "Earth Summit", as a first step in addressing the climate change problem. 197 countries have ratified the Convention and committed to prevent "dangerous" human interference with the climate system. The UNFCCC is one of the three legal instruments of United Change to face climate change – the others are the Kyoto Protocol and the Paris Agreement. (United Nations, 2017a).

impacts and main sectors affected, expressing the real meaning of climate change and importance of SDG 13.

Figure 1 - Climate change impacts

Impact	Description	Main affected sectors
Temperature rise	Greenhouse gases absorb the sun's energy, keeping the earth's surface warm and regulating our climate. These gases exist naturally, but some activities have been increasing the greenhouse gas emissions and this process was intensified (especially by human activities that add more carbon gases to the atmosphere, such as industrialization, burning fossil fuels for energy and deforestation). Then, the temperature increases and it affects all countries.	Agriculture Ecosystems Energy Forests Society Transportation Water resources Human health
Change in weather/ precipitation patterns	The increase in global temperature changes the weather, seasons and precipitation patterns. Different places worldwide have been witnessing periods of intense rainfalls or droughts different than usual, and these events are becoming more frequent and unpredictable.	Agriculture Coasts Ecosystems Energy Forests Society Water resources Human health
More extreme events	The warming climate also favours more extreme droughts, heat waves, cyclones, hurricanes, forest fires, and intense rainfall and floods. Projections show the increase of these events as the climate warms, and the consequences affect lives, economies and ecosystems.	Agriculture Ecosystems Society Transportation Water resources
Melting glaciers and polar ice	The more the temperature increases, the faster the glaciers and polar ices melt. Massive amounts of ice have been melting into the ocean, compromising ecosystems balance and affecting many species; at the same time, more countries are experiencing the increase of frost-free seasons (number of frost-free days per year), another indicative of climate change.	Coasts Ecosystems Energy Water resources
Sea level rise and increased temperature	The consequence of glaciers melting and seawater expansion due to warm temperatures is the contribution to sea level rise. The global level has risen around 8 inches since 1880, and projections estimate the rise of more 1 to 4 feet by 2100 (considering the current scenario). This is already a climate change impact for many regions around the world, and represents a risk for many other coastal areas and their population.	Coasts Ecosystems Energy Transportation Water resources
Air pollution	Climate change turns air pollution into an even worse problem, especially because of complex interactions between greenhouse gases and the atmosphere, altering the energy balance of the earth's surface. The effects are serious to the environment and also for people's health.	Ecosystems Forests Society Human health

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Source: Based on European Commission (2010); Global Climate Change (2017); Greenpeace (2017); World Wildlife (2017); United States Environmental Protection Agency (2017).

All targets of SDG 13 are meant to address these impacts, not only by investing in the problem source (through education, policies and planning), but also by developing strategies so that all nations are prepared to face changes and effects (through strengthening resilience and mitigation actions). As the definition of the goal states, climate action has to be urgent, since many sectors have been affected and it is due mainly to human activities.

1.1.2 Advantages of SDG 13

Climate Action is indeed an urgent matter and may have different effects depending on the region, but overall the trend is for local, regional and global effects that can harm both developing and developed countries. As climate change already affects countries on all continents, through changes in weather seasons and patterns, extreme events and rising sea levels, SDG 13 addresses issues ranging from risks to agriculture, water supply, food production and ecosystems, to energy security and infrastructure (Reckien et al., 2014; Chirambo, 2016; World Bank, 2017; Prag, 2017).

