



ESG Report 2021

Advent Technologies
Holdings Inc.



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GRI 102-14

Message from our Chairman & CEO

We welcome you to our first Environmental, Social and Governance (ESG) Report.

2021 marked the beginning of a new era at Advent—it was the year we entered the global market, and, for the first time, our shares became publicly traded. Our NASDAQ listing in early 2021 and the strategic acquisitions made in the months that followed were crucial steps in our sustainable growth journey. At the same time, 2021 was also a year of global turbulence brought about by external factors such as the continued pandemic, high inflation, extreme weather changes, an energy crisis, and geopolitical developments that have proved more than ever the importance to meet the Paris Accord Climate targets.

Acknowledging that innovation is the eternal driving force for sustainable growth, we are committed to continuing to help our customers meet greenhouse-gas emissions and pollution control commitments, playing a pivotal role in the clean energy revolution and the transition to a zero-carbon economy. As a forward-looking company, we put ESG at the center of our corporate strategy to anticipate and navigate the challenges of tomorrow while implementing the right solutions to minimize risk and maximize our impact on the economy, environment, and society.

Our recent strategic acquisitions enabled us to consolidate the best High-Temperature Proton Exchange Membrane (“HT-PEM”) innovation and manufacturing teams under one global umbrella. This year, Advent grew its workforce from 50 to approximately 170. We now have offices and/or manufacturing facilities in Boston, Silicon Valley, Denmark, Germany, Greece, and the Philippines. We are proud to join all these great innovators from different geographies and cultures; creating a single diverse and inclusive Advent global family with a joint mission to help the world decarbonize faster.

At Advent, we appreciate that the clean energy challenge is too big to be addressed by any single company working alone. With this in mind, we partner with some of the world’s greatest

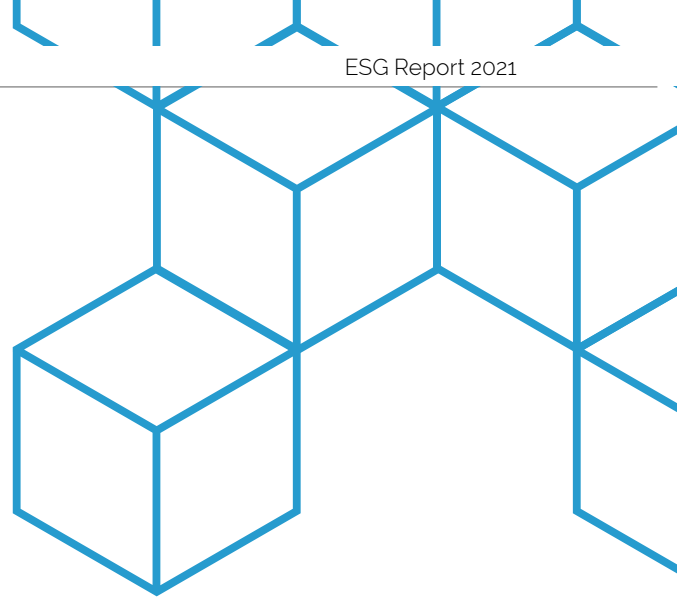
companies, aiming to offer innovative, clean energy solutions that contribute to solving challenges that impact our customers and our communities. We are proud to have completed 38 E.U., U.S., and other state-sponsored projects. With our new acquisitions and breakthroughs, we expanded our already substantial intellectual property portfolio. Currently, we have 190-plus patents issued, licensed, or pending for our fuel cell technology.

In 2019, we started a strategic partnership with the U.S. Department of Energy’s Los Alamos, Brookhaven, and National Renewable Energy Laboratories to commercialize next-generation fuel cell technology. In 2021, this partnership, within the framework of the L’Innovator program, grew stronger, with significant developments that have led us to believe that the new Advent Membrane Electrode Assembly (“MEA”) will redefine the global MEA market and further validate our position as a leader in the electrochemical components business. Furthermore, two potential IPCEI projects, White Dragon and Green HiPo, are being pursued as part of the first wave of large-scale hydrogen development projects in the E.U.

Our continued efforts to establish and implement sustainability principles will lead us to achieve more in our sustainability journey so that we operate responsibly and ensure our commitments and actions are vigorous enough to deal with global sustainability challenges. We hope this report will inspire our stakeholders and serve as the benchmark of how we, as a whole, can tackle climate change risks, be stronger, and create greener and net-zero opportunities for all.

VASILIS GREGORIOU PH.D.

CHIEF EXECUTIVE OFFICER &
EXECUTIVE CHAIRMAN OF THE BOARD





“As a forward-looking company, we put ESG at the center of our corporate strategy to anticipate and navigate the challenges of tomorrow while implementing the right solutions to minimize risk and maximize impact on the economy, environment, and society. ”



2021

Highlights

- Headquartered in a **green and efficient office building**
- Member of Greentown Labs Community, a **climate action incubator**
- **150 MWh** production of green energy in our biggest production facility
- The Hydrogen Fuel Cell produced by Advent generates **CO2-free electricity and heat**
- Advent A/S recycles **51.32%** of its produced waste

Environmental

- More than **165** employees
- **Zero** cases of discrimination were reported during the past year
- **Insurance** coverage for our employees and their families
- More than **130** employees were trained in several thematic areas in 2021
- Advent's Social product: \$50,823,497

Social

- **First ESG Report:** GRI Referenced, UN SDGs impact
- **NASDAQ** listing
- Board of Directors women representation 40%
- **Majority Independent Board** 60%
- **Whistleblower** hotline established
- More than **190** patents issued, pending, or licensed

