

Just Transition

Impact Investing Framework



Sonen Capital

Social & Environmental Impact Investment Advisor

Sonen Capital is an independent impact investment advisory firm that works with families, foundations, endowments and institutional investors to create bespoke investment solutions that deliver competitive financial returns alongside meaningful and measurable social and environmental impact. With decades of impact investment experience, we partner with clients to develop and manage comprehensive and customized portfolios across all investment themes and asset classes.

Sonen was built on the conviction that investing to generate financial returns and lasting impact are not only compatible but also mutually reinforcing objectives. Headquartered in San Francisco, Sonen is majority employee-owned and a certified B Corp with a 149.6 B Impact Score.

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An Inclusive Approach to Climate Action

Definition of a Just Transition

At Sonen, we see the Just Transition as an inclusive and equitable process towards an environmentally sustainable, low-carbon, and regenerative economy. We believe investments in climate should incorporate positive contributions to decent work, wealth creation, social inclusion, and the eradication of poverty to ensure equitable solutions.

Pillars of a Just Transition

- 1. Advancing climate, nature and environmental action**, including emissions reduction, natural capital preservation, adaptation and resilience;
- 2. Improving socio-economic distribution and equity**, including inclusive opportunities for decent jobs, accessibility and affordability of products and services and social justice for marginalized groups; and
- 3. Increasing community voice** and stakeholder engagement.¹⁹

Why do we need a Just Transition?

After centuries of modern economic progress, the effects of climate change are more prevalent than ever. The planet has warmed 0.2°C per decade (a rate three times faster than 1980s levels), causing altered weather patterns and natural disasters that are exacerbating negative health outcomes, infrastructure damage, and food supply disruption.¹ For instance, the devastating 2025 Los Angeles wildfires, with thousands of people displaced, have been projected to cause infrastructure damage and home and economic loss valued between \$250 billion to \$275 billion.²

Disasters such as these wildfires are no longer rare occurrences: as of 2023, \$3.8 trillion worth of crops and livestock have been lost globally over the past three decades due to disaster events, equating to an average of \$123 billion lost annually.³ To mitigate further consequences of climate change, intentional investment and rapid structural changes are required to successfully transition from extractive economies to resilient, low-carbon systems. However, this transition presents significant social repercussions that can disproportionately impact disadvantaged communities, including workers in fossil fuel industries, low-income individuals, and people of color.⁴ The Just Transition acknowledges these communities and centers climate action around a commitment to making the shift to low-carbon economies equitable and inclusive.



The long-standing implications of climate change have a history of significantly affecting marginalized communities. Of the average 21.5 million people displaced around the world annually by extreme weather events, 80% of this population are women.⁵ In tandem with these gender inequities are racial implications, with communities of color subject to 40% more polluted air in the United States.⁶ Unfortunately, the bold climate action intended to create positive environmental outcomes also threatens to perpetuate disadvantages for marginalized communities.

In the United States alone, employment in the coal industry declined by approximately 57% from 2011 to 2022, creating vast unemployment for workers who lack the skills and training to adapt to green job opportunities.⁷ Seeing as fossil fuel revenues contribute \$138 billion to local, state, and federal governments annually, dismantling this energy production without social considerations will decrease the funding for many public institutions and social services that low-income communities rely on.⁸

Globally, middle-income countries face similar threats, as their economic dependence on volatile oil and gas prices render them extremely vulnerable to inequitable climate action.⁹

How did the Just Transition movement begin?

The roots of the 'Just Transition' took shape in the 1990s in response to increasing unemployment in fossil fuel industries. As environmental protection policies forced job losses in polluting industries such as coal and oil, American labor unions and environmental justice groups demanded fair pathways for these workers to transition to new jobs.²⁰

Impact Goals for a Just Transition

Successfully addressing the complex environmental challenges and the nuanced social implications of the Just Transition requires clear, intentional goals to guide investment strategies. These three key impact goals aim to support climate action while accounting for communities that are impacted most.

1 Significantly reduce carbon emissions, while meeting demands for access to food, energy and shelter of a growing population

Success demands rapid deployment of climate solutions that can both reduce emissions and enhance human well-being— from cleaner production methods to more efficient resource use.

Why? The world faces the critical task of cutting carbon emissions by at least 45% by 2030 to limit global warming to 1.5°C,¹⁸ while simultaneously providing for a population expected to reach 9.7 billion by 2050.²¹ Meeting this challenge requires transforming our core systems of production and consumption while expanding essential services for the 733 million people who lack access to electricity²² and the 828 million who face food insecurity.²³

2 Support transition solutions in high-emission sectors

Success requires deploying proven solutions while accelerating innovation, building infrastructure, and ensuring equitable access to finance, particularly in developing economies which need significantly increased climate finance flows to meet their transition goals.

Why? High-emission sectors account for the majority of global greenhouse gas emissions,²⁴ making their transition critical to meeting the Paris Agreement goal of limiting warming to 1.5°C above pre-industrial levels. Supporting transitions in these sectors requires mobilizing more than \$4.5 trillion in annual clean energy investment by the early 2030s,²² while ensuring the shift protects jobs and communities.

3 Enable climate change adaptation and resilience for all, especially vulnerable communities

Building resilience requires urgent investment in adaptation and even offers potential returns; the Global Commission on Adaptation reports that investing \$1.8 trillion from 2020 to 2030 in five critical areas could yield \$7.1 trillion in total net benefits.²⁸

Why? Climate impacts already affect over 3 billion people living in contexts highly vulnerable to climate change,²⁵ with the World Bank projecting that climate change could force up to 216 million people to migrate within their countries by 2050.²⁶ Annual adaptation needs in developing countries are estimated to reach \$160-340 billion by 2030,²⁷ while currently only about 7-10% of tracked climate finance flows to adaptation efforts.

