cardano

Sustainable Investment Policy

Appendix E1: Cardano's Climate Strategy

December 2023

Executive summary: Cardano's Climate Strategy

Climate change has always played a key role in our Sustainable Investment Policy. Already in 2015, just after the Paris Climate Agreement was agreed upon, Cardano Asset Management formulated a long-term climate target in line with that Agreement. At that moment, we formulated an intermediate target to reduce our investment's greenhouse gas emissions by 30% before 2030 compared to 2010. We already surpassed this target in 2020. At that moment, we made our investment policy more sustainable, selecting issuers that reduce their greenhouse gas (GHG) emissions and divesting from highly polluting issuers. For that reason, we have set new ambitions. These ambitions set a pathway and agenda towards climate neutrality, but also contain rules to mitigate financial risks and exploit financial opportunities that climate change brings about. Our ambitions are in line with the latest scientific insights and with the financial sector guidance on target-setting of the Science-Based Target Initiative (SBTI).

We aim to achieve net-zero greenhouse gas emissions across all assets under management at the latest by 2050. We will do so by taking three climate change mitigation measures:

i. Reduce greenhouse gas emissions of issuers through active stewardship;

ii. Invest in solutions that increase low-carbon energy supply or that reduce, avoid or capture and store greenhouse gas emissions, if possible through nature-based solutions.

iii. Divest from issuers that are not adapting to the transition required for a net-zero economy.

We defined two intermediate targets; to reach 50% emissions reduction by 2030 and 75% by 2040 compared to the end of 2019. These are based on an average 7% annual greenhouse gas emissions reduction pathway in line with the IPCC's 1.5°C trajectory with limited overshoot.

Emission reductions will especially stem from energy efficiency, low-carbon energy supply and renewable energy solutions. Yet, only approximately two-third of all greenhouse gases originates from fossil fuels-related activities that emit CO_2. For that reason, we should also reduce methane and nitrous oxide emissions from land use (through land use change, livestock raising, fertilizer use and landfills) and fluorinated gas emission e.g. from cooling appliances. In addition, reductions in greenhouse gas concentrations should also come from enhanced carbon sequestration and storage. This can be through enhancing sequestration in natural carbon sinks, e.g. through avoided deforestation, peatland restoration, improved agricultural practices and protection of land and marine biodiversity, and through enhancing technological carbon capture and storage solutions, e.g. in empty gas fields.

To measure progress towards net-zero emissions by 2050, we will measure absolute greenhouse gas emissions and greenhouse gas emissions intensity of all assets covering scope 1, 2 and 3. Monitoring and reporting on targets is done separately for scope 1 & 2 and for scope 3.

We walk the talk and have already decarbonized emissions from our own operations. However, there are still emissions that need to be offset at this point. That is why we aim to achieve net-zero GHG emissions of our own operations by 2030.

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1. Introduction

In 2015 already, just after the Paris Agreement was adopted, Cardano Asset Management formulated a long-term climate target in line with the agreement. At that moment, we formulated an intermediate target to reduce greenhouse gas emissions in 2030 by 30% compared to 2010. As that target was already achieved in 2020, we set new, more ambitious targets in 2021, in line with the latest scientific insights.

This document describes Cardano's climate targets, but above all sketches the time path and actions required to reach them. The time path sketched and actions required to reach the targets specifically acknowledge that climate change is caused by multiple factors and requires changes by all sectors. Where, globally, initial efforts focussed on the largest carbon emitters and scope 1 and 2 emissions, nowadays all sectors should realize they have to take responsibility and next to their scope 1 and 2 emissions also reduce their scope 3 emissions. The shift from fossil fuels-based technologies to renewable energy technologies and the need to improve energy efficiency, already leads to a major paradigm shift.

Yet, we also must reduce methane emissions from livestock, land use change and waste management, and nitrous oxide emissions from fertilizer use. In addition, to reduce greenhouse gas concentrations, we must also improve the carbon sink capacity of our ecosystems in the form of nature-based solutions. These require additional systemic changes that go beyond the technological solutions many climate change action plans currently focus on. On top of that, knowing that climate impacts may be reduced but cannot be totally prevented, managing physical climate risks becomes more and more relevant where companies can take action to partly mitigate some of the physical climate risks they encounter.

The next section describes the long-term target and intermediate sub-targets. The main strategy to reach these targets is described in section 3. Section 4, describes the strategic implementation plan and time-bound KPIs. The plans to measure and report about progress are discussed in section 5. Finally, it is discussed in section 6 how we intend to reach carbon neutrality for our own operations by 2030.

2. Cardano climate targets

Our overall, long-term climate target is to achieve net-zero greenhouse gas emissions at the latest by 2050, in line with a 1.5°C climate scenario. The climate target applies to all assets under management by Cardano and covers scope 1 (direct operations), scope 2 (energy generation) greenhouse gas emissions, and scope 3 (value chain) emissions.[1] It includes CO_2 emissions as well as emissions from other greenhouse gases such as methane, nitrous oxides and fluorinated gasses.

Given the timespan of the overall target, we define intermediate targets for 2030 and 2040 for scope 1, 2 and 3 greenhouse gas emissions. The intermediate reduction targets are:

50% greenhouse gas emissions reduction by 2030 compared to the end of 2019

75% greenhouse gas emissions reduction by 2040 compared to the end of 2019

100% greenhouse gas emissions reduction by 2050 compared to the end of 2019

We monitor the targets by separately measuring and reporting aggregate scope 1 & 2 emissions and scope 3 emissions – the latter emissions will follow from reductions in the former and to avoid duplication when reporting portfolio level emissions. Separating scope 1 & 2 from scope 3 emissions, helps to avoid that mitigation efforts concentrate on own emissions while neglecting emissions within the value chain that may be more difficult to reduce.

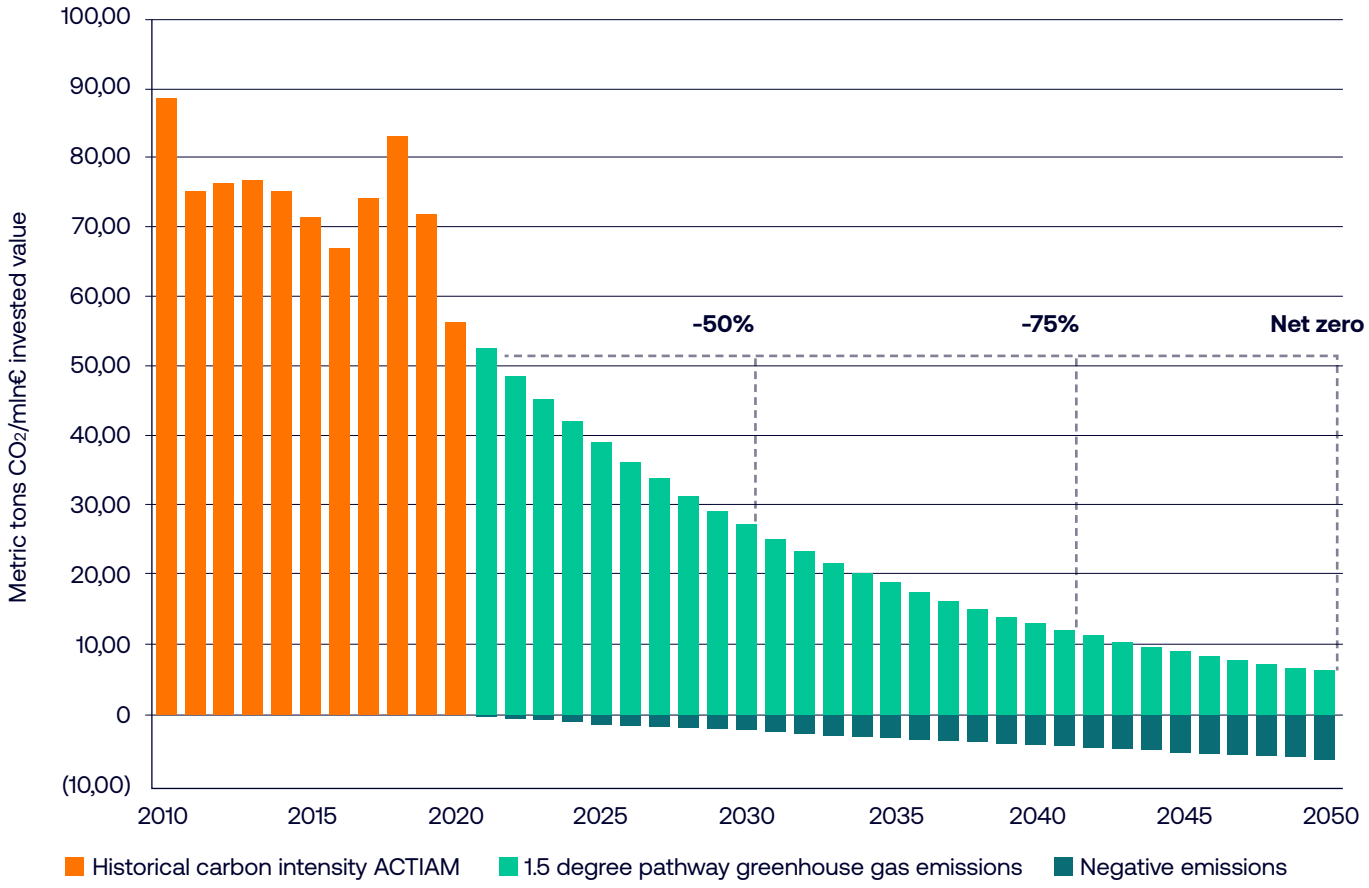
The reduction pathway is in line with a 1.5°C scenario following quantitative projections of the IPCC,[2] assuming an average annual carbon emission reduction of 7%. In that way, it is also in line with the ambitions stipulated by the Paris Agreement, and the EU Climate Target Plan, which aims for 55% reduction compared to 1990 and climate neutrality in 2050.[3] Note that we aim for a 1.5°C pathway and deem a reduction pathway towards a 2°C scenario undesirable given the exponential increase in economic and social damages when global warming exceeds 1.5°C.