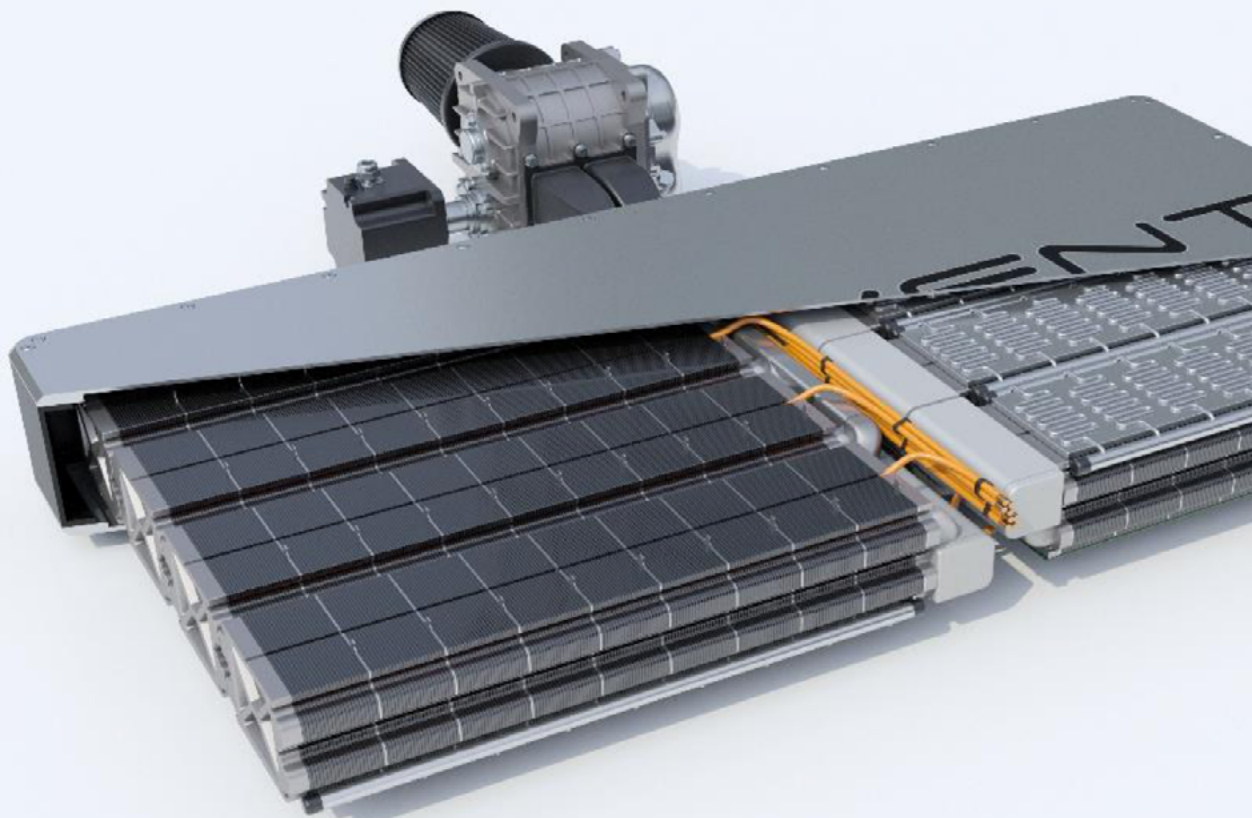
Governance

GRI 102-1, GRI 102-2, GRI 102-3, GRI 102-4, GRI 102-5, GRI 102-6, GRI 102-7,
GRI 102-13, GRI 102-16

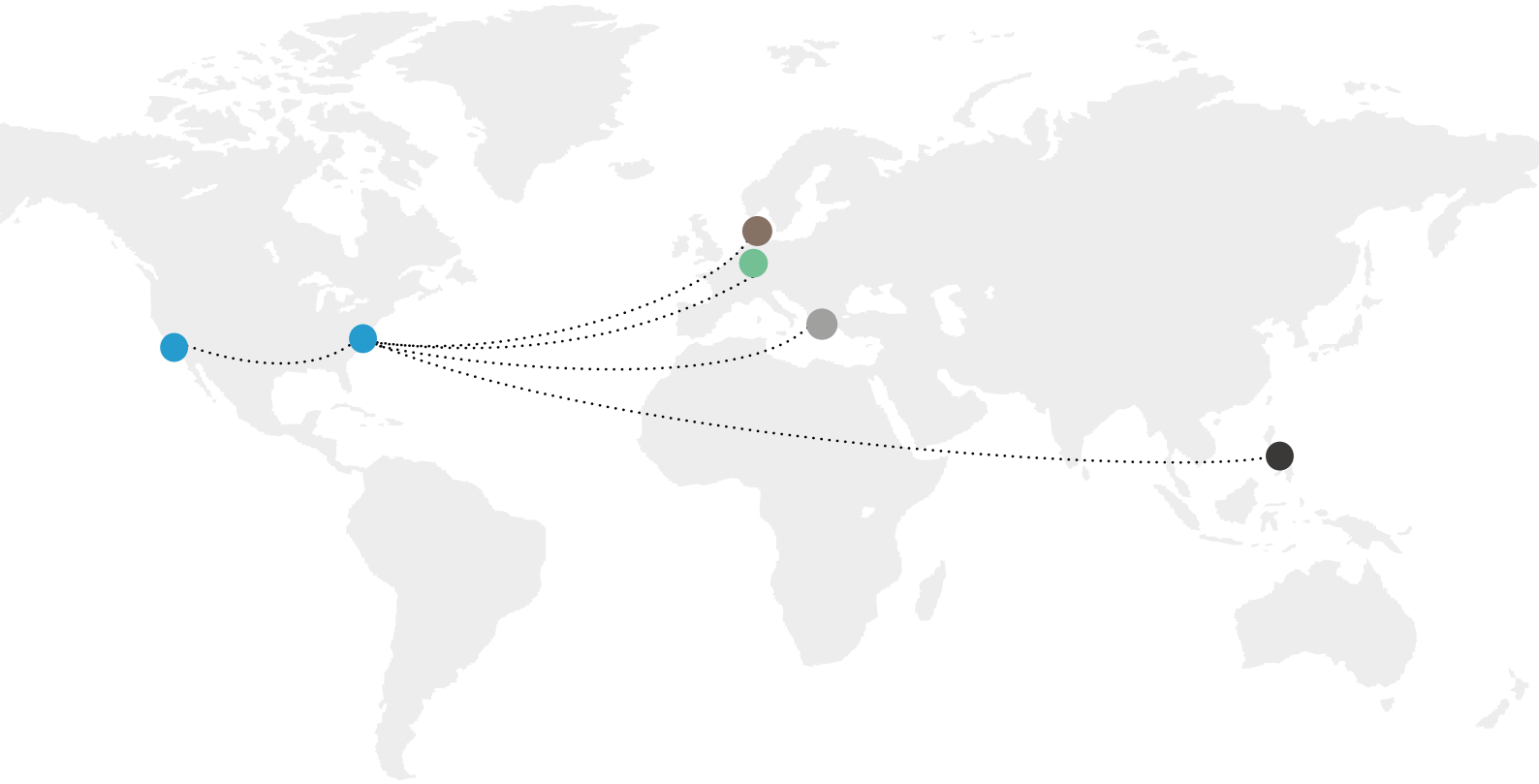
About Advent

Advent Technologies Holdings, Inc. ("Advent" or the "Company") is an advanced materials and technology development company operating in the competitive fuel cell and hydrogen technology sectors. Advent was established in 2006 in Patras, Greece, where its first line of products, **Advent HT-PEM Gen 1**, was introduced. Advent is comprised of six entities: the parent company, Advent Technologies Holdings, Inc., and its subsidiaries Advent A/S, Advent LLC, Advent Technologies GmbH, Advent S.A., and Advent Green Energy Philippines, Inc.