Supporting the Impact Goals Across Sectors

- 1

Significantly reduce carbon emissions, while meeting demands for access to food, energy and shelter of a growing population
- 2

Support transition solutions in high-emission sectors
- 3

Enable climate change adaptation and resilience for all, especially vulnerable communities

	Agriculture and Food	Increase the sustainability of agricultural practices while improving the efficiency of the global food supply	Reduce the loss of natural landscapes and biodiversity, halt deforestation, and decrease food waste and resulting emissions	Support regenerative practices and small farmers, increase fresh and healthy food access for underserved communities
	Nature-based Infrastructure	Reduce the loss of natural landscapes and biodiversity related to human development, specifically agriculture and industry	Increase natural landscapes and programs targeting carbon sequestration and other ecosystem services	Enhance access to natural spaces, ecosystem services and nature’s role in mitigating climate change, particularly for disadvantaged communities
	Waste Management and Water Utilities	Promote resource efficiency in municipal water and waste systems, update sewage infrastructure, promote circular economic principles to reduce overall waste creation	Improve resource efficiency and lower emissions related to waste management and water utilities, especially methane gas related to landfills	Increase waste management infrastructure for vulnerable and high-risk communities, and enhance natural ecological function related to water replenishment
	Industry	Increase prevalence of circular economy principles and practices in industrial processes and products	Target most polluting industries and sectors to reduce harmful impacts, improve energy efficiency in hard-to-abate industries	Maintain employment for displaced workers or those who are affected by industry transformation, support upskilling
	Built Enviroment	Improve climate performance of existing buildings and new developments, while providing housing and space for growing urban populations	Expand discovery of, availability and use of materials and technologies that enable more climate-friendly building practices for new construction	Expand the supply of affordable, climate-friendly housing, particularly in low- and middle-income neighborhoods
	Transportation	Increase the emissions efficiency of transportation, support electrification and use of renewable energy sources, while providing transportation options for a growing population	Expand availability of low-emissions personal transport, develop alternative technology for hard-to-abate transportation sectors (such as marine transport)	Expand low-emissions and public transportation options, ensure low-emissions personal transportation options are affordable
	Clean Energy	Increase renewable energy in the global energy mix, while improving energy access for underserved populations	Expand and modernize distribution infrastructure to improve energy efficiency, develop technologies to make clean energy sources available to all sectors	Increase energy equity via affordable access to clean energy in energy deserts, improve reliability of energy access
	Technology	Improve overall product lifecycle management, including ethical materials sourcing, resource efficiency, end-of-life management, and accessibility and affordability	Decrease emissions associated with technology use, transport and manufacturing via clean energy and efficiency improvements	Ensure sustainability of supply chain, particularly worker welfare, and ensure affordable and equitable access to underserved populations

The investing landscape for a Just Transition

The intersectionality of the Just Transition offers countless ways to invest across a variety of funding sources, types of capital, and investment mechanisms.¹⁰ And while there is no universally recognized category for investment options aligned with the Just Transition, there is a large marketplace for various investment approaches aimed at driving the transition's intended outcomes.

The IEA projects a need to triple current investment in global energy to reach \$4 trillion annually in order to achieve net zero by 2050.¹¹ The \$100-150 trillion total cost of facilitating net zero economies creates an extensive marketplace for Just Transition investments to potentially generate returns: an estimated \$26 trillion in economic gains is projected by 2030 if bold climate action is taken.^{12,13}

With various marketplaces offering access to just climate investment vehicles, there are opportunities across all asset classes for investors to capitalize on. Within fixed income, green, social, sustainable and sustainability-linked (GSS+) bonds, which fund specific environmental and social projects, have gained traction over the last 6 years and reached a cumulative issuance of \$4.9 trillion at the start of 2024.¹⁴

As for private markets, there has been a surge of environmental thematic investments, with 75% of climate-related funds launching between 2020-2023. As of Q4 2023, this quick growth in private climate funds has created 189 funds with a cumulative capitalization of \$110 billion, signaling an expansion of the environmental investing landscape.¹⁵ These investments are a few of the many solutions that when approached from a bespoke, equitable strategy, can drive the Just Transition and potentially generate competitive, risk-adjusted returns.





At Sonen Capital, we are committed to addressing the complexities of today's environmental and social challenges to promote a resilient, equitable economy. To effectively drive impact towards the Just Transition, Sonen has developed an investment framework to clearly define and provide a roadmap for three impact goals:

1. Significantly reduce carbon emissions, while meeting demands for access to food, energy and shelter of a growing population
2. Support transition solutions in high-emission sectors
3. Enable climate change adaptation and resilience for all, especially vulnerable communities

Sonen's Just Transition Impact Investing Framework upholds a standard of rigorous research, allowing for a detailed analysis of the climate trends and social justice elements of 8 key sectors that offer the highest potential for just climate action. This research and analysis guides sector-specific investment strategies, designed to generate the highest impact and potential risk-adjusted returns.

To ensure alignment with industry best practices, the framework includes targets and indicators from the United Nation's Sustainable Development Goals (UN SDGs) to evaluate investments' environmental and social outcomes. Investment guardrails detail limitations and best practices within each sector to provide depth on Sonen's Just Transition investment strategies.

Sonen's Position

Sonen's Just Transition framework explores opportunities that drive progress across a range of investable sectors.

This framework exists within the context of science and global standard-setting initiatives, notably the IFRS International Sustainability Standards Board (ISSB), the Task Force on Climate-Related Financial Disclosures (TCFD) recommendations on climate-related governance, strategy, risk management and reporting, the Task Force on Nature-Related Financial Disclosures (TNFD), and the emerging Task Force on Social and Inequality-Related Financial Disclosures (TISFD).

The Sonen team has structured an investment framework on the Just Transition by exploring the following questions by sector:

- 1. Impact Drivers:** What are the direct and indirect drivers of climate change across conventional business sectors? What corresponding social impacts should be considered?
- 2. Intended Outcomes:** What are the intended outcomes to track for Just Transition investments?
- 3. Investment Strategies:** What investment strategies are available to support intended outcomes?
- 4. Impact Measurement:** How do we measure and manage the data available on these outcomes?
- 5. Investment Guardrails:** What guidance can our investment team rely on as they diligence and deploy just transition investments?

Impact Measurement:

Defining impact metrics is essential to evaluating the tangible success of mission-focused investments. Each of Sonen's sector-specific impact goals are further detailed by suggested impact indicators, allowing for a more quantifiable assessment of the non-financial outcomes of Just Transition investments. In order to align with industry standards and facilitate comparison across investments and funds, Sonen uses the IRIS+ Metric System where appropriate, and has suggested additional indicators where there may be gaps.

IRIS+ metrics were developed by the Global Impact Investing Network (GIIN) to facilitate clarity and comparability in impact metrics. Each investment or fund may use some, none, or all of these depending on its unique impact case. However, the listed metrics provided in the following pages serve as a strong starting point for assessing impact in each sector.

Mitigation, Adaptation, and Resilience

Investment strategies in this Framework are designed to approach the Just Transition across all three of the major approaches - mitigation, adaptation, resilience - to addressing climate change at the intersection of social justice. This Framework does not individually enumerate which strategies can fit which approach, as some may have impacts among multiple or even all three movements. Sonen recognizes that all three approaches will be necessary in achieving a just and sustainable world.

Sector Taxonomy

For the purposes of our Just Transition framework, we focus in on eight key sectors where we see outsized opportunity to drive climate action and investment performance.

Sonen references the Sustainable Industry Classification System (SICS®) that now serves as the foundation for the IFRS ISSB S1 and S2 standards. For each sector listed on the right, Sonen identifies relevant climate trends and social justice elements that, in turn, inform related impact objectives and impact investment strategies. Taken collectively, Sonen believes these investment strategies will make demonstrable and measurable contributions to mitigating climate change within a Just Transition framework.