Reductions will especially stem from energy efficiency, low carbon energy supply and renewable energy solutions. Yet, only approximately two-third of all greenhouse gases originates from fossil fuels related activities emitting CO_2. For that reason, we also target emitters of methane, nitrous oxide and fluorinated gasses, by considering greenhouse gas emissions from e.g land use (through land use change, livestock raising, fertilizer use and landfills) and from cooling appliances.[4]

Different sectors will follow different reduction pathways. Moreover, greenhouse gas emissions can most likely not be completely reduced to zero in 2050. A limited level of greenhouse gas emissions is likely to be unavoidable, making negative emissions a necessary solution to reach net zero in 2050.[5] These stem, on the one hand, from terrestrial and marine solutions that lead to enhanced natural carbon sinks. Nature-based solutions, such as avoided deforestation and peatland drainage, peatland restoration, reforestation, restoration of cover crops, improved agricultural practices, improved fishing methods and protection of land and marine biodiversity, can deliver emission reductions and removals of at least 5 $GtCO_2e$ per year by 2030 and 10 $GtCO_2e$ per year by 2050.[6] On the other hand, technological carbon capture and storage solutions play a role. Globally, carbon capture, utilisation and storage of carbon are expected to potentially lead to a carbon emission reduction of around 1.6 Gt of CO_2 in 2030, rising to 7.6 Gt CO_2 in 2050.[7] In line with the Science-Based Target Initiative (SBTI), we only allow for a limited use of negative emissions as an additional tool for issuers to reach additional emissions reduction beyond science-based targets.[8] Negative emissions of our total investments are not allowed to exceed 10% of the emissions levels at the end of 2019. Finally, it is good to note that all developments naturally also depend on behavioural change. Considering the above, Figure 1 illustrates both the historical carbon intensity reductions as of 2010[9] and the projected reductions pathway to 2050.

1 In line with definitions of the GHG protocol. The scope 3 emissions target will initially only apply to corporates. Also, scope 3 emissions of sovereigns are deemed less material.
2 IPCC (2018) 1.5°C trajectory with no or limited overshoot (Years 2020-2030, Table 2.1, Rogelj et al., 2018)
3 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020DC0562&from=EN. This target is also in line with the Dutch climate agreement and the Spitsbergen Ambition.
4 See e.g. Greenhouse gas emissions - Our World in Data
5 Negative emissions refer to the process of removing CO2 from the atmosphere, including enhancing existing natural processes that remove carbon from the atmosphere (increasing uptake by trees, soil, oceans or other carbon sinks) or using chemical processes such as underground storage with CCS technologies. See: FAQ Chapter 4 — Global Warming of 1.5 ºC (ipcc.ch)
6 https://www.unep-wcmc.org/en/news/in-order-to-keep-global-warming-below-15c-a-significant-contribution-from-nature-based-solutions-is-both-necessary-and-possible.
7 IEA, 2021. Net Zero by 2050: a readmap for the global energy sector. International Energy Agency. https://iea.blob.core.windows.net/assets/deebef5d-0c34-4539-9d0c-10b13d840027/NetZeroby2050-ARoadmapfortheGlobalEnergySector_CORR.pdf
8 The SBTI principles for reaching net zero in the financial sector allow for a limited use of carbon offsetting of not more than 5 to 10%. These offsets do not count as emissions reduction within a science-based target. See: SBTI, February 2022, Financial sector science-based targets guidance. sciencebasedtargets.org
9 Note that in the earlier years the carbon emissions data quality is still relatively low, due to limited reporting standards.

Figure 1: Greenhouse gas emissions reduction target pathway for Cardano



Our new targets are ambitious but deemed realistic for two reasons...

Even though the greenhouse gas emissions financed by our assets under management already reduced significantly compared to 2010, the new targets are ambitious but deemed realistic for two reasons. Firstly, for most sectors, the largest reductions will take place in the coming decade, according to the sectoral greenhouse gas reduction pathways. Secondly, IPCC expects investments in low-carbon energy technologies and energy efficiency to increase on average by a factor six in the coming decade.[10] We monitor progress by measuring whether the GHG emissions intensity reduces on average with at least 7% per year, in line with the IPCC's 1.5°C trajectory with limited overshoot. If our climate strategy does not lead to the required emissions reduction, the strategy and associated actions will be adjusted.

The following sections explain how we aim to achieve our targets as well as monitor and report on progress. For a detailed explanation of the methodology used to define the targets, see Appendix 2 Methodology Climate Target.

10 Chapter 2 — Global Warming of 1.5 ºC (ipcc.ch)

3. Strategy to reach Cardano's climate target

To achieve our climate target, we encourage our investees to mitigate their greenhouse gas emissions. Climate change mitigation is defined as an anthropogenic intervention to reduce the sources or enhance the sinks of greenhouse gases (IPCC, 2001a). Being an active stakeholder, we want to contribute actively to decarbonization in the 'real economy'. Rather than reallocating portfolio positions, we encourage investee issuers to adopt business models that are in line with a 1.5°C pathway. Portfolio reallocations will only lead to a change in the real economy if the reallocation represents a significant share of the market. A recent meta-analysis suggests that three measures are effective for achieving a real contribution to decarbonization. These are: funding low-carbon issuers or projects, engaging with issuers to help them improve and direct financial incentives to issuers to improve (Kölbel et al., 2020).

This translates into the following three strategies we adopt to reach our climate target:

i. Through active ownership encourage issuers to reduce greenhouse gas emissions;

ii. Invest in solutions that reduce, capture and store greenhouse gas emissions or increase low-carbon energy supply;

iii. Divest from issuers that lack the capacity to make the transition required for a net-zero economy.

Next to mitigation, we also consider the steps issuers take to adapt to physical climate risks. Climate change adaptation does not bring a net-zero emissions target closer but is more and more necessary now the physical impacts of climate change become clearer.

3.1 Reduce greenhouse gas emissions of issuers

To realize change in the real economy, we encourage issuers to reduce their greenhouse gas emissions. We do so in the three ways.