Our Company is specialized in the **development, manufacturing, and assembly of complete fuel cell systems** and the critical components that determine the performance of hydrogen fuel cells and other energy systems. Our electrochemistry components business includes electrodes, membranes, and MEAs. These components are critical for fuel cells, electrolyzers, and long-duration energy storage (flow batteries). The performance of these components defines the lifetime, efficiency, weight, and, ultimately, a substantial portion of the cost of the end electrochemistry products.



We have our headquarters in Boston, Massachusetts, and are building out a product development and research and development facility in Charlestown, Massachusetts, which is expected to open in 2022. At the same time, we have MEA fabrication and system production facilities in Livermore, California; Achern, Germany; Aalborg, Denmark; and Patras, Greece. We plan to scale up U.S. and European production and global sales operations to handle future demand. In this context, our investment priorities are to increase the MEA production volumes and, at the same time to progress initiatives related to new product development (next-generation fuel cell systems and MEAs).



- USA**
Boston
Charlestown
Livermore
- Germany**
Achern
- Denmark**
Aalborg
- Philippines**
Manila
- Greece**
Patras
Athens



In 2021, Advent acquired Ultracell LLC (now Advent LLC), Fischer Eco Solutions (now Advent GmbH), and its subsidiary SerEnergy (now Advent A/S). Those acquisitions empowered the Company to become a vertically-integrated fuel cell systems provider and added **110** employees and **five** more facilities in the Advent family:

- **Advent GmbH** has a **1,207-square-meters (sqm)** site in Achern, Germany.
- **Advent A/S** has a **228-sqm site** in Aalborg, Denmark, and **leases 561 sqm** of property in Paranaque City, Philippines, with an additional **460-sqm warehouse site**.
- **Advent LLC** has a **697-sqm site** in Livermore, California, United States of America.

Together with Advent Technologies A/S, Advent Technologies GmbH specializes in reformed methanol fuel cell ("RMFC") technology, producing core components (fuel cell stacks, methanol reformers, MEAs, and bipolar plates) of the Serene fuel cells. Advent Technologies A/S specializes in research and development ("R&D"), production, and sales of HT-PEM fuel







cells. Its operation in the Philippines focuses on providing remote and off-grid power, particularly to telecom providers.

Advent is positioned to lead the new green economy by providing low-cost, fuel-flexible, resilient fuel-cell technology. Our "**Any Fuel. Anywhere.®**" philosophy is geared to address the global climate crisis. Advent's patented fuel cell technology can run on existing fuels, such as methanol, meaning that its fuel cells can power the green hydrogen economy before pure hydrogen infrastructure is built.

Advent's world-class team of material scientists and electrochemists has developed state-of-the-art solutions: fuel cells for portable and stationary applications of power generation in the range of **20W to 20kW**, and the MEA, which is key to the functionality and characteristics of a fuel cell system and vital to the world's fast decarbonization.

The revolutionary components that have shaped and transformed Advent into a special company are innovation, leadership, and our experienced team of scientists and electrochemists, capable of providing clean energy solutions that respond to the market's needs. Advent's principal focus is on the fuel cell market, from components to complete systems. Our products, solutions, and the technological innovation that spring from our daily operations and business, enable us to play a critical role in accelerating the global energy transition by mitigating and addressing climate change impacts and risks.