Given the extent of the climate crisis along with climate’s impact and reach across economic sectors, Sonen believes that all asset classes will ultimately play a role in achieving our impact objectives. Investment strategies are not limited to any single asset class, and the Sonen team actively explores synergies across portfolios to both contribute directly and create the enabling conditions for a Just Transition.

SICS® Sector

**Food & Beverage:
Agricultural Products**



**Infrastructure: Waste
Management and Water Utilities**



**Infrastructure:
Real Estate**



**Renewable Resources &
Alternative Energy**



**Resource
Transformation**



**Infrastructure:
Engineering and Construction**



Transportation



**Technology &
Communications**



Agriculture and Food

This sector includes landscapes, natural environments and goods and services related to the use of food production for human consumption.

Climate Trends

Food production is both a key driver of climate change and a vital part of the solution. Agriculture and land use are the source of more than 18.4% of global emissions.¹ A significant portion of these emissions comes in the form of nitrous oxide, a greenhouse gas 300 times more potent than carbon dioxide, which results from the breakdown of nitrogen fertilizer and manure.² Climate change has significant impacts on agricultural productivity, through altered precipitation patterns, air temperature, soil moisture, and increased frequency and severity of storms, floods, droughts and wildfires.³ This creates ongoing challenges for agricultural production to meet the growing population's food needs.

Social Justice Trends

As climate change intensifies, farmworkers in particular are subject to more extreme working conditions and related workplace injuries.⁴ The agricultural value chain will need access to technology, training, and financing to integrate sustainable and regenerative farming practices and irrigation systems. Smallholder farmers, the majority of food producers worldwide, should have priority access to such tools and technologies.⁵ A shift to regenerative agriculture has the potential to improve the quality of employment and take the pressure off productive land.⁶ Ensuring affordable and nutritious food stays local also remains a concern for nearly 30% of the global population.⁷

Sector Impact Goal

Gain economic, social and environmental resilience in food production

Agriculture and Food

Impact Objectives & Investment Strategies



1 Impact Objective

Increase the sustainability of agricultural practices

Investment Strategies

- Support regenerative food production and local food systems
- Invest in infrastructure and distribution mechanisms that expand the availability of such agricultural products

3 Impact Objective

Ensure the social welfare of agricultural workers

Investment Strategies

- Food justice certification and third-party sustainability certifications for food products
- Invest in managers providing technical assistance along ESG criteria for companies that include worker wellbeing
- Invest in companies contributing to supply chain traceability

2 Impact Objective

Reduce the loss of natural landscapes

Investment Strategies

- Support regenerative agriculture on existing landscapes; support land conservation efforts and sustainably-certified management of agricultural production
- Invest in products that replace high-land-use industries (such as beef production)

4 Impact Objective

Increase food production efficiency, and in turn improve the affordability and accessibility to healthy foods

Investment Strategies

- Expand agricultural practices that conserve water, reduce energy use, and restore soil health
- Invest in products designed to improve food transport, affordability and accessibility efficiency, especially for underserved populations

Nature-based Infrastructure

This sector includes all natural ecosystems, landscapes, waterways and estuaries that provide vital ecosystem services and climate mitigation services.

Climate Trends

Naturally biodiverse and primary ecosystems are shown to have up to 40 times the capacity to absorb and retain carbon when compared to monoculture, exotic, fast-growing tree plantations.¹ Each year, one square mile of salt marsh wetlands stores as much carbon equal to 76,000 gallons of gasoline,² however, globally over 85% of wetlands have been destroyed.³ In addition, 10 million hectares of forest are destroyed every year, almost 90% of which is due to agricultural expansion,⁴ even though forests serve as a major source of carbon sequestration. The ocean is the world's largest carbon and heat sink, but acidification and warming are actively harming ocean habitats and species.⁵

Social Justice Trends

Poor and vulnerable populations globally depend disproportionately on ecosystem services; investing in mangrove restoration, for example, can provide poor communities with timber, fish, and food, and urban agriculture can increase income for vulnerable households.⁶ Nature-based Infrastructure systems can be designed to meet the needs of different stakeholder groups, starting with engagement of the local community.⁷ Generally, the adaptive capacity of communities, both urban and rural, is dependent on natural resources and the sustainable provision of vital goods and services.⁸

Sector Impact Goal

Protect, restore and promote sustainable use of ecosystems, including terrestrial, freshwater, atmospheric and marine

Nature-based Infrastructure

Impact Objectives & Investment Strategies



1

Impact Objective

Increase the sustainable use of land for agriculture via regenerative practices and decrease land conversion for the expansion of monocropping operations; ensure existing agricultural processes avoid harming surrounding ecosystems (e.g. via fertilizer runoff)

Investment Strategies

- Support regenerative food production and local food systems
- Expand infrastructure and distribution mechanisms that increase the availability of fresh and local agricultural products to all consumers

3

Impact Objective

Expand the natural environment's vital role in mitigating the effects of climate change while preserving employment and livelihoods

Investment Strategies

- Support reforestation and sustainable forest management;
- Expand ecological restoration activities and conservation of natural landscapes while ensuring the livelihoods of people and communities that rely on such landscapes
- Encourage green-space development, particularly in underserved communities
- Utilize government programs such as mitigation banks to conserve biodiverse habitats

2

Impact Objective

Reduce the loss of natural landscapes and biodiversity; halt deforestation

Investment Strategies

- Protect and support existing natural ecosystems whose inherent services include carbon sequestration (forestland, wetlands, oceans)
- Support land conservation efforts and sustainably-certified management of landscapes
- Invest in companies or enterprises that support the conservation of landscapes as well as oceans and freshwater bodies

Waste Management and Water Utilities

This sector includes all infrastructure and services related to water and waste, including treatment, disposal and re-use

Climate Trends

Landfills and wastewater treatment account for 3.2% of global climate emissions,¹ and as the global population and consumption increases, waste generation and water needs are projected to increase. Landfill emissions primarily come from highly potent methane, wastewater treatment and discharge, and incineration or open burning of waste.¹ Healthy aquatic ecosystems and improved water management practices can lower greenhouse gas emissions and provide protection against climate hazards.² Yet, only 1.9% of commercial financing over the last 10 years went toward water and sanitation infrastructure,³ which is less than one-third of what the World Bank estimates is needed to achieve SDG 6.¹