Some positive factors of SDG 13 that express its necessity and benefits are presented below:

a) SDG 13 will complement mechanisms already in use. Climate Action as a goal will act like a complement to the Kyoto Protocol, Paris Agreement and the Conferences of the Parties (COPs). The Kyoto Protocol was adopted in 1997, as a strategy to strengthen the global response to climate change and legally binds developed-country UN Parties to emission reduction targets. Out of the 197 Parties of the United Nations Framework Convention on Climate Change (UNFCCC), there are 192 Parties committed to the Kyoto Protocol (United Nations, 2017a). Another effort to combat climate change globally is the Paris Agreement, which intends to accelerate and intensify actions for a sustainable low carbon future. This agreement was ratified by 170 UN Parties, and represents an ambitious strategy to face climate change and its impacts, besides supporting developing countries to do so (United Nations, 2017a). Its key aim is to keep global temperatures from rising no more than 2°C this century and limit the increase to 1.5°C. These legal strategies are results of the Conference of the Parties (COP) that is the supreme decision-making body of the UNFCCC and happens every year, when all Parties review national communications and emission inventories, check results and assess the progress of measures taken by Parties. The COPs are international meetings where climate politics are largely discussed and represent the opportunity for the Convention to make decisions to promote its effective implementation (Schäfer and Schlichting, 2014; United Nations, 2017b).

b) SDG 13 works on already existing problems, but promotes the "urgent" action and specific targets. One of the greatest evidences of climate change is the increase in global temperature. According to Figure 2, that presents global anomalies in temperature with respect to the 20th century average between 1980 and 2017, temperatures have gradually risen for the past 30 years - with increased anomalies in recent years.

Figure 2 - Global anomalies in the temperature with respect to the 20th century average
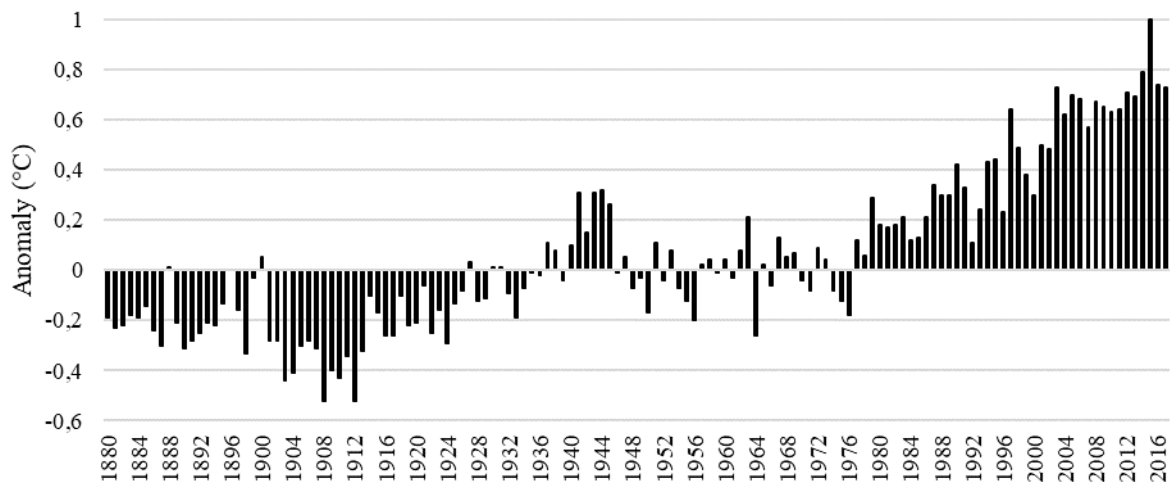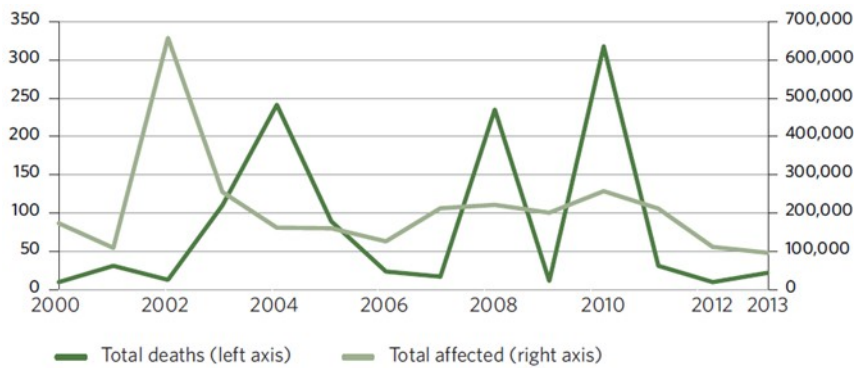

Source: Prepared by the authors based on National Oceanic and Atmospheric Administration - NOAA (2017).