- **Engagement:** Through engagement, we urge issuers to do the following:
  - Set GHG emission targets in line with a 1.5°C pathway and define actionable implementation plans. Evidence shows that issuers defining such plans reduce their emissions faster than those that have no targets yet.[11]
  - Reduce GHG emissions in their supply chains and set targets to encourage their suppliers or assist clients to reduce their emissions (scope 3 emissions).
  - Enhance greenhouse gas sinks, for example by avoiding deforestation, enhancing ecosystem restoration or protection land and marine biodiversity.
  - Not participate in (indirect) lobbying to weaken sovereigns' climate policies.
- **Voting and shareholder resolutions:** For issuers that are not open or sensitive to engagement, we try to force them to better consider their climate impacts by voting in favour of pro-climate proposals and supporting pro-climate shareholder resolutions at Annual General Meetings (AGMs). A growing number of climate related resolutions leads to increased shareholder pressure.[12]
- **Stimulate a supportive community:** To achieve the net-zero objective, we need a systemic societal change towards energy transition and a low carbon economy. We will use our influence and direct our activities to call on the wider financial sector to accelerate the low-carbon transition or encourage governmental bodies to step up their climate policies and enhance conservation and restoration of natural carbon sinks.

3.2 Invest in solutions

We plan to increase investments in solutions that accelerate the low-carbon transition, i.e. that reduce greenhouse gas emissions, increase low-carbon energy supply or capture and store greenhouse gases. We shall explicitly search for investment opportunities in issuers generating renewable energy or developing technologies to generate low-carbon energy. We shall also search for issuers developing technologies and processes that use renewable instead of fossil-based sources or improve energy efficiency. Plus investment may shift more to issuers that produce products or technologies with lower GHG intensity, such as alternatives for animal-based or deforestation-linked commodities. Issuers developing such solutions enable others to reduce or reach net-zero greenhouse gas emissions. In addition, we shall search for issuers that enhance carbon sinks or capture and store greenhouse gases, preferably though nature-based solutions.

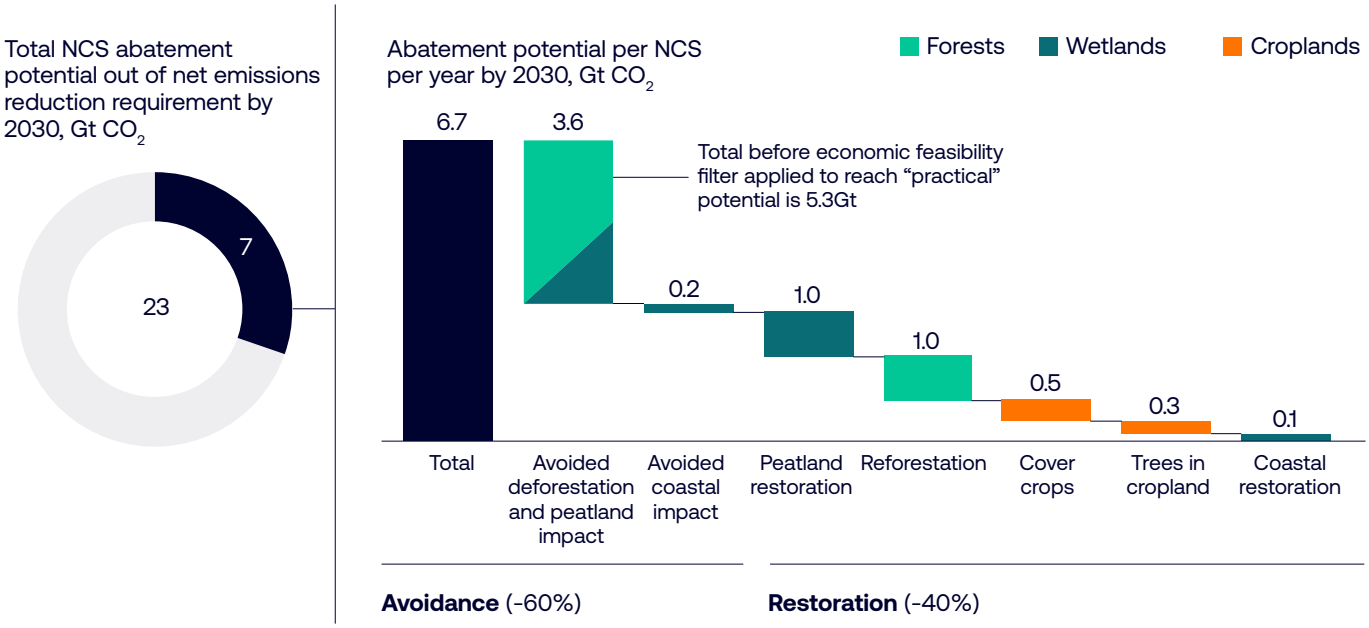
11 SBTI, May 2022. Science-based net-zero. Scaling urgent corporate climate action worldwide. SBTI annual progress report, 2021. SBTiProgressReport2021.pdf (sciencebasedtargets.org)
12 European Tracker: Shareholder resolutions on climate change - ShareAction

We pursue investing in solutions through a variety of investment strategies and asset classes, such as integrating ESG-criteria in equity and fixed income investment strategies, purchasing sustainable bonds,[13] participating in structured deals, blended finance opportunities and direct loans. Through this, we also finance carbon capture innovations or nature-based solutions that increase carbon sequestration or reduce land-based greenhouse gas emissions.

Another way in which we will invest in solutions is by engaging issuers on the opportunities that enhance the low-carbon transition. As these are expected to be financially beneficial for their business model, services and product development. The selection of solutions on which issuers will be engaged will be in line with the EU Taxonomy.

Next to the above actions, our actions to reach our water-neutral and zero deforestation targets[14] also contribute to reducing greenhouse gas emissions and enhancing carbon storage. These targets support our climate target. Specifically regarding deforestation, avoiding deforestation and peatland drainage is expected to contribute to around 60% of the 7 Gt CO2 net emissions that nature-based solutions can globally abate per year by 2030 – see Figure 2.[15]

Figure 2: Potential abatement capacity of natural climate solutions (figure adopted from McKinsey, 2021)



At this point, investing in negative emissions is still challenging, given the malfunctioning carbon credit and offset markets. This is caused by the scientific and technical issues related to additionality, carbon leakage, carbon storage permeance and global warming potential. However, given the importance of nature-based solutions to achieve a 1.5°C world, the architecture and standards are expected to improve in the short term. Plus, the voluntary carbon offsets market is expected to grow in the coming years, thus making investment in conservation of forest and peatland more feasible.[16]

3.3 Divest from issuers that lack the capacity to make the transition

In our screening procedure, we already carefully consider if and how issuers prepare for the low-carbon transition. This applies to all investments; equity and bond investments as well as structured loans and real estate investments. Our Sustainable Investment Policy defines principles of exclusion for the most environmentally impactful fossil fuel activities such as thermal coal, coal-fired power plants, and unconventional oil and gas exploration (shale oil and gas, tar sands and deep sea and arctic drilling). Those activities lead to high negative impacts but are also likely to create high risks due to the low-carbon transition and stricter regulations.

