



ESG & IMPACT REPORT 2022



BRAEMAR ENERGY VENTURES

Committed to a New Future



History

Braemar Energy Ventures was formed in 2003 to find, invest in, and scale transformative energy-tech businesses that contribute to global sustainability and combat climate change.

Over nearly two decades, we have built a track record of impactful business partnerships that are revolutionizing the way people use energy to move, power, make and build our future.



Art provided by [KimberleyART](#)

SHARED MISSION

Our mission is to support teams of individuals rewriting the future of our world with breakthrough climate technologies and business models tackling the global energy transition to net-zero carbon. We commit to a more sustainable, resilient, and equitable global energy system for all stakeholders by backing early-stage companies and helping them scale to transform industry. In addition, we as a firm commit to constantly re-evaluate our own ways of thinking, working and governing ourselves, honoring open mindedness and open discourse as core contributing values.

ESG & IMPACT LEADS



WILLIAM D. LESE
Managing Partner



ARI G. WRIGHT
Principal



DAN MISTLER
Partner, Head of ESG Services, ACA Group



DEVARSHI PANDYA
ESG Consultant, ACA Group



MOBILITY
OF THE FUTURE



POWER
SECTOR TRANSITION



RESOURCE
REVOLUTION



INFRA-TECH

THE CLIMATE CRISIS

The Goal in Sight



THE STATE OF THE CLIMATE TODAY

Emergent negative externalities from the industrial progress of the last century pose an existential threat to the future of human civilization. The harsh reality of unpredictable ecological unbalancing is here now, causing extreme weather events, transforming seasons, and creating massive environmental and economic destruction in particular for the most vulnerable communities on the planet – the ones least responsible for anthropogenic greenhouse gas emissions. The degree to which we use innovation to re-design and decarbonize our global energy system will underlie the potential of all future development.

1.26 BILLION

The climate crisis could (economically or physically) displace 1.26 billion people by 2050.

INSTITUTE FOR ECONOMICS AND PEACE,
ECOLOGICAL THREAT REPORT 2021

10,967

Climate change currently affects at least 10,967 species on the IUCN Red List of Threatened Species™, increasing the likelihood of their extinction.

IUCN



THE CHALLENGE IN FRONT OF US

Managing the existential threat of climate change requires building global consensus and garnering the resources to transition entrenched, interconnected supply chains and behavior patterns. Uniting around these challenges require new paradigms of thinking, technological breakthroughs, heroic leadership, and radical diplomacy. After a record 10 percent decline in 2020 due to the COVID-19 pandemic, global energy-related carbon dioxide emissions bounced back sharply in 2021 (Rhodium Group, 2022). Aligned with the IPCC’s special report on limiting global warming to no more than 1.5°C by 2050 (IPCC, 2018), success is defined as reducing global CO2 emissions for approximately the next thirty years by following a steep and accelerated downward trajectory to net zero by 2050. Achieving the sustained 1.5°C scenario will require driving anthropogenic CO2 emissions out of every sector and reconstructing a clean energy economy. It is Braemar’s perspective that this endeavor will be impossible without the adoption of new technologies and new frameworks of thinking and governance.

12.9%

The world has to decarbonize at 12.9% per year, over eight times the rate historically achieved since 2000.

PWC STATE OF
CLIMATE TECH 2021

8000 GW

The UN recommends rapidly scaling up deployment of available energy transition solutions to reach 8000 GW of renewables by 2030.

UN, THEME REPORT ON ENERGY
TRANSITION, 2021

18%

Swiss Re Institute estimates that by 2050 the global economy will shrink by 18% with no mitigating actions.

SWISS RE INSTITUTE

Working to Benefit All Stakeholders

We instituted our first Impact and ESG policy in 2019.

Since then we have further developed our approach by expanding aspects of our due diligence, ESG governance team, and reporting. Today our program is governed by our current policy, which covers ESG integration into the following broad processes:

EXCLUSIONARY PRACTICE

INVESTMENT ANALYSIS AND DECISION-MAKING

ASSET OWNERSHIP

REPORTING AND DISCLOSURE

ACCOUNTABILITY AND TRANSPARENCY

While our policy is a static depiction of our approach to ESG integration, we live and breathe ESG dynamically on a day to day basis. ESG concerns get raised and discussed by our management teams regularly, and we constantly re-evaluate ESG in our portfolio and engage with our portfolio leaders on ESG issues as they arise.