Social Justice Trends

Today, almost 800 million people don't have access to clean water and 4 billion people experience severe water scarcity for at least one month each year.⁴ Climate change will exacerbate the water crisis, particularly for those living in poverty, as increased storms, floods, and droughts damage infrastructure and increase water stress.³ Across the US, research shows a consistent pattern over a 30-year period of placing hazardous waste facilities in minority and low-income neighborhoods; residents in these areas face higher exposure to pollutants and increased health risks.⁵ Efforts to promote a more circular economy can cause large-scale changes in waste systems, which are crucial to more than 20 million people employed in the global informal waste sector.⁶

Sector Impact Goal

Reduce the climate impact of human-generated waste and resource consumption

Waste Management and Water Utilities

Impact Objectives & Investment Strategies



1

Impact Objective

Promote resource efficiency in municipal waste and water systems

Investment Strategies

- Invest in technology and innovation that improves the efficiency of modern waste and wastewater management and
- Focus improvements on affected communities

2

Impact Objective

Incorporate climate risk factors in sewerage infrastructure to reduce overflows into waterways during extreme weather

Investment Strategies

- Modernize and retrofit municipal waste and wastewater systems and pursue investments with specific action plans for future climate change

3

Impact Objective

Promote the widespread adoption of circular economy principles across business activity and consumers in order to lower overall waste creation and water use

Investment Strategies

- Prioritize companies and products that incorporate circular economy and end-of-life principles in product development
- Invest in solutions for improving water efficiency across product manufacturing processes

4

Impact Objective

Enhance and restore natural ecological function and resulting ecosystem services (including water replenishment) with particular emphasis on vulnerable communities

Investment Strategies

- Invest in natural infrastructure, protection of wetlands and coastal ecosystems to protect and supplement wastewater treatment systems



The Built Environment

This sector includes all infrastructure and related services for buildings, shelter and human habitation

Climate Trends

Buildings are responsible for nearly 42% of climate emissions worldwide, and more sustainable urban construction offers a direct and effective pathway to emission reductions.¹ By 2050, 70% of the world's population will live in urban areas. Increased urbanization, particularly in emerging economies, adds strain to already limited infrastructure.² Global building floor area is expected to double by 2060, presenting an opportunity to shape resource-efficient, low-carbon cities.³ Green space can deliver additional benefits that may be particularly important in underserved neighborhoods, like providing areas for leisure and community life, creating safer, more livable streets⁴ and reducing building energy costs⁵ associated with cooling.

Social Justice Trends

Low-income neighborhoods are more exposed to heat extremes in urbanized areas, and flood risk is higher among Black and Hispanic neighborhoods in the US.⁶ Studies in 19 American cities showed that green infrastructure projects were nearly twice as likely to land outside of these neighborhoods.⁷ New environmental amenities fuel socioeconomic exclusion and cultural alienation by transforming the neighborhood without addressing the needs and preferences of current residents.⁸

Sector Impact Goal

Expand the supply and accessibility of buildings with high sustainability performance, including both new and existing buildings, across communities and geographies

The Built Environment

Impact Objectives & Investment Strategies



1 Impact Objective

Expand the supply of affordable, climate-friendly housing, particularly in LMI neighborhoods

Investment Strategies

- Invest in housing developers that focus on sustainably-certified buildings in housing constrained geographies
- Focus new developments in disadvantaged or underserved communities and geographies (and in developments with community spaces and programs)

2 Impact Objective

Expand discovery of, availability and use of materials and technologies that enable more climate-friendly building practices

Investment Strategies

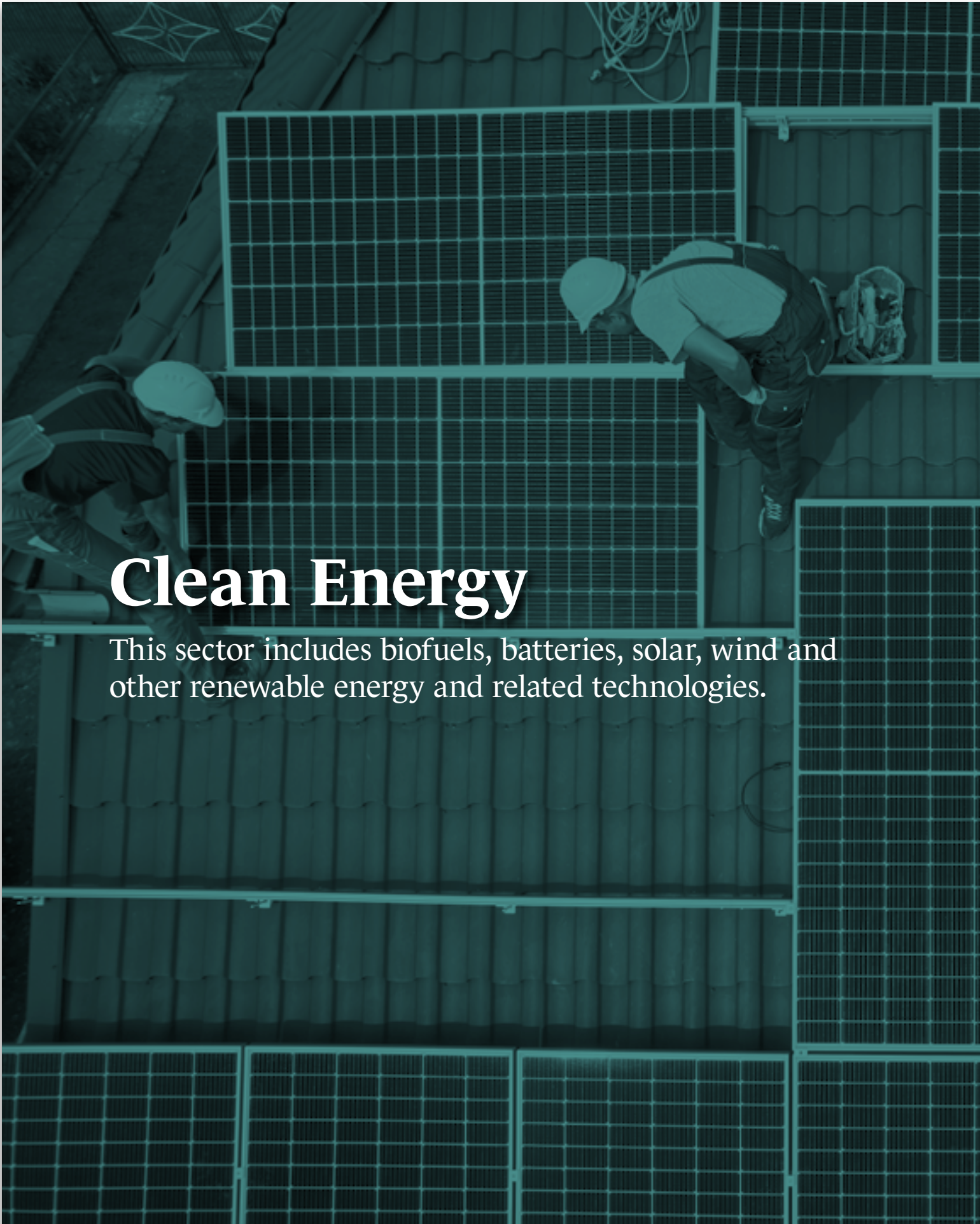
- Invest in technologies or practices that make incremental and systemic contributions to reducing water, resource, and materials use in the built environment
- Support innovation and deployment of building materials and technologies that boost sustainability performance

3 Impact Objective

Improve climate performance of existing and dated buildings, focusing on energy efficiency, embodied carbon and less toxic building materials

Investment Strategies

- Pursue investments that retrofit buildings or re-use existing infrastructure
- Invest in building retrofits and conservation practices that improve natural resource use

An aerial photograph of a large solar farm installation on a tiled roof. Two workers wearing hard hats and safety harnesses are visible, working on the solar panels. The image is overlaid with a teal grid pattern.