13 These include green, social, sustainable and sustainability linked bonds.
14 See Cardano's water and biodiversity strategies.
15 http://www3.weforum.org/docs/WEF_Consultation_Nature_and_Net_Zero_2021.pdf
16 Kepler & Chevreux (2021) Offsetting emissions and Paris alignment

> **Issuers that progress too slowly will be engaged with and ultimately divested from if their transition-related risks do not sufficiently reduce.**

Our Sustainable Investment Policy also describes how we assess carbon intensive companies' exposure to low-carbon transition risks and their capacity to manage these risks. Exposure is measured for 1) operations and for 2) products and services, taking into account scope 1, 2 and 3 emissions. The first relates to the risk of incurring liabilities resulting from carbon intensive operations. Companies with carbon intensive operations, for example coal-based power generation and cement production, are exposed to additional costs in the form of fines, carbon taxes, required capital investments in new clean technologies, etc. Also, companies with carbon intensive supply chains are exposed to rising raw material costs, operational disruptions or stricter government regulations. Secondly, companies with carbon intensive products or companies in carbon dependent industries, may face reduced demand for their products and services because of the low carbon transition. On the other side, companies producing low or zero carbon products may benefit from the transition to a low carbon scenario. Next to risk exposure, we assess for each company their capacity to manage these risks and reduce their negative impacts. This is based on policies and commitments to mitigate transition risk, governance structures, risk management programs and initiatives, targets and performance. More specifically the following factors influence the risk management assessment:[17]

- Measurement and disclosure of scope 1, 2 and 3 carbon emissions in line with the recommendations from the Task Force on Climate related Financial Disclosures (TCFD) or the Carbon Disclosure Project (CDP);
- Carbon policies and implementation mechanisms such as targets on reducing or capturing greenhouse gas emissions, use of cleaner energy sources or improvements in energy-efficiency, and implementation of plans and environmental management systems to reach these targets;
- Participation and disclosure of relevant multi-stakeholder or industry initiatives;
- Integration of transition risks into regular risk assessments and strategy;
- Disclosure of carbon intensity trends and track record of achievement of carbon reduction targets;
- Investment focus: do companies move away from carbon intensive activities and develop clean tech business segments.

To reach our climate targets, we shall step by step adopt stricter criteria. For coal-related activities a phaseout pathway is adopted and exposure and management thresholds are made stricter over time, to raise the bar that separates issuers that are capable to adapt from those that are not. Issuers that progress too slowly will be engaged with and ultimately divested from if their transition-related risks do not sufficiently reduce. For this, we consider sector-dependent emissions reduction pathways. These criteria are described in more detail in section 4 and Appendix 1.

17 Most indicators apply to every sector, but there are exceptions. For instance, for the financial sector the climate related risks of their loan and investment portfolios are considered as well as the steps financial institutions take to mitigate for these risks.

4. Strategic implementation plan

To focus our efforts towards a global net-zero economy, we have drafted a strategic implementation plan based on the key levers for change and ten priority sectors in which transitions are needed the most.

4.1 Key levers for change to reach a global Net-zero economy

We identify four main levers of change, all of which touch upon multiple sectors and activities:[18]

1. **Reduce energy demand:** improve energy efficiency of products, optimize production processes, and promote circular economy solutions.

2. **Make the transition from fossil-based to renewable energy sources:** phase out fossil-based sources and replace them by (green) hydrogen, bioenergy or renewables-based sources; electrify transport, buildings and industrial processes.

3. **Make consumption patterns more sustainable and circular:** shift consumption away from energy-intensive products and activities, move towards the use of sustainable soft commodities that do not lead to deforestation or land and marine biodiversity degradation, and shift agricultural production towards alternative proteins, sustainable production methods and less intensive tillage methods.

4. **Remove greenhouse gases from the atmosphere and prevent fugitive emissions:** scale carbon capture, utilization and storage solutions, remove CO2 from the atmosphere, enhance natural carbon sinks by curbing deforestation and stimulating ecosystem restoration, and eliminate fugitive methane and CO2 from industrial, waste management and agricultural processes.

We should acknowledge that climate change mitigation measures can have adverse social and environmental effects. For instance, hydropower, wind power or biomass or nuclear power plants may impact large areas of land and receive social opposition. We are not by definition in favour or against these solutions, but always assess them in line with the sustainability principles underlying our Sustainable Investment Policy, following a holistic view of sustainability. For example when looking at nuclear power plants, most of the IPCC scenarios for a 1.5°C pathway include a share of nuclear energy in the energy mix. There are different views on the potential harmful effects of nuclear energy such as the environmental impact of radioactive waste disposal. Although we recognize these and prefer other types of renewable energy where possible, for now there is insufficient scientific basis to fully exclude nuclear energy from reaching a 1.5°C pathway.[19]

4.2 Priority sectors to reach a global net-zero economy

We will focus our decarbonization efforts on twelve priority sectors. We first identify the top-10 sectors with the highest scope 1 and 2 greenhouse gas emissions intensity. These represent around 85% of total scope 1 and 2 greenhouse gas emissions of our assets under management in 2022. The materiality of these sectors in the generation of greenhouse gas emissions is in line with other studies. Within each of these sectors, the largest issuers with the highest scope 1 and 2 greenhouse gas emissions intensity are identified. In most sectors, only a small number of issuers cause the highest greenhouse gas emissions. That is, the top-10 issuers emit on average around 80% of the total greenhouse gas emissions of their respective sector.

The top-10 sectors are the following:

- Metals & Mining
- Electric Utilities
- Construction Materials
- Chemicals
- Oil, Gas & Consumable Fuels
- Airlines
- Capital Goods
- Paper & Forest Products and Containers & Packaging
- Transportation & Logistics
- Food Beverage & Agriculture

Second, we also target the sectors with the highest scope 3 emissions. The top-10 sectors for scope 3 emissions intensity are almost similar to the above list. By adding the **Automobiles & Components** sector to the priority sectors, around 70% of total scope 3 emissions of the assets under management by Cardano in 2022 are covered. By reducing emissions among the top scope 1 and 2 emitters and paying additional attention to their scope 3 emissions, the scope 3 emissions of all sectors are likely to reduce.

Third, we add the **Financial Sector**, in particular banks, to the priority sectors. Through their loan portfolio, scope 3 emissions are a material part of the total carbon footprint of banks. By encouraging the financial sector to reduce their financed emissions, they can advance the low-carbon transition.

18 SR15_Chapter2_Low_Res.pdf (ipcc.ch), Climate-math-What-a-1-point-5-degree-pathway-would-take-final.pdf (mckinsey.com)
19 Technical assessment of nuclear energy with respect to the 'do no significant harm' criteria of Regulation (EU) 2020/852 ('Taxonomy Regulation'), European Commission Joint Research Centre, Petten, 2021, JRC124193. Available at: https://www.politico.eu/wp-content/uploads/2021/03/26/JRC-report_March-2021-clean-Copy-printed.pdf
20 SR15_Chapter2_Low_Res.pdf (ipcc.ch), Climate-math-What-a-1-point-5-degree-pathway-would-take-final.pdf (mckinsey.com), Financial-Sector-Science-Based-Targets-Guidance-Pilot-Version.pdf

It should be kept in mind that we not only target carbon emissions reductions, but also consider the other greenhouse gases. That is, reducing fugitive methane emissions in the mining and the oil & gas sectors, moving to alternative cooling technologies in the capital goods sector, enhancing the sequestration capacity of carbon sinks by forestry and agricultural issuers or marine activities, reducing deforestation by soft commodity producers and reducing methane emissions from agricultural activities. For a more detailed overview of the transition pathways per sector, see Appendix 1.

4.3 Key performance indicators for the strategic objectives

We set Key Performance Indicators (KPIs) for each of our strategic objectives. The KPIs are more specific for the coming 5-10 years than for the years after 2030.

4.3.1 2021-2030 Financing the transition to a low carbon economy

In this period, we focus on activating behavioural change from issuers through engagement and stepwise stricter ESG integration in investment choices.

Through active ownership encourage issuers to reduce GHG emissions

Through engagement, voting and shareholder resolutions we try to create the conditions that enable issuers to take steps towards net zero emissions and a 1.5°C pathway. We want to reach the following:

- By 2023, at least ten of the issuers in each of the twelve priority sector with the largest emissions per invested value have set science-based targets (SBTs) that cover scope 1, 2 and 3;[21]
- By 2030, all issuers in the top sectors have set science-based targets for their scope 1, 2 and 3 emissions, have implemented realistic plans to achieve these targets and disclose this following TCFD recommendations.

Reducing greenhouse gas emissions should be a joint effort by all sectors in the economy, to alter the current high demand for climate change contributing activities. So, oil and gas companies cannot only be held responsible for consumers using gasoline to drive their cars or using gas to heat their houses. Car manufacturers are also expected to promote EV vehicles, the building sector is expected to adopt stringent emission norms and the food processing and retailing sectors are expected to promote systemic change towards more plant-based consumption patterns with lower land use impacts.