According to the Intergovernmental Panel on Climate Change (IPCC, 2013), from 1880 to 2012, average global temperature increased by 0.85°C; from 1901 to 2010, the global average sea level increased around 19 cm (mainly due to ocean warming expansion and melted ice); and carbon dioxide (CO_2) concentrations in the atmosphere have increased by 40% since pre-industrial times. Many disasters are exacerbated by climate change and they have been increasing in frequency and intensity. Although the number of people affected varies from year to year, around 80,000 people died and 210 million were affected annually as a result of natural disasters occurring from 2000 to 2013 (United Nations, 2016), as shown in Figure 3.

In this context, SDG 13 shows to officially call urgent actions, promoting policies and investments, improving education and resilience, focusing on both developed and developing countries, and also on women, youth and local and marginalized communities.

Figure 3 - Total number of deaths and affected people resulting from natural disasters worldwide, 2000-2013 (thousands)

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Source: Based on United Nations (2016)

c) SDG 13 indicators will help monitor and measure progress, besides setting priorities. With so many possible approaches and areas to receive investments, setting priorities and measuring progress is essential. From now on, it will be gradually more common to find reports on SDGs' indicators, especially for SDG 13, considering its effects on other goals. The SDG Index & Dashboards[2] is an example of that, being useful for governments and stakeholders, along with businesses, civil society organisations, foundations, universities and the media, in order to turn the SDGs into practical tools for implementation management, accountability ensurance, and reporting on progress at local, national and global levels (Sachs et al., 2016). The report shows, among other information, CO_2 emissions from energy (tCO_2/capita) for many countries and their climate change vulnerability. Countries are classified according to their situation, and the results can be used to set priorities. Similarly, there is the Atlas of Sustainable Development Goals (World Bank, 2017), with even more details about how countries are addressing climate change and SDG 13 in their actions. Some interesting information about that regards the increase in number of countries implementing national and local disaster risk reduction strategies or integrating environmental impact assessments and legislation on protected areas to climate change adaptation projects and programs (United Nations, 2017a). Therefore, SDG 13 represents an opportunity to address this global priority encompassing themes such as health, energy, sustainable cities, resilient ecosystems, and food security, among others.

1.1.3 Interdependencies of SDG 13

SDG 13 is related to many other SDGs, as indicated in Table 1. A way of showing this relation is considering that climate change affects some areas and climate action is affected by others.

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[2] See https://www.sdgindex.org/reports/sdg-index-and-dashboards-report-for-european-cities/

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The main goals that affect climate action, contributing in a way or another to this topic, are SDGs 4, 9, 11, 12 and 15.

Goal 4, through Quality Education, has the responsibility of showing that the change in climate patterns is real and it is happening right now. It will prepare people to face the consequences and to be more aware of their actions, feeling responsible and committed to change.

Focusing in Sustainable Industrialization (**SDG 9**), its actions can reduce resource consumption, promote better waste management, and prepare resilient infrastructure. These aspects are useful for many economic sectors, but they are especially important for the industry since it represents a large part of the demand for feedstock, energy, water, emissions, among others. Additionally, one of the targets of SDG 9 confirms that, by intending to make industries more sustainable, with increased resource-use efficiency and greater adoption of clean technologies. This target is being monitored by the indicator of CO_2 emission per unit of value-added, so the contribution to climate action is a direct one.

Table 1 - Connection between SDG 13 and others

SDGs that affect Climate Action	4 QUALITY EDUCATION	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	11 SUSTAINABLE CITIES AND COMMUNITIES	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	15 LIFE ON LAND
SDGs affected by Climate Change	2 ZERO HUNGER	3 GOOD HEALTH AND WELL-BEING	6 CLEAN WATER AND SANITATION	7 AFFORDABLE AND CLEAN ENERGY	14 LIFE BELOW WATER

Goal 11, about sustainable cities, also has a target that mentions climate action: "to increase the number of cities adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement […] holistic disaster risk management at all levels" (Sustainable Development Platform, 2017). These actions will prepare cities to extreme events and other consequences of climate change, and, more importantly, will provide rules to prevent these undesirable events.