Clean Energy

This sector includes biofuels, batteries, solar, wind and other renewable energy and related technologies.

Climate Trends

The energy sector is responsible for almost three-quarters of emissions since the pre-industrial age and 32% of global CO₂ emissions.¹ Renewable energy production forms the foundation for carbon emissions reductions across almost every other sector. Transportation, technology use, industry, and the built environment all rely on energy produced via renewables or fossil fuels, and the majority of their associated emissions come from the use of energy produced by fossil fuels rather than renewable energy. In addition to reducing carbon emissions, a transition to clean energy sources also leads to cleaner air and water quality.²

Social Justice Trends

As of 2020, 733 million people did not have access to electricity, and instead still rely on dirty, toxic and environmentally destructive biomass for energy. Clean energy is the simplest solution for many of these communities.³ However, the projected growth in low-carbon technologies remains concentrated in a handful of countries or regions, creating a gap between technological availability in emerging markets.⁴ According to the International Energy Agency, the energy transition will create 9 million jobs in the energy sector by 2030—an opportunity for the 5 million currently working in the fossil fuel industry, among others.⁵

Sector Impact Goal

Vastly expand the use and availability of clean energy production globally, with a focus on geographies where financing is relatively low and rates of adoption are proportionally lower

Clean Energy

Impact Objectives & Investment Strategies



1

Impact Objective

Increase the proportion of renewable energy in the global energy mix

Investment Strategies

- Invest in renewable power producers and expanding installed capacity: utilities, solar and wind manufacturers, private developers and utility-scale developments

2

Impact Objective

Expand and modernize distribution infrastructure to facilitate adoption of renewable power

Investment Strategies

- Expand access and availability of modern and new energy sources, particularly to underserved communities
- Support distributed power systems that can increase rates of adoption and use

3

Impact Objective

Increase energy equity and ensure universal access to affordable, reliable and modern energy services

Investment Strategies

- Focus investments where energy access remains low (such as Sub-Saharan Africa) as well as disadvantaged and lower-income communities in the U.S.
- Focus investments on re-skilling conventional energy workers who may be displaced

4

Impact Objective

Increase energy efficiency and increase rates of electrification across sectors

Investment Strategies

- Support technologies that increase energy efficiency and provide electrified solutions that contribute to reduced energy demand at scale

Transportation

This sector includes all modes of transportation, including vehicles, rail, airplanes, and marine transport.

Climate Trends

Transportation accounts for 16.2% of all global climate emissions,¹ and is also the largest contributor to climate change in the United States, accounting for 33% of total climate emissions in 2019.² Globally, increased urbanization presents significant opportunities to improve transportation efficiency and reduce related climate emissions while improving access to essential services.

Social Justice Trends

More than 45 million Americans live within 300 feet of busy roads and transportation facilities – increasing their risk of lung and heart problems.³ Yet transport poverty, or spending >10% of income on transportation (where it exists), hinders economic outcomes across all geographies.⁴ More than 25% of Americans experience transportation insecurity, meaning they are unable to move from place to place in a safe, timely or affordable manners; such insecurity disproportionately affects people of color.⁵ Transportation costs, safety concerns and poor access all disproportionately impact women's lives, and can significantly impact access to education, employment and overall economic participation for women.⁶

Sector Impact Goal

Reduce the negative impacts of transportation, while increasing efficiency and prevalence of low-carbon options

Transportation

Impact Objectives & Investment Strategies



1 Impact Objective

Support technology and innovation that increases the emissions efficiency of transportation

Investment Strategies

- Logistics, smart grid, and technology that lowers the cost of low-carbon transport, reduces emissions intensity and expands adoption
- Smart technologies for logistics, charging and low-carbon infrastructure and alternative fuels

2 Impact Objective

Make low-emissions transport options more widely available among consumers, with supportive infrastructure