DOWNLOAD OUR IMPACT AND ESG POLICY HERE

UN PRINCIPLES FOR RESPONSIBLE INVESTMENT



We believe that transparency is important for our business and all of our stakeholders. Braemar Energy Ventures became a signatory to the UN Principles for Responsible Investment in 2019 in an effort to align with best practice approaches to ESG and to help our stakeholders understand the central nature of ESG in our work.

We are encouraged by the growth in UN PRI membership, and we look forward to collaborating with the PRI as a signatory for years to come.

EMERGING GLOBAL ESG FRAMEWORKS

While we participate in the UNPRI as our main framework for ESG reporting, we also look for opportunities to align with other ESG frameworks relevant to our business, including but not limited to:

- The Task Force on Climate Related Financial Disclosures (TCFD)
- The UN Sustainable Development Goals (SDGs)
- The requirements of the EU's Sustainable Finance Disclosure Regulation (SFDR)

ESG Governance

Our ESG program is co-led by Bill Lese, Managing Partner, Ariel Wright, Director and ACA members Dan Mistler and Devarshi Pandya, who oversee all aspects of the program and are responsible for the implementation of our Impact and ESG policy. We have a long-standing relationship with the ACA Group, and as a strategic partner, they have contributed to the architecture of our program since its inception.

Braemar has been an impact investor from its inception with the strong belief that the world needs market-driven innovative sustainable energy and environmental solutions that will improve the quality of life and security of citizens of the global community. Using our deep knowledge of this complex ecosystem, we help our portfolio companies build critical partnerships necessary to scale their solutions to meet the challenges posed by the devastating effects of climate change.

BILL LESE

Co-founder and Managing Partner

Prioritizing People and the Environment

At Braemar, we have been engaging with our portfolio companies on ESG and impact-related aspects of their businesses for decades.

We have measurable portfolio data tracking procedures with the goal of providing a comprehensive and referenceable baseline of ESG metrics for our companies. In particular, we have recently developed a program of metrics with a subset of our portfolio, including:



Today, we track the following KPIs in our portfolio:



EMPLOYEE

- Number of employees
- Number and percentage of diverse employees
- Ratio of female to male board members



ESG MANAGEMENT

- Incidents of data security breaches
- Incidents of spills/accidents
- Incidents of waste violations
- Incidents of air emission violations



ESTIMATED GHG FOOTPRINT

- Scope 1
- Scope 2
- Scope 3



POTENTIAL GHG IMPACT

- Reduction in tons of CO₂e

It is our goal to expand this metrics tracking program to additional portfolio companies over 2022 and to refine the data to allow for roll-up and communication in subsequent reports.

An aerial photograph showing a vast field of solar panels installed over a dense forest. The panels are arranged in long, parallel rows, creating a grid-like pattern that contrasts with the natural texture of the trees below. The image is monochromatic, with various shades of blue.

ESG IN ACTION

Case Studies in Impact

A revolutionary idea to turn trash into green gold

Enerkem produces biofuels and circular chemicals from waste.

Its disruptive proprietary technology converts non-recyclable, non-compostable municipal solid waste into methanol, ethanol and other widely-used chemicals. Headquartered in Montreal (QC), Canada, Enerkem operates a full-scale commercial facility in Alberta and is currently developing new projects across North America and Europe. Enerkem's technology is a prime example of how a true circular economy can be achieved by diversifying the energy mix and by making everyday products greener while offering a smart, sustainable alternative to landfilling and incineration.



Enerkem's *Ecoplanta* will divert:

350k tons of waste
from landfill every year, capturing
70% of the carbon present
reducing
200k tons CO₂ eq/year*
in emissions

* Company data based on ISO 14064-2 standard

A GROUNDBREAKING ILLUSTRATION OF CIRCULAR ECONOMY

Ecoplanta, a waste recovery project places reliance on a unique molecular recycling technology designed by Enerkem and specifically distinguished for its feedstock and end-product flexibility, reduction of carbon emissions, concordance with circularity and sustainability principles and scalability. *Ecoplanta* has the ability to convert non-recyclable fractions of waste into circular chemicals and advanced biofuels, thereby producing **237 kt/y** of methanol in a facility on a petrochemical complex near the port of Tarragona, Spain.