Employees

175+

R&D Programs

38

Combined
Technical Years of
Experience

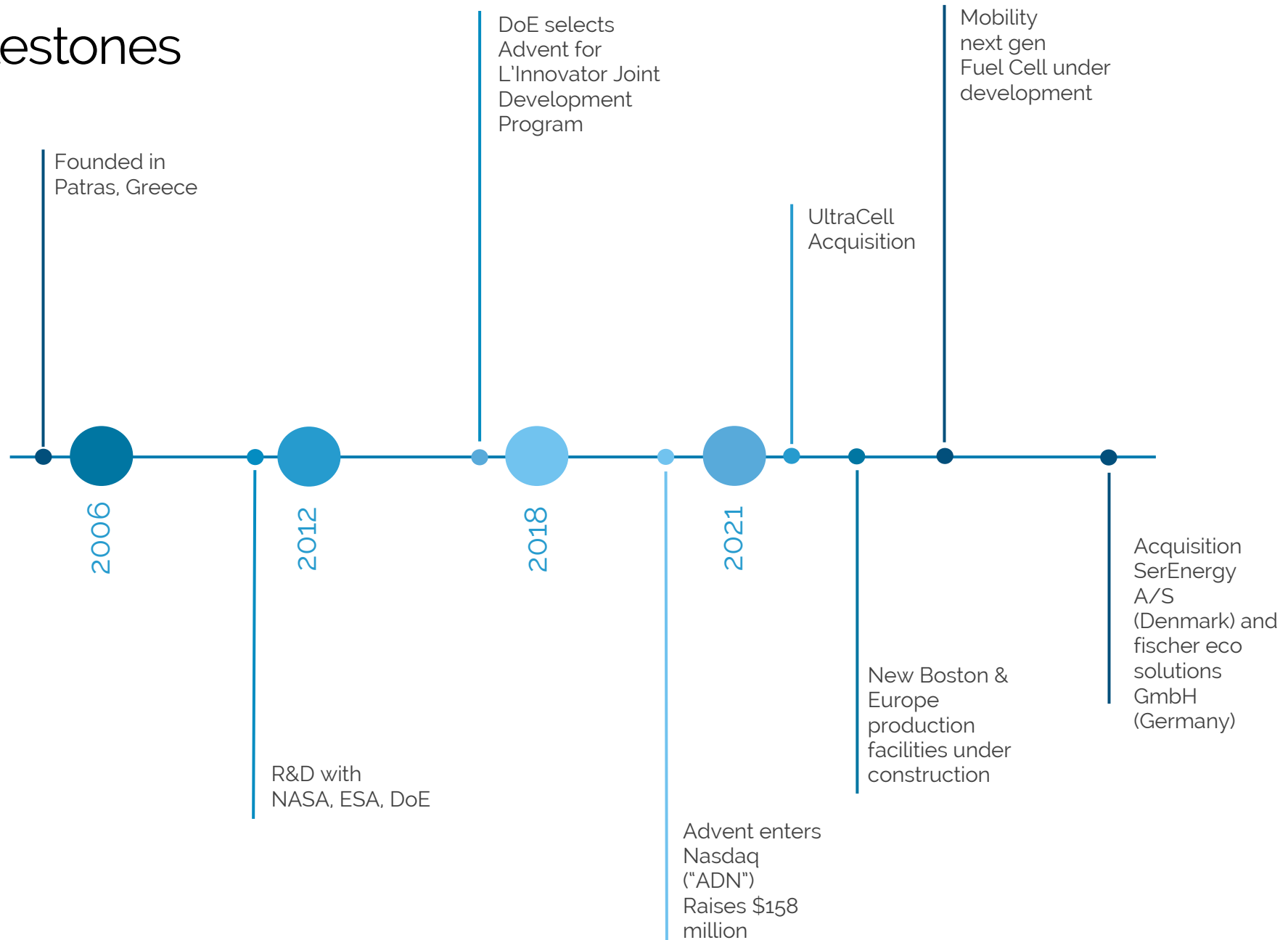
700 +

Patents Issues,
Licensed and
Pending

> 190

About Advent

Milestones



About Advent

Our Vision, Mission, Values

Vision

"We believe the world can decarbonize faster by adopting hydrogen and fuel cells to replace fossil fuels"

At Advent, we believe that the world can decarbonize faster and electrification can be accelerated with hydrogen and renewable fuels. These fuels will enable the generation of true zero emissions and carbon-neutral power for the automotive, aviation, drone, portable, marine, and heat and power generation markets. Renewable fuels carry hydrogen without the need for hydrogen infrastructure.

Our HT-PEMs can utilize low-cost and abundant hydrogen-carrier fuels, including methanol, natural gas, e-fuels, liquid organic hydrogen carriers, dimethyl ether, and renewable biofuels. Many of the hydrogen-carrier fuels can use existing or in-development infrastructure and have lower transportation cost than hydrogen. At the same time, they have the ability to operate in a variety of practical conditions, including a wide range of geographies, weather, ambient temperatures (as low as -200C and up to +550C), and in humid or polluted environments.

Mission

Advent's mission is to become a leading provider of fuel cell systems; HT-PEMs; fuel cells; HT-PEM-based MEAs; critical components used in fuel cells; and other electrochemical applications, such as electrolyzers and flow batteries. We strive to be a driving force of innovation and practical technology, with the immediate targets to replace:

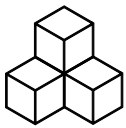
- diesel generators and combustion engines with clean, efficient fuel cells.
- fossil fuels with green hydrogen and renewable zero-emission fuels.

Values

We at Advent are devoted in providing safe, innovative, and efficient products. Our core values are **innovation, passion and collaboration**, and stem from our devotion to an ethical and responsible way of operating.

GRI 102-6, GRI 102-7

About Advent Business Value Model



Our business model is focused on the fuel cell and hydrogen technology that is expected to play a critical role in global decarbonization, given the cleaner emissions from hydrogen and hydrogen-carrier fuels compared to fossil fuels.

Our **growth strategy** is targeted on the following four sectors:

1. The **stationary off-grid market**, which is expected to be a growing market;
2. The **human-portable**, surveillance, energy infrastructure, and leisure market, based on Advent's innovative products;
3. The development of **next generation MEAs** and fuel cell solutions for the mobility market; and
4. The large-scale **fuel cell systems market** (power generation and power to gas), especially following developments in the multi-billion euro "White Dragon" project.



About Advent

Value Creation

Advent has significantly increased its product, system integration, manufacturing, and testing capabilities. Advent LLC has brought **Silicon Valley-type innovation** to the Company while Advent A/S has a world-class reputation in the fuel cell industry. The Company continues to expand with ongoing recruiting and development projects, including a new product development facility near Harvard University that is expected to open in 2022.

The Paris Climate Agreement's established targets seek to mitigate climate change and maintain global temperature increase below 1.5°C-2.0°C, compared to pre-industrial levels. To meet those targets, the global community will need to accelerate the adoption of fuel cells, which will reduce or eliminate emissions of carbon dioxide and other greenhouse gases. One of the challenges associated with existing battery technology is limitations in mass adoption across industries.

- **Our Vision:** We believe the world can decarbonize faster by adopting hydrogen and fuel cells to replace fossil fuels.
- **Our Mission:** Become a leading provider of fuel cell systems.

Business Strengths

- ✓ Simplified balance of plant technology
- ✓ Leveraging existing fuel infrastructure
- ✓ Experienced management team with proven track record