At shareholder meetings we shall vote in favour of shareholder resolutions that support these KPIs. We will also actively co-file climate-related resolutions at shareholder meetings. Engagements with issuers will focus on setting science-based targets and implementing realistic plans to achieve these targets. Appendix 1 gives a description of the steps companies are expected to take and the pathways they are expected to follow. Cardano will also monitor the impact of the engagement efforts and annually check whether the greenhouse gas emission of issuers follow a pathway towards net zero emissions.

Invest in solutions

We are keen to develop investment strategies that encourage issuers to adopt solutions that prevent climate change. This may speed up the autonomous change of the market towards net zero emissions. For this, the existing funds will extend their stakes in issuers providing solutions. These may be technological solutions to reduce or reverse the greenhouse gas emissions of existing processes, or the development of new, climate-friendly or climate-positive products. Also, the transition to a low-carbon economy provides a strong investment opportunity, so Cardano will actively engage issuers on this. The following KPIs are formulated to monitor this:

- The green-to-brown ratio from all assets under management exceeds the green-to-brown ratio of the benchmarks at any time. This ratio captures green revenues from activities like renewable energy versus brown revenues from activities like oil and thermal coal. Cardano strives for a green-to-brown ratio of its assets under management compared to the benchmarks of 4 at the latest by 2030;[22]
- By 2030, Cardano aims to have doubled its share of investments that is aligned with the EU Taxonomy compared to 2020. This relates to all six environmental objectives of the EU Taxonomy as greenhouse gas reductions and sequestration benefit not only from investments in mitigation technologies, but also from investments in sustainable use of water and biodiversity, pollution control and circular economy solutions.[23]

21 This may refer to targets that have been approved by SBTi or by another relevant independent third party.
22 According to IPCC, the average annual investments in low-carbon technologies needed to remain within a 1.5o scenario are projected to surpass those from fossil technologies in 2025 and upscaled by roughly a factor 6 by 2050 (see https://www.ipcc.ch/site/assets/uploads/sites/2/2022/06/SR15_Chapter_2_LR.pdf). The European Commission encourages that Climate Transition Benchmarks have a green-to-brown ratio compared to a broad market index of at least one and Paris Aligned Benchmarks a ratio of at least four in order to upscale green investments according to IPCC recommendations.
23 This KPI is monitored regularly to assess whether it can be reached at an earlier stage. At the moment of publishing this strategy, Taxonomy alignment data was still incomplete and mostly estimated.

- The revenue share generated from products and services related to energy efficiency, renewable energy and green building from all assets under management doubles by 2030 compared to 2020;

These KPIs can be realized by engaging issuers to invest in 'green' technologies that align with the technical requirements from the EU Taxonomy, by actively selecting in the portfolios issuers that provide sustainability solutions, by increased efforts to stimulate clients to select impact focussed investment products, or by putting more weight on the taxonomy alignment shares or 'green' revenues when reweighting index portfolios. Annually, progress of these KPIs will be monitored and if necessary, more effort will be put on any of these strategies to increase investments in sustainability solutions.

Divest from non-adapting issuers

We expect the low-carbon transition to become more (financially) material over time. Through ESG integration, we identify frontrunners in the transition. Issuers that lack the capacity to adapt to the low-carbon transition will be divested from. We will be particularly strict on the following activities related to the twelve priority sectors:

- Thermal coal: We already exclude utilities that plan to build new coal-fired power plants and issuers with too high stakes in or plans for thermal coal activities.[24] Thermal coal activities increase the risk of stranded assets and therefore will be gradually phased out, with in any case a complete phase out from all our directly-managed assets by 2030. Thresholds will be tightened over the years, such that the share of revenues related to thermal coal mining does not exceed 15% in 2023, 10% in 2025 and 2% in 2028 and the share of revenues related to coal-fired power generation of an issuer does not exceed 25% in 2023, 15% in 2025 and 5% in 2028. Thermal coal is regarded a key risk factor and barrier to achieving the energy transition that is required. Plus alignment with the IPCC 1.5°C pathway cannot be achieved without divesting from this activity.

- Activities related to dedicated storage and/or transportation of any fossil fuels, including gaseous or liquid fossil fuels: fuels transportation and storage should redirect towards renewable energy sources such as bio-energy[25] and hydrogen by 2030 to remain investable.

- Electricity generation from gaseous fossil fuels with emissions above 100 gCO2e/kWh measured on a life cycle basis remains investable as a transition fuel until 2030. After 2030, they may remain investable for peak energy loads, but not for the base load.

- Car manufacturers should have at least a 50% share of electric vehicles in new car sales,[26] which can be electrified or hydrogen-based, as of 2030 to remain investable.

- Issuers in the real estate sector are expected to have started taking measures to electrify their space and water heating, e.g. by replacing natural gas in 2030, as well as, applying energy efficient technologies and material efficiency.

- All other activities: divest from top-10 issuers in the top sectors that do not show GHG reductions aligned with the requirements for a 1.5 degree pathway by 2030.

Limits applied in the Cardano screening methodology will be tightened step by step to assure that issuers that do not comply with the above principles are divested.

4.3.2 2030-2040 Accelerating the low-carbon transition

By 2030, most sectors are expected to have already achieved significant greenhouse gas emission reductions or at least to have set targets and formulated transition strategies. Sectors with hard-to-abate emissions, such as metals & mining, construction materials and airlines, are expected to have developed technologies that are promising for reaching greenhouse gas emission reductions in the years to follow. At the same time, most issuers most likely still have to significantly reduce their emissions. More carbon capture solutions become available at more affordable rates. In case engagement has been unsuccessful to achieve the necessary and timely change in behaviour of issuers, proxy voting and shareholder resolutions requiring 1.5°C aligned business models will be used as escalation policy. Issuers in the priority sectors that show insufficient progress and do not meet the greenhouse gas reduction required by 2040 will be divested from.

KPIs per strategic objective have 2040 as target year unless stated otherwise and are as follows:

Reduce GHG emissions of issuers

- All issuers in non-top sectors need to have science-based targets and have started implementing realistic plans to achieve them;

- All issuers in non-top sectors show greenhouse gas emission reductions by 2035;

- In case of unsuccessful engagements with top sector issuers Cardano will use proxy voting and shareholder resolutions on 1.5°C aligned business models.

24 We exclude issuers with an average carbon intensity of more than 8,000 ton CO_2 per million USD revenue, issuers of which more than 15% of the total revenue comes from thermal coal mining, and utilities with expansion plans for coal-fired power plants.
25 Taking into account that it complies with the CBI requirements and EU standards
26 UBS Global Research 25 March 2021 Energy Transition: How will $140tn of investment be allocated across the energy supply chain; Climate-math-What-a-1-point-5-degree-pathway-would-take-final.pdf (mckinsey.com)

Invest in solutions

- The size of the impact focussed equity and fixed income strategies increases with 50% in 2040 compared to 2030;
- The revenue share generated from products and services related to energy efficiency, renewable energy and green building from all assets under management increases with 50% by 2040 compared to 2030;

Divest from non-adapting issuers

- Divest from issuers in the top-10 sectors that do not meet greenhouse gas emissions reductions required for 1.5°C alignment or net-zero pathway;
- Divest from issuers with power generation activities that use biomass e.g. from pellet, wood, peat or waste. Power generation from biomass may be feasible during the transition to net-zero emissions, but is not a sustainable solution, especially not if air pollutant emissions and CO_2 are not captured.[27] Plus, the amount of land required for carbon sinks and food production will increase over the years, thereby competing with land used for biomass production.

4.3.3 2040-2050 Shifting towards a net-zero, nature-positive world

From 2040 onwards we expect that issuers in other sectors have reduced greenhouse gas emissions or have already reached net zero. KPIs are:

- All issuers reach net zero emissions at the latest by 2050;
- Divest from all issuers that do not meet greenhouse gas emission reductions required for 1.5°C alignment by 2050.