Investment Strategies

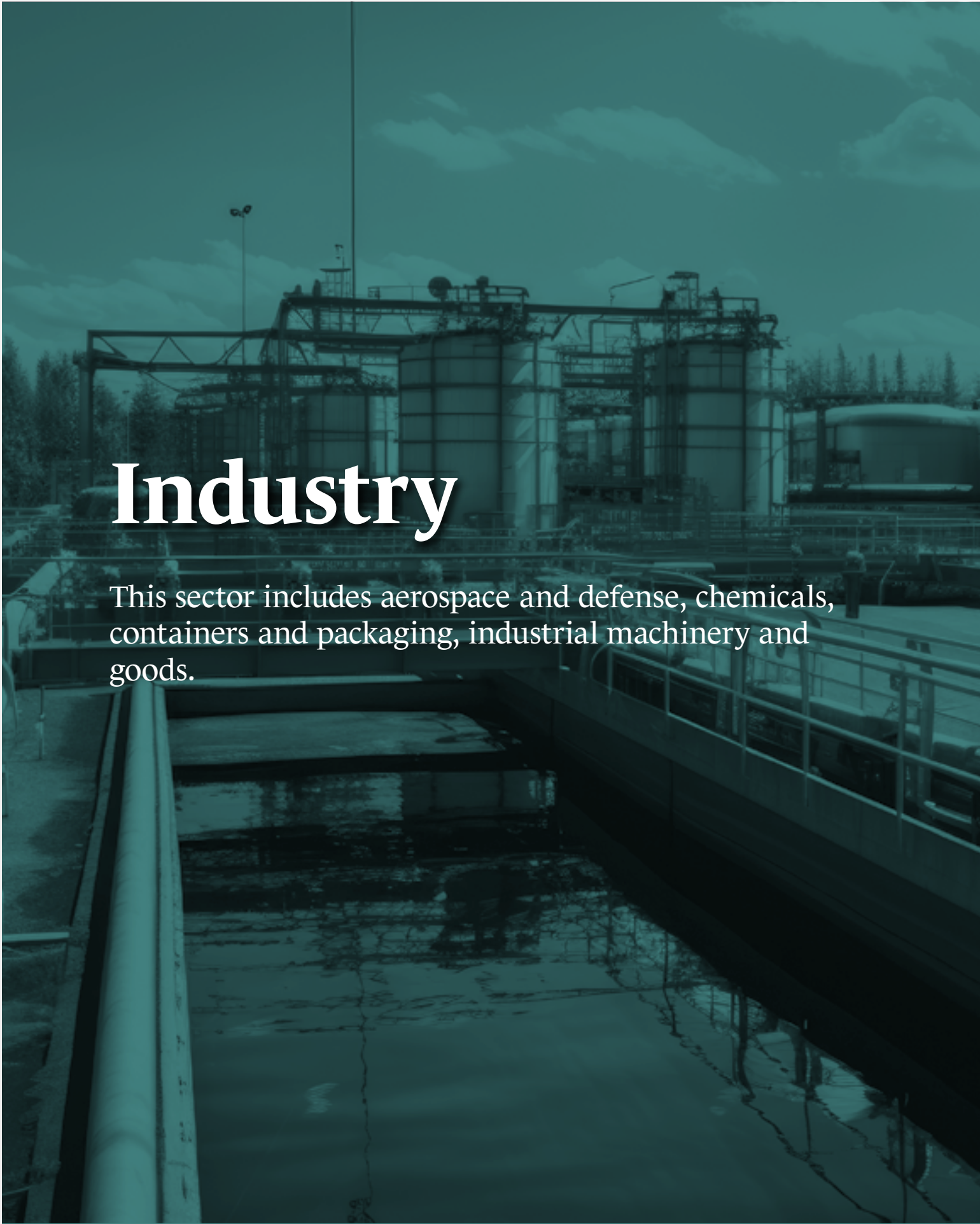
- EV infrastructure, components and technology; batteries; home charging solutions
- Support non-motorized transportation infrastructure
- Advance affordability of related solutions to amplify adoption and make solutions available among lower-income populations

3 Impact Objective

Increase availability, convenience and sustainability profile of public transportation systems

Investment Strategies

- Smart growth principles; related infrastructure; and electric fleets with a focus on equitable access



Industry

This sector includes aerospace and defense, chemicals, containers and packaging, industrial machinery and goods.

Climate Trends

Industry is the single largest source of methane emissions,¹ and direct industrial processes make up over 24% of total global greenhouse gas emissions.² Industry is a significant water user – by reducing industrial water intake by even 1%, manufacturers in the US can save an estimated 222 million gallons of water each day, enough to meet the daily needs of 2.3 million people and reduce pressure on local water resources.³ Chemical manufacturing and petroleum products are also some of the largest producers of hazardous waste in the US.⁴

Social Justice Trends

Moving away from an extract-manufacture-use-discard economy will shed jobs in extractive industries and create new ones in waste management, the re-processing of materials, and services like rental, repair and re-use.⁵ An estimated 24 million new jobs could be created by the shift to a greener economy, offsetting an estimated 6 million potential jobs lost in fossil fuel and related industries, but strong policies and corporate commitments are necessary to support quality jobs in this sector.⁶

Sector Impact Goal

Reduce the environmental impact of industrial processes, particularly but not limited to climate emissions, while enhancing social impacts for affected communities

Industry

Impact Objectives & Investment Strategies



1 Impact Objective

Target highest-emitting and most-polluting industries and sectors (i.e. low-hanging fruit) with interventions that reduce harmful impacts

Investment Strategies

- Support corporate leadership in efficiency gains and/or emissions reductions across industrial processes
- Expand access to technological or physical solutions that assist such positive impacts

2 Impact Objective

Reduce energy intensity of production across manufacturing

Investment Strategies

- Increase accessibility and use of renewable power sources for industry
- Invest in technology that reduces energy consumption or provides efficiency gains/unit of production

3 Impact Objective

Increase prevalence of circular economy principles and practices in industrial processes and products

Investment Strategies

- Support businesses that employ circular economy principles or that help such principles gain adoption, particularly where employment may benefit
- Effectively mitigate any resulting hazardous waste and/or pollution, with a specific focus on its impacts in low-income areas

4 Impact Objective

Maintain employment for displaced workers or those who are affected by industry transformation

Investment Strategies

- Retain and re-train workforce to ensure continued employment and minimize job loss
- Continue to ensure companies are aligned with fair labor standards and maintain strong worker safety programs

Technology

This sector includes electronic manufacturing, hardware, internet media, semiconductors, software and IT services, and telecommunication.



Climate Trends

There is a growing opportunity for technology-based applications to contribute to greater energy efficiency, improve natural resource use, and reduce climate-related risks. It is estimated, for example, that digital technology can significantly boost the energy transition by decreasing greenhouse emissions by 15%.¹ Technology enables efficiency and optimization; innovation to create low-carbon product alternatives; and monitoring and management to enable more informed decision-making and targeted interventions. Artificial Intelligence demands significant energy and water itself, although the technology can lead to significant gains in resource efficiency through manufacture and use of products across sectors.

Social Justice Trends

Emerging and frontier economies may benefit from ‘leapfrogging’ across sectors, including smart cities, buildings, transport, and agriculture.² Improving the affordability and accessibility of technologies such as internet connectivity and mobile phones remain a critical need for communities. Ethical implications of tech and AI need to be evaluated to avoid further marginalization and exploitation through implicit bias inherent in the technology.

Sector Impact Goal

Ensure access to connectivity, while reducing the environmental footprint for manufacturing across product lifecycles and ensuring worker wellbeing

Technology

Impact Objectives & Investment Strategies



1 Impact Objective

Reduce resource use for manufacturing processes, or offset resource use for high-intensity products and services

Investment Strategies

- Energy and resource-efficient production and products
- Invest in technology (digitization, AI) that can improve process efficiencies, lead to overall less energy use and emissions across sectors

3 Impact Objective

Ensure sustainability of supply chain management, particularly worker welfare and materials sourcing

Investment Strategies

- Identify companies with certified supply chains and exemplary performance on worker welfare
- Invest in companies providing technology to improve supply chain traceability and transparency
- Invest in managers supporting Responsible and Ethical Sourcing for portfolio companies

2 Impact Objective

Greater emphasis on product lifecycle management, including sourcing, useful life and end-of-life product management

Investment Strategies

- Select products and companies with explicit lifecycle management policies in place that support and advance sustainability performance, particularly for energy-intensive products and services (e.g. AI)
- Support technological innovation that enables greater rates of recycling/re-use
- Prioritize products with design for end-of-life circularity