Core Business

- Off-Grid
- Portable Power

Market Presence

Automotive

Off-Grid

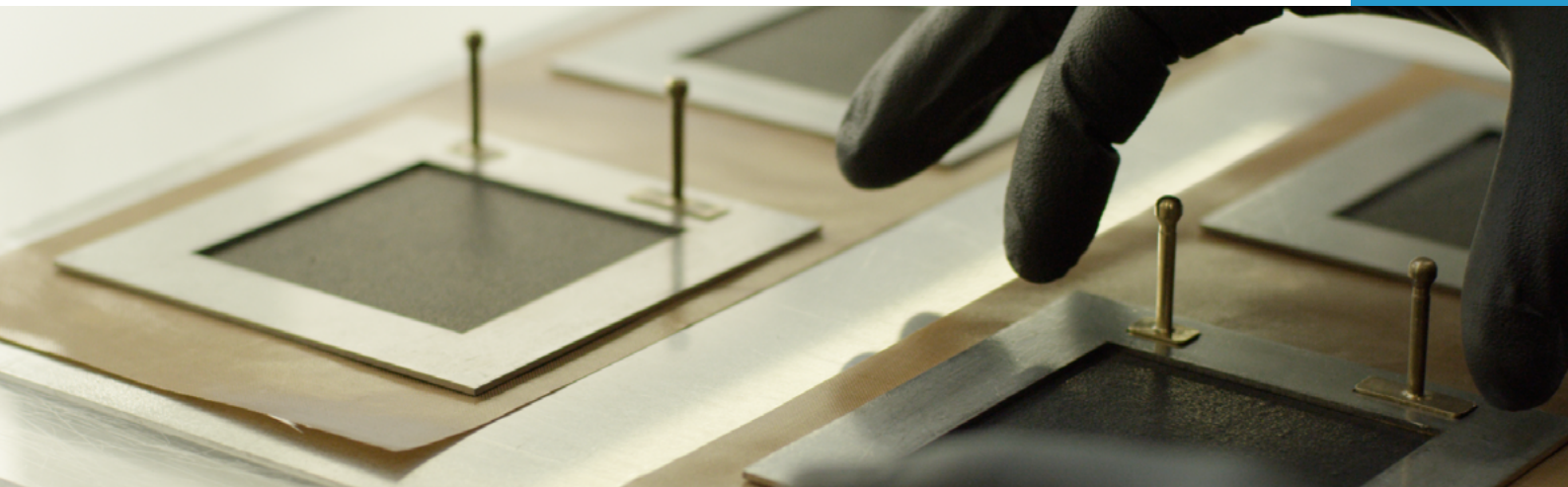
Oil & Gas

Aviation

Marine

Defense

Combined Heat & Power



\$38 bn

GLOBALLY, AN AVERAGE OF \$38 BILLION PER ANNUM IS EXPECTED TO BE INVESTED IN THE HYDROGEN AND FUEL CELL SECTOR BETWEEN 2020 AND 2040 WITH THE GOAL OF SIGNIFICANTLY INCREASING PRODUCTION CAPACITY WHILE LOWERING THE COST OF PRODUCTION.

While hydrogen was limited in the past, it is now expected to become an opportunity for growth, particularly in sectors such as industrials, power generation, and automotive.

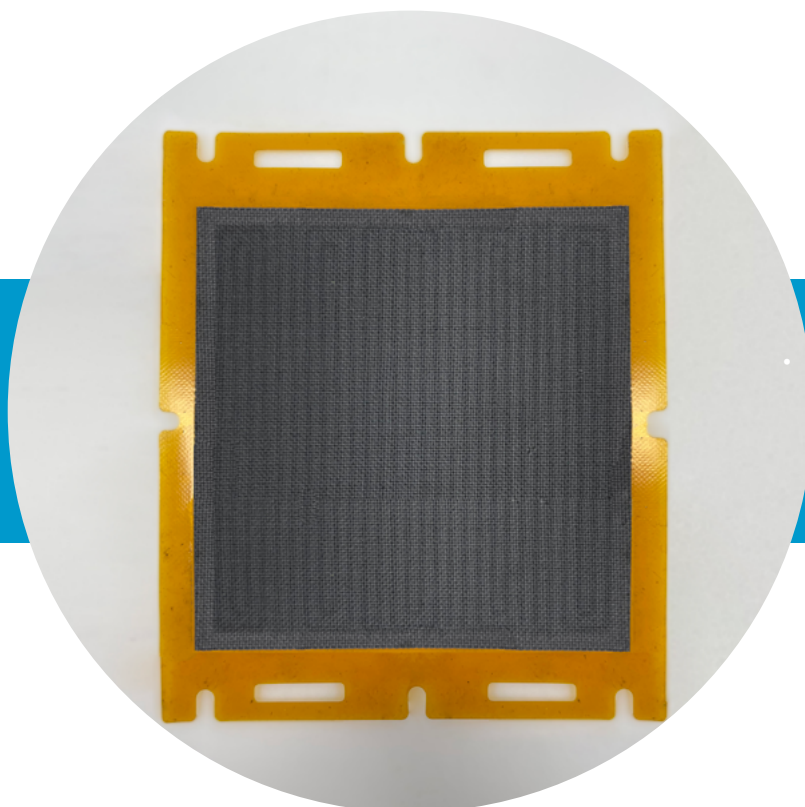
In addition to our unique technology offering, our position within the hydrogen industry is truly differentiated. We are positioned throughout the **entire fuel cell value chain** – from design and manufacturing of individual membranes, to MEA manufacturing and assembly and fuel cell technology engineering.

GRI 102- 2, GRI 102-6, GRI 102-7

About Advent Products & Services

Advent holds a unique market position in the fuel cell value chain – **being one of the only vertically-integrated suppliers of HT-PEMs to fuel cell Original Equipment Manufacturers (“OEMs”) and system manufacturers.** Through our differentiated, robust, and high-performing technology, we are able to tap into a plethora of applications and industries. Proof of our technology’s functionality has been established, with our products already in the market and strong partnerships in place. We have engaged with a range of world-renowned names across many sectors, including portable power, energy storage, aviation, gas sensors, auto, and off-grid.

Our fuel cell systems and core MEA component, which we largely internally manufacture, are our most significant advantages and assets when compared to competitors in the fuel cell industry.

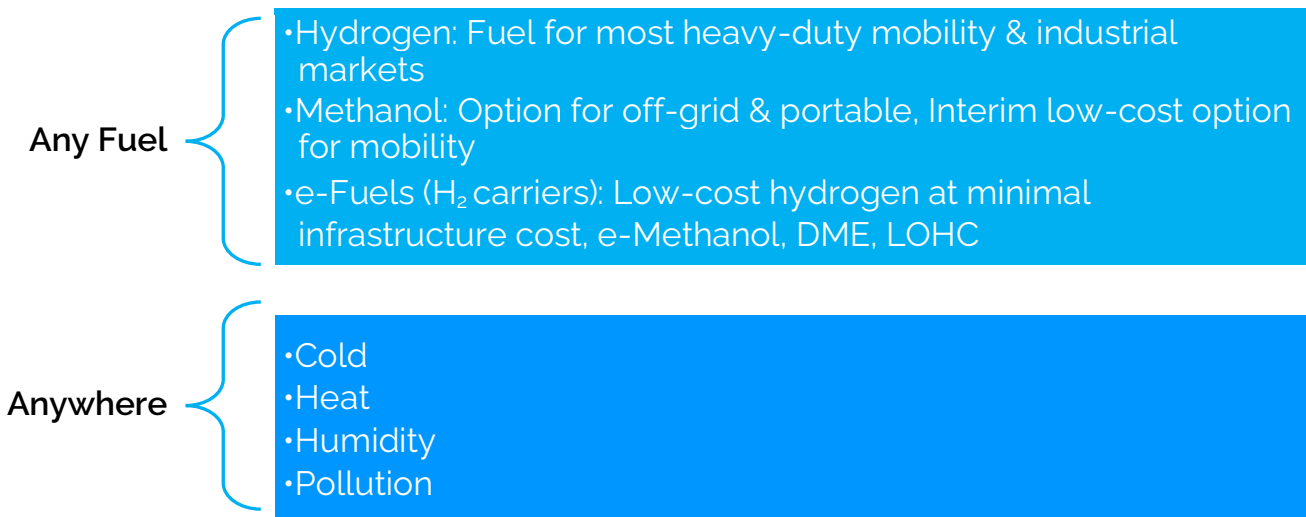


Advent’s high-temperature membrane - the heart of the fuel cell.



