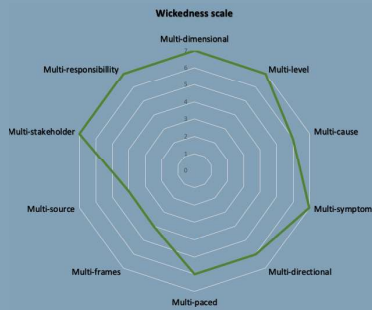


Climate change has caused more frequent and more extreme weather events such as droughts, floods, and cyclones. Also, sea levels are rising and climate patterns are changing. It affects everyone on every level and action is needed urgently. SDG 13 is about taking action combating climate change and its adverse effects on a global level (24).

WICKEDNESS

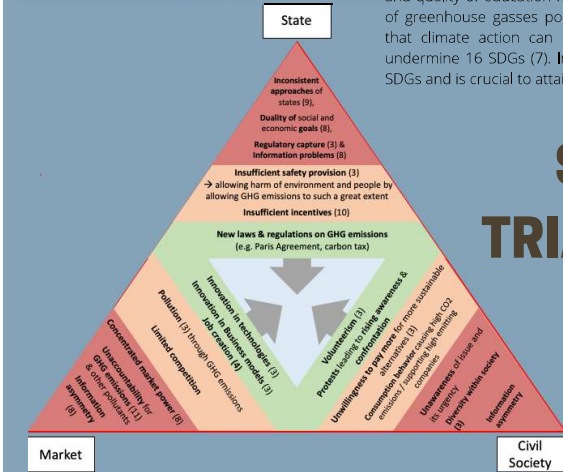
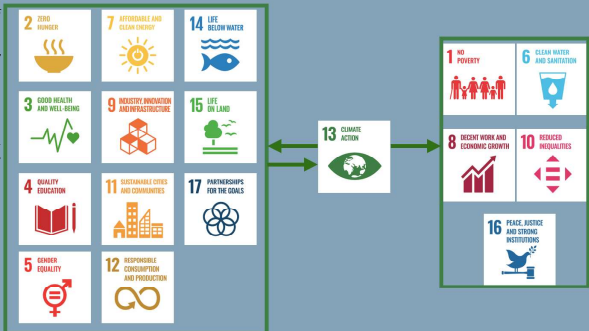


An analysis of SDG 13 reveals that the problems of the SDG are wicked. The health of our climate is a common good as it is non-excludable and rivalrous. Dealing with this kind of problem requires the involvement of a myriad of stakeholders, as climate change affects everyone. In addition, there are no clear cut solutions. So, this makes cooperation and taking action extremely challenging. Yet, taking no action poses more risks than taking action under these challenging circumstances (2)(3).

Almost all elements of the wickedness scale are rated highly complex, except for two. Multi-source and multi-frames, or the communicative complexity were rated 4. This is because 97% of all scientists agree that climate change is real and caused by human activities (e.g. agriculture, CO2 emissions and deforestation), but there still exist a lot of alternative explanations and disbelief amongst certain groups in our society (4).

Project Drawdown presents a whole range of solutions for climate change, that cover different SDGs. For example, an increase in clean energy (SDG7) and quality of education for girls (SDG4, SDG5) strongly impact the number of greenhouse gasses polluted(5)(6). On the other hand, research reveals that climate action can reinforce all 17 SDGs and climate change can undermine 16 SDGs (7). In conclusion, SDG 13 is strongly connected to all SDGs and is crucial to attain the SDG goals.