A way of preventing events related to climate change is to promote sustainable consumption and production patterns, which is the focus of **SDG 12**. One if its targets is to "ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature" (Sustainable Development Platform, 2017), which is measured by the extent in which global citizenship education and education

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for sustainable development (including climate change education) are mainstreamed in policies and students' assessments, among others.

Although **SDG 15** does not have a specific target or indicator mentioning climate change, the goal of combating desertification, managing forests sustainably and reverse land degradation is fully aligned with climate action. Forests play a key role in absorbing carbon pollution that causes climate change and more than 10% of global carbon emissions come from deforestation (World Wildlife Fund, 2017). Other SDGs focus on areas that can be affected by climate change and by the maintenance of current patterns of emissions, consumption and production. The main goals affected by those are SDGs 2, 3, 6, 7 and 14.

Climate change can lead to production loss in agriculture and livestock, reducing food availability and food security (**SDG 2**). The main reasons for that relate to weather conditions, since slight changes in maximum and minimum temperatures, humidity and precipitation can contribute to changes in the production outcomes and quality. That is why one of the targets of this goal refers to sustainable food production systems and the need for strengthening capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters. When it comes to health (**SDG 3**), the increase in the temperature can promote more disease dissemination, such as Malaria (specified in one of the targets as combat focus). This and other kind of diseases have greater chances to spread in warm and humid conditions, representing a risk to more people. Without considering climate change, the drinking water supply is already a world challenge (included in **SDG 6**). Taking the effects of climate change into consideration, especially the increase in temperature and extreme events, the situation worsens, since the warming increases the amount of water that the atmosphere is able to hold, leading to more intense rainfalls. This fast movement of water in its cycle makes its use and storage more difficult, besides causing more extreme events such as floods and droughts in different regions. There is also a strong connection between **SDGs** 13 and **7**, related to energy. Investments in renewable energy can contribute to reduce greenhouse gas emissions and that is an important approach of climate action. However, another relation concerns the fact that extreme events cause failures in energy distribution systems and damages the structure of energy production, affecting people and activities that rely on it. Moreover, climate change can certainly affect life below water (**SDG 14**) for many reasons: the increase in temperature can damage sea corals, harm many species, cause loss of production in fishery and change food chain patterns. These increased adverse impacts represent a step back in efforts to protect portions of the oceans all over the world. All these connections among climate change and other areas are also explored by many authors and sources, such as Bellard et al. (2012), Haddeland et al. (2014), Dirks et al. (2015), Verner et al. (2016), Campbell et al. (2016), Unesco (2017) and the International Council for Science (2017).

1.1.4 Challenges in the implementation

According to Lu et al. (2015), there are five priorities for the SDGs: devise metrics, establish monitoring mechanisms, evaluate progress, enhance infrastructure and standardise and verify data. These can also be considered challenges in the implementation of SDG 13 (and the others). First, the concepts of climate change, climate action and impacts have to be fully understood. In addition, terms used in targets must be clear enough to be quantitatively measurable and comparable. Secondly, the definition of what is going to be monitored and how. Lu et al. (2015) suggests collaborations between governments and scientific groups in order to set up monitoring programmes. After monitoring, that is basically the data collection (of, for example, number of countries with national and local disaster risk reduction strategies or number of persons affected by disasters), they have to be analysed based on groups of criteria, in order to measure the progress towards sustainability. Finally, better planning of the infrastructure needed to promote global coverage of data collection and verification of the collected information. This is necessary because each region tends to use their available data, and the collection is not standardised or may not be planned well, leading to lots of incorrect or useless information. Focusing exclusively on SDG 13, main challenges include: having all countries committed; reducing greenhouse gas emissions; investing in renewable energy sources; reforming the transport and industry sectors; and reducing deforestation. Although climate change affects the whole world, some countries tend to be more willing to cooperate than others, or even feel more responsible than others. In fact, this feeling of responsibility is fundamental, since the actions related to climate change may be local, but the results are global. The reduction of greenhouse gas emissions and the increase of renewable energy use depends on better planning, long-term strategies and especially more investment in technologies and alternative approaches. The same can be said about reforming transport and industry sectors – both have high consumption of non-renewable energy sources and, therefore, are great contributors to greenhouse gas emissions (United Nations, 2016; United States Environmental Protection Agency, 2015). Deforestation is another activity that leads to greenhouse gas emissions, besides changing the climate and promoting bad conditions for the environment and its ecosystems. According to Pearson et al. (2017), forest degradation has to be seen as an activity with significant emissions, hence the importance of receiving interventions of greatest impact.