4 Impact Objective

Improve technology accessibility and affordability for underserved populations

Investment Strategies

- Ensure that technology, especially AI, is designed to mitigate any inherent bias toward underserved and minority populations
- Invest in internet infrastructure to reach underserved populations
- Support digital literacy programs
- Invest in products with inclusive design practices

Just Transition Investing Guardrails

Sector	Support Environmental Best Practices	Support Social Best Practices	Limit or exclude
 Agriculture and Food	Use regenerative, organic techniques to lower resource use and preserve soil quality. Use natural fertilization and methods to prevent runoff.	Support models where the majority of profits and land rights go to local farmers and underserved communities. Promote healthy and fresh food availability in food deserts.	Factory animal production, monocropping, harmful pesticide use, overfertilization.
 Nature-based Infrastructure	Conserve natural resources and ecosystem services. Promote biodiversity preservation alongside carbon sequestration.	Ensure access for underserved populations to natural spaces and ecosystem services. Promote conservation strategies where ownership, management and any proceeds go to Indigenous and local communities.	Any system that actively harms or pollutes local communities. Industrial or other developments that destroy at-risk ecosystems and species.
 Waste Management and Water Utilities	Invest in systems that lower resource use (increased water and energy efficiency) and improve waste recycling and management (lower pollution).	Invest in systems that increase access to clean water and sanitation, as well as waste processing and removal in underserved communities. Manage increasing demand for related services while ensuring no disproportionate impact on lower-income communities.	Discarding waste or harmful biproducts in a manner that negatively impacts communities.
 Industry	Investments in products or services that improve resource efficiency in industrial processes.	Invest in education and upskilling/reskilling to support the energy transition. Target quality jobs for underserved communities.	Avoid any industries that actively harm or pollute in local communities. Avoid industries related to fossil fuel use such as petroleum refining, plastic production).
 Built Enviroment	Seek real estate investments that promote sustainable practices (LEED, other energy efficiency standards) and utilize low-carbon construction techniques.	Seek projects that support local communities through providing affordable housing, child-friendly housing, create community spaces, or offer other community services.	Developments that significantly increase the cost of living (gentrification) in low-income areas. Avoid developments in biodiversity-sensitive areas.
 Transportation	Invest in sustainable transportation options, including electrification and public transit.	Ensure public transit is available to underserved populations. Invest where possible into affordable electrification options.	Fossil fuel-based transportation options.
 Clean Energy	Invest in renewable energy development, generation, transmission and related infrastructure.	Ensure development supports energy accessibility among underserved communities.	Fossil fuels. At a baseline, ensure development does not harm local communities.
 Technology	Ensure new technologies lead to efficiency improvements or use renewable energy to support any increases in energy usage (e.g. AI).	Promote policies and practices that avoid bias in AI and promote accessibility to digital technology for underserved populations.	Data centers or related services that rely disproportionately on fossil fuel use. Mining of critical minerals and technology manufacturing in areas with potential for human rights abuses and negative biodiversity impacts.

Conclusion

The Just Transition offers a systemic lens for investing that not only supports low-carbon economies but considers the people who enable these economies to function and prosper. And although finite resources and the dire outcomes of rising temperatures are rendering climate action inevitable, justice is not. Governments, the private sector, and investors alike should acknowledge climate action's inextricable link to social implications to create equitable climate solutions.

Balancing environmental resilience with social justice is a complex objective that presents various opportunities and losses. Just Transition investments aim to strike this balance and widely distribute the opportunities of a low-carbon economy while supporting the marginalized communities who face economic losses. At Sonen Capital, we believe intentional, strategic, synergistic investments across asset classes have an unparalleled ability to drive the Just Transition. We are committed to devising bespoke, researched investment solutions across asset classes to promote a sustainable, equitable future. But building this future and addressing the multifaceted challenges of the Just Transition requires unified efforts.

We look forward to working with investors to drive impact towards a Just Transition.

UN SDG Alignment and Impact Measurement Indicators

Transportation	
SDG Targets	11.2: Support energy efficient transportation options, including electrification and public transit
	11.2.1: Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities
Sample Social Metrics	Client Individuals: Total (PI4060)
	Client Households: Low-Income (PI7318) and/or Historically Marginalized (PI3268)
	Client Savings Premium (PI1748) via efficiency improvements
	Environmental impact (pollution) on surrounding communities
	Provided New Access (PI9996), for public transportation
	Value of Investments in Communities Historically Marginalized Due to Race and/or Ethnicity (II6610)
Sample Environmental Metrics	Greenhouse Gas Emissions Avoided (PI2764) by replacing traditional gas-powered cars or other forms of fossil fuel-based transportation
	Type of sustainable transport
	Primary Energy Source (OI3781)
SDG Targets	12.2: Address carbon emissions across industries (especially manufacturing)
	12.2.1 Material footprint, material footprint per capita, and material footprint per GDP
	12.4: Achieve the environmentally sound management of chemicals and all wastes throughout their life cycle
	12.4.2 (a) Hazardous waste generated per capita; and (b) proportion of hazardous waste treated, by type of treatment
Sample Social Metrics	Client Individuals: Total (PI4060)
	Client Households: Low-Income (PI7318) and/or Historically Marginalized (PI3268)
	Client Savings Premium (PI1748) via efficiency improvements
	Environmental impact (pollution) on surrounding communities
	Value of Investments in Communities Historically Marginalized Due to Race and/or Ethnicity (II6610)
	Indigenous Rights and Stewardship Practices (OI6482), especially in regard to materials sourcing
Sample Environmental Metrics	Greenhouse Gas Emissions Avoided (PI2764) via replacement of fossil fuels to renewable energy sources, increases in efficiency, or removing process-based emissions

	Primary Energy Source (OI3781)
	Water Conserved (OI4015) and Level of Water Stress (OI2799)
	Hazardous Waste Produced
Waste Management and Water Utilities	
SDG Targets	6.1: Achieve universal and equitable access to safe and affordable drinking water for all
	6.2: Achieve access to adequate and equitable sanitation and hygiene for all
	6.3: Improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally
	6.4: Increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater
	6.1.1 Proportion of population using safely managed drinking water services
	6.2.1 Proportion of population using (a) safely managed sanitation services and (b) a hand-washing facility with soap and water
	6.3.1 Proportion of domestic and industrial wastewater flows safely treated
	6.4.1 Change in water-use efficiency over time
	6.4.2 Level of water stress: freshwater withdrawal as a proportion of available freshwater resources
	12.4: Achieve the environmentally sound management of chemicals and all wastes throughout their life cycle
	12.4.2 (a) Hazardous waste generated per capita; and (b) proportion of hazardous waste treated, by type of treatment
Sample Social Metrics	Client Individuals: Total (PI4060)
	Client Households: Low-Income (PI7318) and/or Historically Marginalized (PI3268)
	Provided New Access (PI9996)
	Client Savings Premium (PI1748) via efficiency improvements
	Environmental impact (pollution) on surrounding communities
	Value of Investments in Communities Historically Marginalized Due to Race and/or Ethnicity (II6610)
	Volume of water delivered to client households
Sample Environmental Metrics	Water Conserved (OI4015) via efficiency improvements