4.4 Strategy to reduce physical climate risks

Next to the steps issuers make in the low-carbon transition, we also evaluate their physical climate risks. Future physical risks depend on the extent of global warming. IPCC has estimated that climate risks increase exponentially if average temperature increase exceeds 1.5° Celsius. Even though the largest risks will only emerge after 2050, we currently already experience increasing physical climate related risks. Examples are increased probabilities of extreme drought, extreme rainfall, storms, forest fires, heat waves or extreme cold. Sea level rise will for the future also cause substantial threats to coastal areas and island states if insufficient action is taken.

> **"Sectors most vulnerable to the physical climate risks include the food & staples retailing sector...**

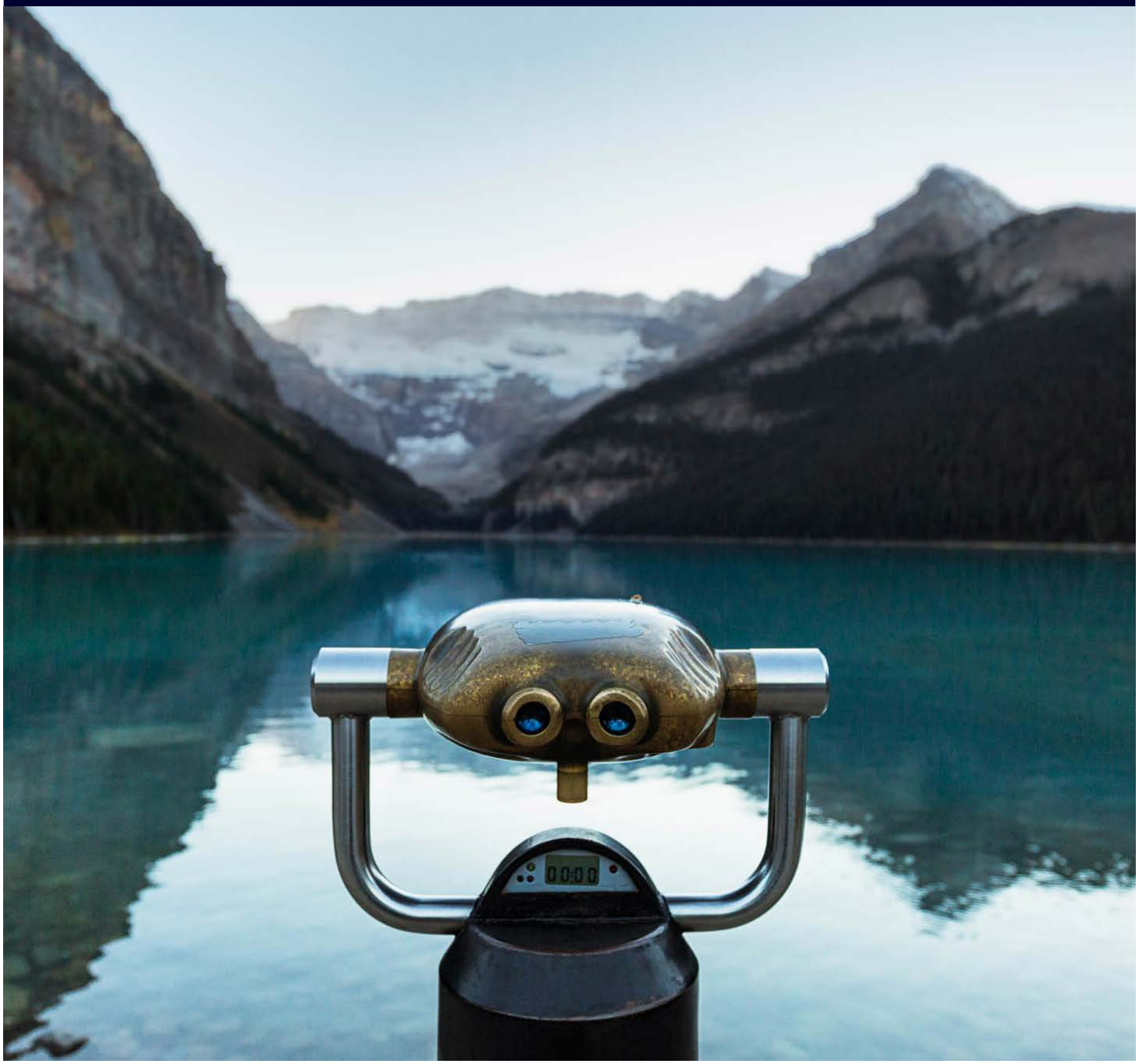
Climate related physical risks may lead to damages to physical assets and infrastructure. But it also may lead to reduced workability and liveability of areas, reduced productivity of food systems and irreversible damage to natural capital.[28] This may lead to increased damage costs. But it may also lead to reduced productivity and production or supply interruptions. Given current insights, sectors most vulnerable to the physical climate risks include the food & staples retailing sector, water utilities, airlines, telecommunication services and the renewable energy sector.

Two actions are important. First, we expect issuers operating in or supplying from areas sensitive to physical risks to assess their risks. This refers to companies from all sectors. Are they operating in flood prone areas, do they experience an increase of extreme weather-related damages in production locations, may productivity be at-risk or can the risks lead to production shocks? Some of these risks cannot be managed by individual companies but are systemic risks. Other risks can partly be mitigated by adapting building design or use of more climate resilient production methods. Second, issuers are expected to evaluate resilience of their supply chains and their business models. Sectors dependent on food products or natural resources in production processes are expected to evaluate their readiness for production shocks from key suppliers in case of natural resources scarcity or harvest failures. Companies dependent on logistics networks are expected to evaluate their readiness for supply disruptions due to damage to essential infrastructures. Insurance companies, banks and other financial institutions are expected to evaluate risks related to increased costs or increased risk of default due to increased probabilities of extreme weather events.

To reduce financial risks for our assets, we engage issuers to manage their climate-related risks. For this, we first concentrate on issuers in the most vulnerable sectors, for which we ask issuers to assess and if necessary, mitigate their physical climate risks. If physical risks continue to increase, over time, we may divest from issuers whose physical climate risks exceed certain thresholds if they cannot or do not properly manage these risks.

27 European Energy Transition 2030: The Big Picture (agora-energiewende.de) and SR15_Chapter2_Low_Res.pdf (ipcc.ch)
28 Climate risk and response: Physical hazards and socioeconomic impacts (mckinsey.com)

5. Monitoring and Reporting



In line with recommendations from the Taskforce on Climate Related Financial Disclosures (TCFD), we disclose the greenhouse gas emissions and the progress on our climate targets from our funds and mandates in our annual reports. We use the Platform Carbon Accounting Financials (PCAF) method to calculate carbon footprints. Progress on targets will be monitored at all levels (all funds, sectors, assets and issuers and separate for corporates and sovereigns) by the following metrics for scope 1, 2 and 3 emissions:

- Greenhouse gas emissions intensity (tonnes of CO_2 equivalent / EUR);
- Absolute greenhouse gas emissions (tonnes of CO_2 equivalent).

> **"progress on reaching net zero targets at issuer level will be monitored annually.**

Next to that, progress on reaching net zero targets at issuer level will be monitored annually with the following sector- and issuer-specific metrics:

- Sector-specific GHG emissions to output metrics e.g. CO_2 equivalent / MWh generated from fossil fuels for the Utilities and Oil, Gas and Consumable Fuels sectors
- Issuer-specific GHG emission reduction requirements to align with a 1.5°C scenario

In line with the Financial Sector Science-Based Targets guide, our climate targets will be recalculated and revalidated every 3 to 5 years and if necessary be strengthened. Given that data quality and standardized reporting by corporates on scope 3 emissions will improve over time, we will review our scope 3 emissions target in the upcoming 3 to 5 years.

6. Climate target for Cardano operations

The scope 1, 2 and 3 greenhouse gas emissions from our own operations are currently zero. This is achieved by decarbonizing the electricity and gas consumed and offsetting the greenhouse gas emissions associated with all other activities that cannot yet be decarbonized. Greenhouse gas emissions scope 1 include emissions from heating and lease cars. Greenhouse gas emissions scope 2 include emissions from purchased energy. Greenhouse gas emissions scope 3 stem from business travel, commuting, waste, paper and water.