1.1.5 Future perspectives

According to the World Bank (2017), without climate action aiming at global sustainability, climate change can represent a step-back and lead around 100 million people to poverty by 2030. Additionally, climate change is known for having a negative effect in every country, and

future perspectives of SDG 13 have to address the changes in weather patterns, sea level rise, and extreme events, among others.

In order to achieve the aims of Goal 13, some actions should be performed:

a) Policy makers, companies and investors must take bold but achievable measures: the priorities defined must be aligned with the necessity of each region, but also with the available resources and schedule proposed, working as a strategic tool (Muff et al., 2017);

b) Establishment of plans, policies and regulations aiming at SDG 13 targets: especially focusing on totally decarbonising the infrastructure (energy, water, waste, transportation), in order to largely reduce greenhouse gas emissions and pollution (Bunning, 2014);

c) More production and consumption of renewable energy rather than fossil fuel: the use of clean energy would certainly represent a huge step to climate action, due to the emissions of CO_2 from fossil fuels (Sen and Ganguly, 2017);

d) Sustainable transportation should become the preferred form of mobility: non-motorised transport and public transportation modes in addition to clean transportation options have to increase its share in urban mobility, also requiring changes in people behaviour and individual preferences (Velazquez et al., 2015);

e) Investments of US$ 100 bi/year in climate actions: one of the targets of SDG 13 refers to the commitment of developed countries to mobilise investments to address climate change actions in developing countries (United Nations, 2017a), assisting them in mitigation and adaptation.

The United Nations Framework Convention on Climate Change is the proof that all countries are partners in SDG 13, and their actions should be performed along in order to succeed. The way forward demands high investments, so accountability, financing and monitoring are essential. Thus, countries will be able to check indicators and review targets throughout the next years in order to measure their progress. In summary, all these actions are like tools to help meet SDG 13 and combat climate change impacts.

1.2. Good practices

There are many ways of promoting climate change. It might start with education, as done in Ethiopia. With a stark reduction of its forest coverage (from 40% to 2% during the twentieth century), UNICEF, through the project Millennium Tree Planting Campaign, involved 50,000 children from the Addis Ababa region to plant 50,000 trees. With this action, students could learn how trees can reduce land erosion and can protect against wind and dust (UNFCCC, 2019).

Climate Change can also be promoted by change of habits. For example, instead of using a car for transportation, it is possible in many cities to use bicycles. In some cities in China, up to 60% of city trips are made by bike, from 80 to 90% of people moving on rural roads in Malawi use bikes. Another classical example is The Netherlands, where 4.5 billion bicycle trips were done in 2016 (UN Environment).

Campaigns to promote Climate Change are another way. The World Environment Day, which is on June 5th, "is the United Nations day for encouraging worldwide awareness and action to protect our environment". The first World Environment Day was held in 1974, and now more than 100 countries celebrate the date. Every year a different theme is chosen, in 2019 it was "air pollution". With the hashtag #BeatAirPollution, #WorldEnvironmentDay and #MaskChallenge, many people were involved in social media (World Environment Day, UN Environment).