- **HT-PEM** and fuel cell systems are developed for the off-grid and portable power markets with the aim to expand into the mobility market. Select applications can vary between telecom towers (up to 5G), energy infrastructure (methane emissions mitigation for the oil and gas industry), and portable power for defense or emergency response units. Advent's mission is to become a leading provider of fuel cell systems. The main benefit of HT-PEM fuel cells is their fuel flexibility and ability to use renewable methanol, ammonia, dimethyl ether (DME), and hydrogen. Nearly any green fuel that is easily transportable to remote locations can power Advent's HT-PEM systems. HT-PEMs can handle almost any low carbon or zero-carbon fuel and enable more efficient heat management. They can withstand extreme temperatures, pollution, and humidity, leading to a longer lifetime and lower total cost of ownership.
- **MEA** is an assembled stack of proton exchange membranes at the center of the fuel cell, allowing for a more robust, longer-lasting, and ultimately lower-cost fuel cell product. Due to its greater energy storage capability, flexible fuel cell technology can help solve the "range and recharge" issues that lithium-ion batteries have. However, the range of our products extends to the following:

The key to Advent's development of products lies in the principles of our premise "**Any Fuel. Anywhere.®**", which can be distilled into two components:



HT-PEM FUEL CELLS

HT-PEM fuel cells are critical to solving the climate crisis by dealing with issues inherent in battery storage. Batteries are heavy, cumbersome, and degrade with every charge, while Advent's HT-PEM fuel cells are lightweight and provide continuous power with no need to charge.

MEMBRANE ELECTRODE ASSEMBLIES

MEAs, the heart of fuel cells, are the key to unlocking hydrogen's energy potential. Advent is committed to increasing the power density of MEAs, allowing for smaller and lightweight fuel cells; striving for a 10x reduction in platinum loading; and conserving valuable metals. While already a leader in the MEA market, we are continually working to enable a more robust, longer-lasting, and ultimately lower-cost fuel cell product.

SERENE

The 4th generation fuel cell unit, Serene, introduced many advantages, such as a longer lifetime, less service and maintenance, and improved total cost of ownership. These methanol-powered fuel cells are an exclusive technology for sustainable energy generation, responding to the increased global demand for cleaner forms of energy. Methanol fuel cell units have the option to interconnect with multiple units, resulting in power systems and solutions for larger power demands, and are a reliable source of on-demand power generation for critical communication networks such as commercial telecom and security etc.



SereneU

HONEY BADGER

A reformed methanol wearable fuel cell power system providing mobile power and on-the-move battery charging. The product is offered at 20W and 50W power versions, and both are in testing and certification stages. The Honey Badger is three to twenty-five times (depending on the mission) lighter than the equivalent battery solution and produces half the noise of a typical generator.



Honey Badger 50™

ORGANIC PHOTOVOLTAICS (OPVS)

We manufacture photovoltaic cells for secondary uses, which can be seamlessly integrated into a variety of creative and novel applications. Flexible and rollable, these cells can be incorporated into a variety of everyday items.

M-ZERØ

This family of products is specially designed to generate power in remote environments and in extreme conditions. We recently entered an agreement to conduct a trial of 10 50-Watt systems in Alberta, Canada. These systems will be used at oil and natural gas wellheads. Their use significantly reduces methane emissions where they replace older, less efficient technology.



M-ZERØ™

UNDER DEVELOPMENT

New Advent MEA

The new Advent MEA is currently being developed within the framework of L'Innovator, the Company's joint development program with the U.S. Department of Energy's Los Alamos National Laboratory, Brookhaven National Laboratory, and National Renewable Energy Laboratory. Aiming to revolutionize the fuel cell industry, the new Advent MEA will be able at least to match the performance of today's LT-PEM MEAs, to successfully operate at conditions never thought possible, as well as to significantly exceed the lifetime of Advent's existing MEAs.

Digitronics

Advent's Digitronics solution comes to answer the global need for a resilient, multifuel fuel cell that can replace the diesel generator and the internal combustion engine. Based on the new Advent MEA and a unique engineering architecture, it can provide the ideal solution for the mobility, power generation, marine, and aviation markets. Digitronics is developed with an architecture that can be massively scaled from 50W to 1MW with the same design. The manufacturing, assembly, operation, and cooling issues are consistently addressed in these designs in a similar way. Digitronics aims to become the lowest total cost of ownership solution for replacing the diesel generator and the heavy-duty truck with a green and reliable solution.

Megatronics

Megatronics is extending the Digitronics design to longer MEAs that support Megawatt applications. This portable 1MW fuel cell stack will enable the path to zero emissions for large-scale and grid-level systems, having the ability to balance the grid by producing heat & power from stored hydrogen. Once commercialized, this solution will provide reliable power to data centers and support large-scale off-grid power needs. At the same, it will also be able to cover big vessels' propulsion needs, as well as vehicle recharging and remote power needs in the mining industry.

GRI 102-12, GRI 102-13

About Advent

Memberships, Partnerships & Awards

We have built strong partnerships with many organizations and institutes to promote our climate-changing solutions. Being an active and responsible member not only encourages us to enhance our industry's public image, but to also create innovative products and technologies. We are continuously working to strengthen our ESG goals and commitments by facilitating the transition to a net-zero economy.

Advent is a member of several trade associations, that include our peers and market stakeholders. Through these channels, we are given the opportunity to develop new initiatives, exchange technical knowledge, and leverage best practices across the industry. 2021 was a decisive year for us; through the cooperation with strategically important memberships, we became a benchmark for initiating and accelerating the energy transition era in U.S and Europe.