In 2020, the greenhouse gas emissions that were offset amounted 125 tonnes:

- Scope 1: 49 tonnes
- Scope 2: 0 tonnes
- Scope 3: 77 tonnes

We aim to bring scope 1 emissions down to 0 tonnes by 2030. We shall continue to only use electricity from renewable energy sources. Scope 3 emissions will be reduced as much as possible, among other things by using as much as possible electrical means of transportation and minimizing international air travel. In case emissions cannot be prevented they will be offset with Gold Standard Certified activities. We shall annually disclose our own emissions in our annual reports.

> **We aim to bring scope 1 emissions down to 0 tonnes by 2030.**

Appendix 1:
Expected sector-specific mitigation pathways

To work towards the climate targets, we encourage issuers to reduce their greenhouse gas emissions and invest in solutions. To be clear about our expectations from our investees, this appendix gives a description of focus points of stewardship activities and due diligence.

As described above, all companies are assessed on their exposure to risks related to the transition towards a low-carbon economy and their capacity to manage these risks. We have additional expectations for companies of the priority sectors. The appendix firstly provides expectations applying to all priority sectors followed by a short summary of the expected pathways of the specific sectors Cardano identified to reach a net-zero economy. Pathways and levers for change are largely based on the McKinsey 1.5°C scenario analysis,[29] UNEP GAP Report,[30] and the Transition Pathway Initiative.

In general terms, we expect from companies in the priority sectors to:[31]

- formulate science-based, Paris aligned greenhouse gas emission reduction targets before 2030;
- formulate targets to increase investment in renewable energy or clean technologies;
- define carbon reduction strategies and investment plans, minding scope 1, 2 and 3 emissions before 2030 that support the targets;
- support domestic and international efforts to mitigate climate change and not participate in (indirect) lobbying to weaken sovereigns' climate policies;
- adhere to TCFD recommendations, and undertake and publish a climate risk assessment, considering multiple climate scenarios and realistic, science based internal carbon prices;
- link executive pay to carbon emissions reduction targets and have a board member or board committee that is responsible for oversight of the climate strategy.

In addition, financial institutions are expected to disclose the greenhouse gas emissions of their investments (at least at fund level or entity level) and explain trends in emissions.

Metals & mining

Metals (iron & steel)

- Carbon emission reductions are expected to be at least 25-30% by 2030 and 95-100% by 2050.
- Demand for metals is expected to shift more towards more alternative and lightweight materials e.g. cars with less steel and stronger alloys. This may reduce demand for metals by 20% in 2050 vs. 2019, which metals producers are expected to consider in their forecasts and investment plans.
- Energy efficiency and circularity rates should be improved by reducing production losses and increasing lifetime of steel products. Companies are expected to improve the current recycling rate of approximately 1/3 by at least 10% in 2030 and by 20% in 2050, by switching from ore-based to scrap-based steel. Companies are also expected to invest in technologies recovering heat and reusing top gases for heat or power to improve their energy efficiency.
- Companies are expected to gradually switch to alternative energy sources, such as green hydrogen or biomass (in areas where biomass supply is guaranteed and don't have significant negative environmental impact or compete with food supply) as reduction agent, to replace natural gas.
- Companies are expected to retrofit existing furnaces and equip new ones with CCUS technologies.

Mining

- Carbon emission reduction are expected to be in the order of magnitude of 65-70% by 2030 and 85-90% by 2050.
- Demand for thermal coal used for power generation is expected to 0% by 2050 vs. 2016, whilst nickel and lithium demand will increase, due to their role in the energy transition. Changes in demand for metallurgic coal used for cokes in primary steel production, will depend on the speed with which alternative production methods are developed.[32] Mining companies are expected to consider demand shifts in their forecasts and investment plans.
- Energy efficiency can be improved by optimizing processes and operations. In addition, diesel- and gas-fuelled equipment can be electrified, making use of battery storage, or switched to equipment using green hydrogen.
- Mining companies are expected to install CCUS installations to capture or prevent 100% of methane emissions from coal seams in mines.

29 Investor Leadership Network (2020) Climate change mitigation and your portfolio
30 Emissions Gap Report 2020 | UNEP - UN Environment Programme
31 Most indicators apply to every sector, but there are exceptions e.g. financials.
32 See https://hydrogencouncil.com/wp-content/uploads/2017/11/Hydrogen-scaling-up-Hydrogen-Council.pdf

Electric utilities

- Carbon emission reduction is expected to be around 70-75% by 2030 and 100% by 2050.
- Demand in carbon-free electricity is expected to increase fast, because of increasing levels of electrification and changes in demand from grey to green electricity.
- It is expected that renewables electricity sources will replace thermal generation, with 80% of power demand sourced from renewables in 2050. Green hydrogen use in electricity production is expected to grow, especially for buffers and seasonal balancing of the power system. Companies should consider these demand changes in their forecasts and investment plans.
- We expect electric utilities to phase out coal-fired power generation by 2030, and not plan new coal fired power plants, especially in developed markets. We expect utilities to have less than 15% revenues from coal fired power plants by 2025.
- It is expected that some natural gas generation will remain in 2050 to allow for grid flexibility. Yet, we expect from utilities to retrofit them with carbon-capture technology.
- To enable the increased supply of renewable electricity, network operators are expected to make the necessary investments to prepare for the required network changes.

Construction materials

- Carbon emission reduction is expected to be in the order of magnitude of 25-30% by 2030 and 75-80% by 2050.
- Following the EU Taxonomy, we expect that by 2030, greenhouse gas emissions for grey cement clinker are lower than 0,722 tCO_2e per tonne of grey cement clinker and/or that for cement from grey clinker or alternative hydraulic binder, the specific GHG emissions from the clinker and cement or alternative binder production are lower than 0,469 (102) tCO_2e per tonne of cement or alternative binder manufactured.
- It is expected that for materials like cement, there will be some substitution by alternative building materials like cross-laminated timber and prefab homes. In addition, to reduce use of raw materials, it is expected that there will be some substitution of clinker feed with cementitious materials and industrial by-products. Materials producers are expected to consider demand shifts in their forecasts and investment plans.
- To improve energy efficiency, it is expected that materials producers improve kilns, optimize plant operations, including electricity generated from recovered heat waste such as to improve energy efficiency at least by 15% in 2050.
- Construction materials producers should also search for alternative energy sources, such as the use of more biomass and waste products to heat kilns and to switch to renewable electricity and/or hydrogen.
- Materials producers are expected to retrofit existing kilns and equip new ones with CCUS or develop new, improved carbon curing technology.

Chemicals

- Carbon emissions are expected to be reduced with 40-45% by 2030 and with 85-90% by 2050.
- Ammonia demand is expected to decrease or show lower growth rates if more precision agriculture and the use of more organic fertilizers will reduce fertilization rates. Chemicals producers should consider these demand shifts.
- Producers are expected to invest in process optimization, to realize energy efficiency gains.
- It is expected that alternative energy or carbon sources will alter demand and processes. Electrolysis-derived green hydrogen production can be used as feedstock and natural gas can partly be replaced with biogas at ammonia production sites. In addition, for some chemicals, improved recycling can reduce demand for raw materials. Producers are expected to consider these developments in their forecasts and investment plans.
- Companies are expected to increase the use of renewable energy as input to at least 50% by 2025 with a long-term directional goal of 100 % renewable energy in own operations before 2050.
- Companies are expected to install CCUS in ammonia plants for process and combustion emissions.

33 Includes emissions from oil, gas and coal

- Companies are expected to be supportive to carbon taxation and introduce internal carbon pricing in their own materiality assessments. In addition, they are expected to link long-term management incentives and targets to energy efficiency and renewable electricity use.