SUSTAINABLE INDUSTRIAL PROCESS

Essentially, *Ecoplanta* will accelerate the transition from a linear resource-based economy to a circular economy, which is the need of the hour and one of the most pressing challenges of our time. The Enerkem chemical recycling technology provides a sustainable solution for waste management and directly contributes to the EU's objective of climate neutrality by **2050**. The versatility and adaptability of the technology as it relates to feedstock and end products will allow Enerkem to flexibly structure projects to the different local contexts of each country.



Enerkem is the first company in the world to produce methanol and ethanol from non-recyclable, non-compostable municipal solid waste at full commercial scale. Our current technologies replace the use of fossil-based feedstock, like petroleum and natural gas, to produce sustainable transportation fuels and circular chemicals that are used in a broad range of everyday products. We therefore contribute in a very tangible way to some of the world's most pressing environmental issues (including waste management and GHG reduction) while expanding our offering in pursuit of the circular economy.

DOMINIQUE BOIES

Chief Executive Officer, Enerkem



Capturing a generational opportunity at the Grid Edge

Utilidata is a leading energy software company that offers real-time insights to make the grid smarter and more sustainable.

The company's patented technology enables real-time insights and interventions on the electric grid. It saves energy, mitigates issues caused by distributed energy resources, and better detects grid anomalies.



CLIMATE IMPACT

Today, Utilidata's grid-edge software delivers **3-5% energy savings** across all electric distribution grid circuits that it operates, which results in substantial GHG emissions reductions, and increases the amount of distributed clean energy that can be connected to the distribution grid. The technology is accelerating the transition to a decarbonized grid, which will ultimately have a tremendous climate impact.

The company's software solutions will streamline the ways in which EVs interact with the grid, further advancing the transition to electrified transportation, and will enable communities to become far more resilient in the face of climate disasters. Utilidata will enable utilities to take a much more precise approach to forced outages, mitigating the kinds of blackouts that recently plagued Texas and California.

UTILIDATA'S SUSTAINABILITY IMPACT

By the end of 2021, Utilidata deployed its voltage optimization software on 554 circuits. With an energy savings of at least 3%, this equates to an annual savings of...

582,364,800 kWh

These kWh savings are the equivalent of...

412,712 Metric tons of CO₂ avoided

86 Wind turbines (running for 1 year)

89,757 Passenger vehicles (driven for 1 year)

Utilidata's solution also delivers...

1.95B kWh of clean energy added by increasing solar hosting capacity 50%



The new energy economy needs to be fair and accessible, and technology has a meaningful role to play. Through our software platform deployed on the grid, we are creating significant energy savings and enabling the cost-effective adoption of distributed energy resources – like solar and electric vehicles – that is accessible and applicable to all.

JOSH BRUMBERGER

Chief Executive Officer, Utilidata



To capture 10% of industrial CO₂ emissions globally¹

CarbonFree has developed patented technologies that capture CO₂ from stationary point source emitters and transform them into carbon-negative chemicals.

SkyMine and SkyCycle produce sodium bicarbonate (baking soda), and precipitated calcium carbonate (PCC) respectively, and other value-added products.

1. Represents emissions from stationary point source emitters ("PSEs").



SkyCycle is CarbonFree’s second-generation technology. Providing a complete carbon capture, utilization and storage solution “CCUS” solution, solving the high cost of transport and storage infrastructure, SkyCycle has an ultra-low penalty technology providing a carbon negative impact.

Operating since 2015, SkyMine is the world’s first and largest industrial-scale carbon mineralization facility.

One plant will capture:
50k tons CO₂ / year
and convert it into
100k tons of carbon-negative PCC
the equivalent of taking
10,874 cars off the road

CARBONFREE’S NET NEGATIVE CARBON MINERALIZATION PROCESS

SkyMine Gen 1 demonstrated production of CO₂ negative high purity Sodium Bicarbonate “baking soda” utilizing waste CO₂ from adjacent cement factory – operational since 2015.

SkyCycle Gen 2 is designed to produce CO₂ negative high purity calcium carbonate from multiple industrial CO₂ sources to support the \$40B global industry.

SkyCycle Gen 2 offers an on-site carbon capture and utilization “CCU” and “CCS” solutions, and its modular design makes it applicable anywhere and easy to scale.