1.3 Exercises

In this section, the module rolls out a proposed set of exercises that teachers can conduct among their students to eventually produce knowledge manifested in written articles, videos and the like of presentations that help disseminate ideas and solutions regarding SDG 13. Each exercise is presented with an example (in bold) accompanied by some material from which the lecturer can commence the exercise.

1.3.1 Exercises

ClimateChangeMakingSense: This exercise tackles teachers' and students' perceptions. For example: **as SDGs are finalized and in process of execution, how do you see yourself, as teacher, and your students, making sense of SDG 13?** Sub-questions that you can pose include: To what extent is SDG 13 feasible?; Which are the difficulties in implementing and tracking climate change in your community?. This exercise is in the PPT (1.3 Excercises on SDG 13: ClimateChangeMakingSense slide 19)

Climate Change and surroundings: Map SDG 13 in relation to all other SDGs. You can use Venn diagrams and radar chart on this activity. Questions to be raised in this activity could be, for example: How strong is the link between SDG4 and SDG13? Or: How can SDG13 on climate change support the completion of SDG7? Or: How does SDG13 foster healthy lives and promote well-being for all at all ages (SDG3)? The overarching question in this activity is: **How can an integrative approach be adopted to tackle SDG13 in tandem**

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with other SDGs?. This exercise is in the PPT (1.3 Exercises on SDG 13: Describing links with other SDGs, slide 20)

Data4ClimateChange: Gather and analyse global, regional, national and local data on SDG13. Begin for example with data from the UN Sustainable Development Knowledge Platform[3], then go to other analytical platforms such as Eurostat[4]. You can also inspect the website SDG Indicators[5] and SDG Tracker[6]. Another options to collect data on clean energy are the United Nations Population Fund (UNFPA)[7], the Our World in Data[8], the Data bank from the World Bank[9], or even data from the World Meteorological Organization (WTO) [10]. Analysing the data under the following question is one example: Which are the positive and negative effects of improving the SDG13? Also, students could gather data in their community (classroom / university / school / neighborhood / house) and analyze the trends in both a qualitative and quantitative manner to find out major narratives, frequencies, correlations and causalities, and see how well the data is situated in comparison to the local (if available) or otherwise national data from the other platforms. Another purpose of this exercise is to see the extent to which the data collected can converge with the timeframe and expectations set by SDG 13. This exercise is in the PPT (1.3 Exercises on SDG 13: Gather and analyse data on SDG 13, slide 21)

In case, however, you decide doing the comparison between your locally gathered data and institutional data, decide first on a baseline from the data collected from the other institutions and platforms since 2015. Thereafter you can compare this baseline with your local data in terms of rates of change, i.e. frequency of progress in the SDG targets according to the SDG indicators. Noteworthy: present the data in a visually appealing way.[11] The baseline data from both venues (institutional and local) would be useful for a future monitoring and evaluation assignment you could do with the students to see how far there is progress or retraction.

Localizing4Development: How can you identify the benefits of SDG 13 at your community (classroom/university/school/neighborhood/house) and at individual

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[3] Data on SDG13 from the UN Knowledge Platform: https://sustainabledevelopment.un.org/sdg13

[4] See here: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Category:Climate_change

[5] See here: https://unstats.un.org/sdgs/indicators/database/

[6] See here: https://sdg-tracker.org/climate-change#targets

[7] See here: https://www.unfpa.org/data

[8] See here: https://ourworldindata.org/

[9] See here: https://databank.worldbank.org/data/home.aspx

[10] See here: https://public.wmo.int/en

[11] You can see example of data visualization for interlinkages (and the respective SDG per country) on this platform: https://sdginterlinkages.iges.jp/visualisationtool.html.