Oil, gas & consumable fuels

- Carbon emissions are expected to reduce by 55-60% by 2030 and by 90-95% by 2050.
- Companies should achieve carbon neutral global operations (Scope 1 and 2) by 2030. This can be done by for example electrifying onshore and near-shore operations, develop high-temperature electric crackers, reduce flaring, venting and fugitive methane through e.g. vapour recovery units, leak detection and repair and investment in transport and export infrastructure.
- Companies are expected to use carbon capture of the steam methane transforming process to produce hydrogen for refining.
- Companies are expected to broaden their business model to change their focus from fossil-based activities to renewable or biobased sources. In addition, they are expected to also assist clients to reduce scope 3 emissions.

Airlines

- Carbon emission reductions are expected to be in the order of magnitude of 30%-35% by 2030 and 80-85% by 2050.
- The introduction of carbon pricing systems are expected to lead to the switch of short-haul flights to high-speed rail and improved remote meeting alternatives. Airlines are expected to consider such shifts in their forecasts.
- Airlines can improve their energy efficiency by modernizing fleets, improving operational efficiency, and improving high-speed alternatives for shorter distances.
- Airlines are expected to invest in the development of Sustainable Aviation Fuels (SAFs) based e.g. on biobased or waste materials or green hydrogen. By 2030, 25 to 30 percent of the energy mix is expected to consists of SAFs, by 2050 around 70% consists of SAFs and around 20 percent consists of green hydrogen.

Capital goods

- Carbon emission reductions are expected to be in the order of 40-45% in 2030 and 85-90% in 2050.
- Companies are expected to develop products and services that improve energy efficiency or allow for use of non-fossil energy sources. Examples are the development of products that comply with stricter standards for energy reduction in buildings, that through smart technology help consumers or other companies to optimize energy use, or developments that allow for use of alternative energy sources such as electric heat pumps or fuel cells.

Paper & forest products + containers & packaging

- This sector has a double role to play in reaching decarbonization. On the one hand, it provides substitutes to fossil fuel and carbon-intensive products, but it also plays an important role in sustainable forest management which serves as an important carbon sink. On the other hand, the paper, forest product and packaging sectors need to reduce greenhouse gas emissions associated with their processes.
- Given the increased demand for carbon sinks and non-fossil packaging materials, it is expected that demand for sustainable forestry will increase. We expect companies to consider the implications of these potentially contradictory demand changes in their strategies. For this, we expect companies to comply with PFC or PEFC certification requirements, prevent deforestation and biodiversity loss and switch to reduced impact production methods.
- Companies are expected to make the transition towards more circular business models with increased attention for extended producer responsibility. They are expected to improve recycling by increasing rates of collected packaging waste and improving recycling techniques. This implies the need for increased attention for recycling, recyclability, waste minimization, use of biobased or biodegradable materials, reduction of packaging material.
- Companies are expected to switch to renewable energy sources in their processes and transportation activities. The paper & forest sector can exploit opportunities for new supply chains and revenue streams such as from carbon offsetting and increased growth of biomass for biobased materials. They should also prepare for increased physical climate risks related to drought, floods, forest fires, storm, etc.

Transportation & logistics & automotive

- Carbon emission reductions are expected to reach 30%-35% by 2030 and 70-75% by 2050.
- Demand for transportation and logistics is expected to change over the coming decades due to stricter rules and regulations on emissions that will impact transportation especially in urban areas and lead to developments in public transport networks, hydrogen based transport, new (multi-modal) modes of transport and shared modes of transport. Companies should consider these expected changes in their forecasts and investment plans.
- Companies are expected to invest in energy efficiency innovations to enhance fuel efficiency, transition to low-emission fuels and technologies across all modes of transport and reduce fleet' carbon intensity. In addition, car and truck manufacturers are expected to account for stricter supply chain labour and environmental standards, especially related to mining and processing of battery and fuel cell materials

Food, beverage & agriculture

- Carbon emission reductions are expected to reach 50-55% in 2030 and 100% in 2050.
- Demand patterns are expected to shift due to potential increased meat demand in emerging markets but reduced meat demand due to shifts in consumer protein preferences in developed markets. In addition, there are developments of increased demand for locally produced foods, healthy foods biological foods and cultivated meat and efforts to reduce food waste. These demand changes should be considered in forecasts and investment plans.
- The agricultural sector is expected to invest in precision agriculture, improved technologies and improved seeds to reduce greenhouse gas emissions from agriculture and increase carbon sequestration in soils and vegetation. The sector is expected to develop carbon reduction programs in raw materials production, manufacturing operations, transportation and logistic and distribution centres/store operations. They are also expected to move towards more nature-based and eco-friendly cultivation methods to increased sequestration in soils and vegetation.

Appendix 2:
Methodology Climate target

Determining the 1.5°c ghg emissions reduction pathway

The GHG emissions reduction pathway in line with a 1.5°C scenario is based on the EU Climate Benchmarks minimum technical requirements[34] that entered into application as of December 2020 as part of the EU Sustainable Finance Plan. The technical recommendation is to achieve at least 7% on average per annum greenhouse gas (GHG) intensity reduction at the portfolio level. It is derived from the IPCC's 1.5°C trajectory with no or limited overshoot (Years 2020-2030, Table 2.1, Rogelj et al., 2018). To follow this trajectory, the global economy should decrease its emissions by 7% per year. If a portfolio claims to represent a portion of the economy in line with the Paris agreement, it needs to follow this decarbonisation rate.

Currently, there is no widely accepted standard stipulating specific requirements for the GHG emission intensity reductions of sectors or individual issuers to align with a 1.5°C pathway. This is also highly complex, given the interdependencies and complexities of estimating future developments of (government) policies, technology, society and nature. Therefore, we select the best available information from scientific research to align our strategy and implementation with a 1.5°C pathway.

Determining the Cardano climate target

As a member of the Technical Advisory Group and supporter of the Science-Based Target Initiative, we aim to implement the specifications of the Financial Sector Science-Based Targets Guidance to the extent possible. Therefore, we follow the validation criteria and recommendations on GHG emissions inventory and target boundary, target time frame, target ambition, portfolio target setting requirements, reporting and recalculation. We have set both intermediate and long-term targets that aim for a 1.5°C pathway, covering all scopes and assets under management. Given the asset classes in which we invest and the wide range of sectors, some of the KPIs are set in line with the portfolio target setting method of SBT Portfolio Coverage. Namely, we set engagement targets in which issuers are required to commit to setting approved science-based targets and these are to be reached within a certain timeframe.

At the same time, we consider setting targets as only a first step towards a low-carbon economy. Beyond that the implementation of these targets and the resulting effects they have are even more important. Since we want to achieve real behavioural change through the investments we make on behalf of clients, we have defined the overall climate target in terms of actual GHG emissions reductions.

Tracking progress on the Cardano climate target

The GHG emissions of our assets under management are calculated by using the method of the Platform Carbon Accounting Financials (PCAF). This is done for each of our funds. Given fund in- and outflows, and the development of market fluctuations over time, greenhouse gas emissions intensity rather than absolute greenhouse gas emissions is considered the most comparable metric to track progress on targets over time.

To monitor progress over time, it is necessary to account for closing and launching of new funds in different years. Therefore, the GHG emissions intensity at Cardano level is the sum of the AUM-weighted GHG emissions intensity of the individual funds. To calculate the percentage of reductions achieved, the GHG emissions intensity at the end of 2019 is taken as a baseline, the year-on-year changes in AUM-weighted GHG emissions intensity are calculated geometrically.

34 https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/eu-climate-benchmarks-and-benchmarks-esg-disclosures_en

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Abbreviations

AUM: Assets Under Management
CCUS: Carbon Capture, Utilisation and Storage
CO_2: Carbon emissions
GHG: Greenhouse gases
IPCC: Intergovernmental Panel on Climate Change
PCAF: Platform Carbon Accounting Financials
SAF: Sustainable Aviation Fuel
SBTI: Science-Based Target Initiative

cardano

Cardano UK
9th Floor
6 Bevis Marks
London
EC3A 7BA
United Kingdom

T: +44 (0)20 3170 5910
E: info@cardano.com
W: cardano.com

Cardano NL
Weena 690
21st floor
3012 CN
Rotterdam
The Netherlands

T: +31 10 206 1300
E: info@cardano.com
W: cardano.com