"What Others are saying about Advent"

"Advent is a great example of how partnerships between U.S. technology leaders and the Greek innovation ecosystem can lead to cutting-edge solutions that address today's global issues like climate change."

Geoffrey R. Pyatt

The U.S. Ambassador to Greece

"Advent's membership lends another unified voice to amplify the key role fuel cells and hydrogen can and will play in decarbonizing our energy future in the U.S. and around the world."

Morry Markowitz
FCHEA President

Awards



Nomination for inclusion in the First Wave of IPCEI Hydrogen



ARPA-E award of \$2.7M under IONICS projects for selective and low-cost separators for batteries with liquid reactants



ARPA-E award of \$1.2M under REFUEL projects for energy-dense carbon-neutral liquid fuels



Two FCH JU projects from the FCH JU 2012-1 call Awards

Advent Technologies

American-Hellenic Chamber of Commerce

Advent is a member of the American-Hellenic Chamber of Commerce. This organization aims to accelerate countries' shared commitments regarding the climate and a transition to a clean energy future. At the same time, it paves the path for new jobs, and the industries' transformation to sustainable ones.

Russell 3000® Index

Advent was recently added to the Russell 3000® Index. The Russell 3000 is an index that tracks the 3,000 largest publicly-traded U.S. stocks, weighted by market capitalization, and Advent's inclusion in the index ensures that it is also included in Russell 3000 based ETFs, as well as increasing the Company's profile among active and ESG investors.

The Fuel Cell and Hydrogen Energy Association

Advent has joined the Fuel Cell and Hydrogen Energy Association ("FCHEA"), the national trade association in the U.S., representing companies advancing clean, safe, and reliable energy. FCHEA will play a critical role in the movement to decarbonize the U.S., and Advent is proud to contribute to this effort.

German Intelligent Mobility Association

Advent is a member of the German Intelligent Mobility Association ("ITS"), the largest competence cluster for intelligent mobility in Germany. Combining the dialogue between the mobility industry and research that ITS promotes, with the "Any Fuel. Anywhere. ®" premise of Advent, the organizations together will contribute to the clean energy transition and Germany's decarbonization future.

Methanol Institute

The Methanol Institute ("MI") serves as the global trade association for the methanol industry representing the world's leading methanol producers, distributors, and technology companies. Advent joined the MI to provide comfort to its local partners and end-users by offering an overview of local supply options, increased transparency pricing structures worldwide, and a closer relationship with key methanol producers globally and locally.

Hydrogen Europe

Advent is a member of Hydrogen Europe, supporting the organization that represents European-based companies and stakeholders committed to moving towards a (circular) carbon-neutral economy. The organization encompasses the entire value chain of the European hydrogen and fuel cell ecosystem.

Advent Technologies A/S' Association Memberships

Advent Technologies A/S participates in several local and international networks and associations. The associations to which we connect have the purpose of bringing together businesses and promoting fuel cells as a green alternative.

- Confederation of Danish Industry
- e4ships
- Aalborg Alliancen
- Energy Cluster Denmark
- CAN in Automation (CiA)
- Brintbranchen Hydrogen Denmark
- Clean Power Net

Excellence

Our industry requires the continual improvement across all areas of environmental impact, sustainable development, and quality. We aim to continue developing our operations, focusing on enhancing sustainable performance and bridging every challenge that arises. At Advent, we use internationally recognized standards in our products and daily operations to improve the quality and performance of our Company, while reducing risk.

Since 2017, **Advent Technologies A/S** has adopted the **ISO 9001:2015, Quality management system**, to meet all regulatory requirements related to our products and services and to enhance customer satisfaction through the provision of qualitative and improved products. ISO 9001:2015 is integral part of Advents A/S business, that will further enhance the implementation of sustainability principles.



Our Approach to Sustainability

Advent believes that the world can decarbonize faster than the timeline set by current legislation. We are committed to accelerating a cleaner and safer world through our innovative products, enabling true zero emissions and carbon-neutral power.

At Advent, sustainability is regarded as a discrete discipline. Our approach to sustainability is firmly established in our business model, which provides long-term value for shareholders, customers, and society. This means that Economic, Social, and Environmental aspects and impacts are significant factors considered during the design and the production process of our products. Our team is dedicated to scaling new and standardized product lines that are responsive to every stakeholder's primary economic, social, and environmental priorities for clean, cost-optimized, and efficient energy.

Our Focus Areas

Advent is committed to the global realization of a sustainable low-carbon society, based on our vision and shared belief that **the world can decarbonize faster by adopting hydrogen and fuel cells to replace fossil fuels**. Our principal focus is to be part of the global energy transition, by addressing the pressing, global climate needs through our fuel cell products and services. Our approach is based on ESG Criteria and the United Nations Sustainable Development Goals (SDGs). Advent's goals are further explained below.

REDUCE	Reduce carbon footprint through use of HT-PEM fuel cells
CREATE	Create a circular economy by recapturing and recycling old fuel cells
BECOME	Become more sustainable by meeting sustainable development goals



Our broad sustainability efforts over the coming years will pave the path to accomplish net-zero targets, leading Advent towards a prosperous and more sustainable future that benefits society and the environment.

2022 ESG Targets

E

We will strive to reduce water consumption in all our operational activities.

We are committed to increase the use of alternative fuels.

We will continue offering low carbon and environmentally friendly alternatives to our customers.

We will aim to measure and monitor our CO₂ emissions, to become carbon neutral.



S

We will monitor and attempt to increase the proportion of women of our workforce.

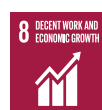
We will continue offering training programs to our employees.

We will sustain our zero fatalities rate and target zero accidents.

We will continue supporting local employment in our operational sites.

We commit to increase our social contribution.

We will increase the frequency of communication with local communities and NGOs



G

We will continue complying with laws and regulations and achieve zero violations.

We will continue to perform our operations and communication with transparency and integrity.

We will continue updating and complying with our Code of Business Conduct and Ethics.

We will increase our R&D programs, in order to provide more innovative products and services.



Material Topic

GRI 102-40, GRI 102-42, GRI 102-43, GRI 102-44

Stakeholder Engagement

Advent identifies as its stakeholders those groups that are affected by the Company's activities and those that affect the Company in direct or indirect ways. Those groups shape the internal and external environment of the Company and are vital for its effective operation and growth. Our operations and business decisions are on track to meet their expectations concerning economic, social, and environmental issues. To effectively communicate with them and build strong relationships, we proceeded with a stakeholder mapping process. The fundamental approach is the uninterrupted interaction with our stakeholders with the purpose of utilizing their participation and influence, on implementing our sustainable development focus areas.