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level? Localizing SDG 13 comes with challenges. Thoughts to reflect on, for example, include: What are the benefits of countries promoting climate change compared to countries with no such view in developing SDG 13? Discuss pros and cons of such approach. Picking specific countries/states as examples when comparing – and then setting them into context with your respective local system will help in providing an understanding for where changes can be lobbied for. Taken altogether, contextualizing the SDGs in its local context is an important assignment prior and along the road of implementing SDG 13. This exercise is in the PPT (1.3 Exercises for SDG 13 – Localizing4Development on SDG 13, slide 22)

Policy Briefs: In this activity, the teacher will **encourage writing policy briefs on any topic pertinent to climate change as identified by SDG 13**. Students will follow a similar structure as stipulated in policy briefs by international organizations and national agencies (see example by the Knowledge Platform – Climate Change[12] or the International United Nations Climate Change[13]. This will serve elevating the students' policy-related writing skills in addition to directing them towards formulating their own manuscript of briefs on climate change issues of their primary concern. They also develop grounded realization of the challenges of implementing SDG 13 at all levels, from the international all the way to the local level. This exercise is in the PPT (1.3 Exercises for SDG 13 – Policy Briefs on SDG 13, slide 23)

@ClimateChange: **Drive your social media platforms in ways that promote climate change awareness in your community** (classroom/university/school/neighborhood/house). For example: that can be through simple daily/weekly photo campaigns as well as conversations that bring the default behaviors of students that gravitate towards constantly viewing social media together with the purpose of the exercise; that is, bringing their awareness closer to what they can do to promote climate change awareness for all in their community. You may firstly check for already existing campaigns on climate change awareness and discuss about them. Some examples of campaigns are the Youth Climate Leaders[14], and the Youth for Climate Action[15]. This exercise is in the PPT (1.3 Exercises for SDG 13 – @ClimateChange, slide 24)

ClimateChangePreneurs: Finding stories and instilling a sense of belonging by bringing together those working on climate change quests can be motivating to those doing the work, inspiring to the community and the entire world. For example, you can use **vlogs, blogs** and

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[12] See https://sustainabledevelopment.un.org/topics/climatechange/decisions
[13] See https://unfccc.int/documentation/decisions/items/3597.php
[14] See https://www.youthclimateleaders.org/
[15] See https://unfccc.int/topics/education-and-outreach/workstreams/youth-engagement

journals such as fairs and expos to promote this exercise on **promoting SDG 13**. It will also allow those good ambassadors of climate change from the business community to network and widen their perspective with each other and the broader communities. This exercise is in the PPT (1.3 Exercises for SDG 13 – ClumateChangePreneurs, slide 25)

BreakingSilos: Taking its name from the silo-effect, this activity promotes **actively thinking and writing on SDG 13 from the wide variety of sciences and arts** out there. As a lecturer, you could be interested or expert in literature, hence approaching SDG 13 from a more philosophical perspective; another could be interested in addressing education issues in SDG 13 from a managerial perspective. For example, a question you could pose is: Using a cost-benefit analysis, what benefits are there for implementing SDG 13? Another example could be: If you are a natural scientist, what indicators might there be missing to better include sciences in climate change? This exercise intends to break through silos of each discipline and stimulate cross-disciplinary discussions on climate energy. This exercise is in the PPT (1.3 Exercises for SDG 13 – BreakingSilos, slide 26)

1.3.2 Assessments
Below is an outline of several different questions related to the SDGs in general, and to SDG 13 in particular, that help assess your understanding of the topic and the interlinkages and challenges. These questions are also designed to act as questions for your students to discuss the topic further and/or prepare presentations on them.

Questions:
1. Discuss the pros and cons of the term "sustainability". Do you believe that sustainability is a new philosophy? Or is it actually a very old one well known to our ancestors?
2. Define the SDGs and the environment they derived from, i.e. what are the main advancements (positive or negative) compared to the Millennium Development Goals (MDGs)?
3. Discuss four main difficulties you see in implementing the SDGs.
4. With regard to reporting and measuring outcome and impact, assess if the targets are well defined and what institutions have indicators available.
5. How does SDG 13 interlink with other SDGs? What are positive and negative interrelations, and how do they affect human well-being?
6. Which are the SDG 13 benefits for communities, countries and businesses in general?

7. Which are the main difficulties you can identify in the implementation of SDG 13 in your country?
8. List some examples of positive successes over the last two decades in promoting climate change in your community.

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2. References and Links

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