INTERCONNECTEDNESS



SOCIETAL TRIANGULATION

- Stakeholders do not feel obligated to respond to the issue of climate change and therefore fail to address it accordingly.
- EU governments have different information on the issue of GHG emissions within their countries (8) and use different approaches to tackle it (9).
- Civil society is divided between climate activists and indifferent or uninformed people, which is caused by information asymmetries as well as by differences in values, beliefs, objectives, and economic wellbeing.
- Concentrated market power of big firms (8), unaccountability for GHG emissions (11), and information asymmetries between firms (8) inhibit sustainable practices and development.
- Unthought consumption behavior and unwillingness to pay more money for more sustainable alternatives make consumers buy cheaper, less sustainable options (e.g. fossil vs. renewable energy), further supporting the growth of high GHG emitting companies.
- Businesses gain in market power, making the economy somewhat dependent on them (8). Not having negative effects on their high GHG emissions makes them carry on with their business as usual, increasing pollutions and global warming effects (11).
- Lacking regulations/stronger measures regarding GHG emissions, the state fails to provide sufficient safety to environment and people (3), allowing them to be harmed.
- The harm of environment and people leads to parts of society (such as climate activists) to volunteer or protest, rising awareness of the issue and confronting business and government to act upon it.
- Businesses are developing new technologies and business models (3).
- Governments pass new laws and regulations on GHG emissions, such as the Paris Agreement (9) or carbon tax (8) that influence the behavior of the other stakeholders further towards climate action.

TRENDS

- Over the last 20 years: Decrease in GHG emissions by 6.5% in developed countries & economies in transition, increase by 43.2% in developing countries due to industrialization & enhanced economic output (1, 15)
- Last decade: hottest decade yet, temperature rise between 0.91°C and 0.96°C compared to pre-industrial levels. To meet the 1.5°C or even 2°C target, GHG emissions need to decrease by 7.6% annually (17)
- 2019: renewable technologies only made 11% of global primary energy (16)
- Increase in natural disasters caused by climate change to a long-term annual average of 520 (18). Cost of natural disasters in 2019: \$150 billion; high increase expected in upcoming years (18)
- Environmental migration – until 2050 more than 200 million people will be forced to move due to shoreline erosion, coastal flooding, and agricultural disruption. Migrants largely come from countries that are least responsible for climate change (19)
- Global climate-related financial investments increased in 2013–2016, from \$584 billion to \$681 billion. However, investments in fossil fuels totaled \$781 billion in 2016 (20).
- The world is nowhere near to meet the Paris Agreement's targets (15)

PARTNERSHIPS

<p>Level 1: Intra-sector Partnerships</p> <p>Interface uses ReEntry model in which they collect carpet tiles from customers and reuse or recycle the materials</p>	<p>Level 2/3: Bipartite Partnerships</p> <p>Interface partners with different sectors to find a second home for their carpets</p>	<p>Level 4: Tripartite Partnerships</p> <p>Interface cooperated with State of California to create a framework which fines those who do not comply and raises awareness with consumers</p>
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FRONTRUNNER Interface

Interface is a global company producing free lay carpets, and they are the industry leaders that started the change from the petroleum-intensive production process to circular. They started the change with a Mission Zero program in which they pledged to be carbon neutral by 2020 in which they succeeded (12). Their products use 60% of recycled or biobased material, and their production plants globally operate with 89% on renewable energy (13). Interface's positive influence transferred to the government of California, the first state that passed a law that made carpet producers responsible for establishing a recycling scheme for their products (13). In addition to this, in 2017, they started to fine companies that fail to comply with the law (13). After achieving their initial targets, they are still far from the end goal, so they started a new Climate Take Back program because they still make a big negative impact through their value chain. The plan is following the Stockholm Resilience Centre guidelines on how to reach safe climate limits. The process includes everyone in the value chain and emphasizes re-revolutionizing the industry. Furthermore, Interface will continue its efforts to help other companies be more sustainable as they helped Wal-Mart (14).

CORPORATE LEADERS

<p>Philips installs, manages and maintains the lighting throughout its lifecycle making it possible for customers to purchase light as a service. They source their energy completely from renewables and they are carbon neutral (21).</p>	<p>Patagonia makes clothes using organic cotton and recycled fabrics, including polyester, nylon and wool. They also donate 1% of profits, as self-imposed Earth tax, to support environmental non-profits and they are 3% away from being carbon neutral (22).</p>	<p>Tesla is an electric-car maker that has a code of conduct for suppliers, which includes a pledge to work to avoid harm to the environment, responsible management of all waste and efficient use of water and energy resources (23).</p>
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