UN SDG Alignment and Impact Measurement Indicators

	Wastewater Treated (OI9412) and/or Wastewater Treatment Compliance (OI7860)
	Waste Reduced (OI7920) via recycling materials or increased material efficiency
	Hazardous Waste Avoided (PI2073) via improved manufacturing processes, treatment or recycling
The Built Environment	
SDG Targets	11.1: Ensure access for all to adequate, safe and affordable housing and basic services
	11.1.1 Proportion of urban population living in slums, informal settlements or inadequate housing
	11.3: Enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management
	11.3.1 Ratio of land consumption rate to population growth rate
Sample Social Metrics	Individuals Housed (PI2640) OR Number of Housing Units Financed (PI5965)
	Client Savings Premium (PI1748) via efficiency improvements in water and energy
	Percent Affordable Housing (PD5833)
Sample Environmental Metrics	Building Area of Energy Efficiency Improvements (PI1586)
	Greenhouse Gas Emissions Avoided (PI2764) via energy efficiency improvements or the use of renewable energy
	Water Conserved (OI4015) via efficiency improvements
	Percentage of properties with some sort of green certification (such as LEED)
Nature-based Infrastructure	
SDG Targets	6.3: Improve water quality by reducing pollution
	6.3.2 Proportion of bodies of water with good ambient water quality
	13.1: Strengthen resilience and adaptive capacity to climate-related disasters (extreme heat, hurricanes, rising sea levels and more)
	14.5: Conserve at least 10% of coastal and marine areas
	14.5.1 Coverage of protected areas in relation to marine areas
	15.1: Ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services
	15.1.1 Forest area as a proportion of total land area

	15.1.2 Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type
	15.3: Combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world
	15.3.1 Proportion of land that is degraded over total land area
Sample Social Metrics	Value of Investments in Communities Historically Marginalized Due to Race and/or Ethnicity (II6610)
	Environment impacts on surrounding communities (including physical waste, pollution, air quality, and noise pollution)
	Individuals Displaced: Compensated (PI3009) and Total (PI1297)
	Indigenous Rights and Stewardship Practices (OI6482)
Sample Environmental Metrics	Greenhouse Gas Emissions Mitigated (OI5951)
	Water Conserved (OI4015)
Agriculture	
SDG Targets	2.1: End hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round
	2.1.1 Prevalence of undernourishment
	2.1.2 Prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale (FIES)
	2.3: Increase agricultural productivity and incomes of small-scale food producers
	2.3.2 Average income of small-scale food producers, by sex and Indigenous status
	2.4: Ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production
	2.4.1 Proportion of agricultural area under productive and sustainable agriculture
	12.3: Halve per capita global food waste and reduce food losses along production and supply chains
	12.3.1 (a) Food loss index and (b) food waste index
	14.4: Regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans
	14.4.1 Proportion of fish stocks within biologically sustainable levels
	14.7: Increase economic benefits to Small Island developing States and least developed countries from the sustainable use of marine resources
	14.7.1 Sustainable fisheries as a proportion of GDP in small island developing States, least developed countries and all countries

UN SDG Alignment and Impact Measurement Indicators

	15.5: Reduce the degradation of natural habitats, halt the loss of biodiversity and protect threatened species
Sample Social Metrics	Greenhouse Gas Emissions Mitigated (OI5951), which includes avoided emissions and sequestered emissions via carbon sinks (such as soil)
	Water Conserved (OI4015)
	Area of Land Deforested (PI1489)
	Land Directly Controlled: Sustainably Managed (OI6912)
	Pesticide Use (OI9891)
	Percent Supplier Payments to smalholders (PI8632)
	Soil Conservation Practices (OI6381) and/or Soil Health Practices (OI1047)
Sample Environmental Metrics	Supplier Individuals: Smallholder (PI9991) and/or Historically Marginalized (PI9261)
	Units/Volume Purchased from Supplier Individuals: Smallholder (PI4982)
	Units/Volume Purchased from Supplier Individuals: Historically Marginalized (PI6646)
	Units/Volume Purchased from Supplier Individuals: Female (PI9428)
	Accessibility and affordability of healthy, local food for underserved populations (food deserts)
	Indigenous Rights and Stewardship Practices (OI6482)
Clean Energy	
SDG Targets	7.1: Increase access and affordability of the world's energy supply and meet rising demand in the developing world with renewable
	7.1.1 Proportion of population with access to electricity
	7.2: Increase renewable energy production and development
	7.2.1 Renewable share in the total final energy consumption
	7.3: Reduce GHG and toxic emissions through increased efficiency of existing energy and increased renewable energy production
	7.3.1 Energy Intensity measured in terms of primary energy and GDP

	7.b: By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programs of support
	7.b.1 Installed renewable energy-generating capacity in developing and developed countries (in watts per capita)
Sample Social Metrics	Number of Individual Connections (PI3317), including households and businesses OR Client Individuals: Total (PI4060)
	Client Households: Low-Income (PI7318) and/or Historically Marginalized (PI3268)
	Provided New Access (PI9996), specifically for new energy projects
	Value of Investments in Communities Historically Marginalized Due to Race and/or Ethnicity (II6610)
Sample Environmental Metrics	Greenhouse Gas Emissions Avoided (PI2764) via replacement of fossil fuels to renewable energy sources or increases in efficiency
	Energy Generated for Sale: Renewable (PI5842)
	Energy Transmitted: Total (PI5193), for investments in transmission and distribution rather than generation
Technology	
SDG Targets	9.4: Upgrade infrastructure and retrofit industries to make them sustainable
	9.4.1 CO2 emission per unit of value added
	9.b: Support domestic technology development, research and innovation in developing countries
	9.b.1 Proportion of medium and high-tech industry value added in total value added
	9.c: Increase access to information and communications technology and strive to provide universal and affordable access to the Internet
	9.c.1 Proportion of population covered by a mobile network, by technology
Sample Social Metrics	Presence of policies around implicit bias in AI
	Access to digital technologies and infrastructure (internet access) across underserved populations
	Additional indicators dependent per sector (based on where and how technology is used)
Sample Environmental Metrics	Greenhouse Gas Emissions Mitigated (OI5951)
	Resulting improvements in resource, energy, or other efficiencies
	Primary Energy Source (OI3781) (especially for AI, which is a heavy energy consumer)
	Additional indicators dependent per sector (based on where and technology is used)

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