SKYCYCLE ADVANCED MINERALIZATION

All-in cost per ton of CO ₂	Low
Carbon penalty	Low
Capex requirement	Low
Emitter candidate sites	Many
Value of CCU end product markets	Large, high value
Available sequestration sites	Abundant



Having the support of Braemar Energy Ventures means that our vision of capturing 10% of the world's industrial CO₂ is significantly closer to reality. I'm thrilled with the progress we've been able to make thanks to their investment; we're preparing our technology for worldwide deployment, which could mean significant advancement in the journey to net-zero for the industrial sector.

MARTIN KEIGHLEY

Chief Executive Officer, CarbonFree

Transforming the world's energy supply with the most practical path to fusion energy

General Fusion is developing the fastest, most practical, and lowest cost path to commercial fusion energy.

The company was established in 2002 and has become a recognized leader in commercial fusion.

General Fusion is supported by a global syndicate of leading energy venture capital funds, industry leaders, and technology pioneers, including: Temasek, Jeff Bezos, GIC, CITIC, the Jameel Investment Management Company (JIMCO), Braemar Energy Ventures, Chrysalix, Cenovus Energy, Growthworks, BDC, Entrepreneurs Fund, SET Ventures, Sustainable Development Technology Canada, NRC-IRAP, and Khazanah Nasional Berhad.



A 230 MW
GF plant
of zero-emissions
power can avoid:

1.9M
tons of CO₂
from an equivalent
coal plant per year.*

* Assumes 2.23 lb CO₂ / kWh coal and 0.91 lb CO₂ / kWh natural gas per EIA data
** \$700B estimated addressable market opportunity for fusion energy, avg 2040-2050
Source: General Fusion data and analysis, EIA

Fusion applications go beyond power generation for electricity grid presenting large additional growth opportunities**

- Fusion-powered water electrolysis offers zero-carbon hydrogen production with high electrolysis capacity factors and flexible location
- Fusion can produce clean, on-site heat energy for industrial processes, a segment that accounts for one fifth of global energy demand and is currently powered primarily by fossil fuels

In 2021, General Fusion announced that it achieved a critical technology milestone for the prototype of its UK-based demonstration plant, creating a path forward to solve the practical challenges around withstanding the temperatures and conditions required for fusion energy.



An architect's rendering of the Fusion Demonstration Plant which will be built in Culham, UK.



Net energy production is essential, but not really the ultimate goal of commercializing fusion energy, which is building economical, carbon-free fusion power plants. Our unique technology, two decades in the making, solves the long-standing challenges of building practical fusion power plants for the world's energy markets struggling to move away from fossil fuels. The successful performance of this important prototype validates we are on the path to success.

CHRISTOFER M. MOWRY

Chief Executive Officer, General Fusion



Leading Electric Vehicle Charging Network in the World

ChargePoint operates the largest online network of independently owned EV charging stations operating in 14 countries and makes the technology used in it.

With more than 100,000 independently owned public and semi-public charging spots and thousands of customers (businesses, public agencies, and fleet owners), ChargePoint is the only charging technology company on the market that designs, develops and manufactures hardware and software solutions across every use case.

Leading EV hardware makers and other partners rely on the ChargePoint network to make charging station details available in mobile apps, online and in navigation systems for popular EVs.

CHARGEPOINT IS DELIVERING ON ITS MISSION WITH:

- Real-time access to environmental impact data that provides businesses, fleet managers, multifamily property owners and drivers with actionable information to achieve their sustainability goals
- The first ENERGY STAR® certified EV commercial and residential charging stations on the market
- Expanded access to tens-of-thousands of additional places to charge through roaming agreements and integrations in North America and Europe



>174k places to charge
on the ChargePoint network in
North America and Europe

>70% market share
in networked level 2 charging
in North America

3.6B miles driven
on electricity to date*

113M charges
delivered to date

145M gallons of gas
avoided to date, the equivalent of
1.6M tons of CO₂*

* Company data and EIA metrics, gross CO₂ emissions reduced from gas consumption, not net of electricity consumed by EV



The EV market has been experiencing a boom in growth, and I know we've had a hand in that. We have offered, and will continue to build upon, a robust cloud-based network of publicly accessible chargers that allow EV drivers to communicate with each other. The more opportunities there are to charge, the more confidence people will have to buy an EV, and the closer we will get to the international goals of more electric vehicles on the road.

PAT ROMANO

Chief Executive Officer, ChargePoint



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