The following table introduces the communication channels, the frequency of communication, and their interests and expectations. Advent's response in stakeholders' interests and expectations is presented throughout the ESG Report.



Stakeholder Group	Communication Channels	Frequency	Interests & Expectations
Employees (full-time, part-time, and employees from contractors)	<ul style="list-style-type: none"> ✓ Reporting channels ✓ Working groups ✓ Social media ✓ Newsletter 	continuous when appropriate continuous weekly	<ul style="list-style-type: none"> ▪ Occupational Health & Safety ▪ Training & Development ▪ Equal Opportunities ▪ Internal Dialogue ▪ Compensation/Benefit Schemes ▪ Protection of Human Rights ▪ Organizational Effectiveness ▪ Fair Employment
Customers	<ul style="list-style-type: none"> ✓ Customer Service Line ✓ Complaint procedures ✓ Social media ✓ Newsletters ✓ Press release 	continuous continuous weekly weekly when appropriate	<ul style="list-style-type: none"> ▪ Customer Satisfaction ▪ Innovation ▪ Fair Business Practices ▪ Data Privacy & Security ▪ Products Safety & Quality ▪ Low-Carbon Products
Shareholders & Investors	<ul style="list-style-type: none"> ✓ Annual General Meeting of Shareholders ✓ Participation in investment forums ✓ Financial reports ✓ Press release 	annual when appropriate quarterly when appropriate	<ul style="list-style-type: none"> ▪ Financial Performance ▪ Transparency ▪ ESG Performance ▪ Fair Business Practices ▪ Regulatory Compliance ▪ Corporate Governance
Suppliers (Product Suppliers, Contractors, Other suppliers, e.g., office suppliers)	<ul style="list-style-type: none"> ✓ Meetings (by phone, email) ✓ Corporate website ✓ Social media ✓ Inspections/evaluations 	when appropriate continuous weekly when appropriate	<ul style="list-style-type: none"> ▪ Business Ethics & Compliance ▪ Emergency Preparedness ▪ Consistency of Payments ▪ Consistency in Delivery Times ▪ Fair Business Practices ▪ Data Privacy & Security ▪ Transparency ▪ Procurement Policy
Analysts, Consultants & Rating Agencies	<ul style="list-style-type: none"> ✓ Direct communication ✓ Dedicated meetings ✓ Corporate website ✓ Press release ✓ Conferences ✓ Financial report ✓ Ratings/Indexes 	when appropriate when appropriate continuous when appropriate when appropriate annual when appropriate	<ul style="list-style-type: none"> ▪ Transparency ▪ Fair Business Practices ▪ Regulatory Compliance ▪ ESG Performance ▪ Corporate Governance ▪ Financial Performance ▪ Performance on ESG ratings & indexes
Creditors and Financial Institutions	<ul style="list-style-type: none"> ✓ Direct communication ✓ Financial statements ✓ Corporate website 	when appropriate quarterly & annual continuous	<ul style="list-style-type: none"> ▪ Better Financial Performance ▪ Transparency ▪ Fulfilment of Financial Liabilities ▪ Regulatory Compliance

Stakeholder Group	Communication Channels	Frequency	Interests & Expectations
Regulators, Government Bodies, Policy makers	<ul style="list-style-type: none"> ✓ Dedicated meetings ✓ Financial results ✓ Periodic reviews 	<ul style="list-style-type: none"> when appropriate annual when appropriate 	<ul style="list-style-type: none"> ▪ Fair Business Practices ▪ Transparency ▪ Regulatory Compliance
Local Communities	<ul style="list-style-type: none"> ✓ Corporate website ✓ Press release ✓ Social media ✓ Communication with local authorities 	<ul style="list-style-type: none"> continuous when appropriate weekly when appropriate when appropriate 	<ul style="list-style-type: none"> ▪ Engagement with local communities ▪ Social Investments ▪ Environmental Impact ▪ Job Creation
Industry Associations & Business Networks	<ul style="list-style-type: none"> ✓ Corporate publications ✓ Conferences & events ✓ Social media ✓ Corporate website ✓ Meetings ✓ Working groups 	<ul style="list-style-type: none"> when appropriate when appropriate weekly continuous when appropriate when appropriate 	<ul style="list-style-type: none"> ▪ Industry news ▪ Information updates ▪ Transparency ▪ Regulatory Compliance ▪ Active Participation
End users	<ul style="list-style-type: none"> ✓ Complaint procedures ✓ Corporate website ✓ Social media ✓ Newsletters 	<ul style="list-style-type: none"> continuous continuous weekly monthly 	<ul style="list-style-type: none"> ▪ End users Satisfaction ▪ Innovation ▪ Fair Business Practices ▪ Data Privacy & Security ▪ Products Safety & Quality ▪ Low-Carbon Products
Academia and Research Institutions	<ul style="list-style-type: none"> ✓ Meetings ✓ Events ✓ Visits from Universities to the Company ✓ Workshops ✓ Collaboration in projects 	<ul style="list-style-type: none"> when appropriate 	<ul style="list-style-type: none"> ▪ Training & Development ▪ Sponsorships ▪ Employment strengthening through internships ▪ Research Programs
Media	<ul style="list-style-type: none"> ✓ Press release ✓ Press conferences ✓ Newsletters ✓ Sponsored events ✓ Social media 	<ul style="list-style-type: none"> Weekly when appropriate monthly when appropriate weekly 	<ul style="list-style-type: none"> ▪ Company's Activity ▪ Industry Information ▪ Use of Media Services ▪ ESG Performance ▪ Transparency
NGOs and Civil Society	<ul style="list-style-type: none"> ✓ Corporate website ✓ Social media ✓ Events 	<ul style="list-style-type: none"> Continuous weekly when appropriate 	<ul style="list-style-type: none"> ▪ Transparency ▪ Actions/Initiatives ▪ External Dialogue ▪ Environmental Protection
Peers/Competitors	<ul style="list-style-type: none"> ✓ Corporate website ✓ Conferences & Events ✓ Market Research 	<ul style="list-style-type: none"> when appropriate 	<ul style="list-style-type: none"> ▪ Fair Business Practices ▪ Ethics & Compliance

GRI 102-46, GRI 102-47

Materiality Assessment

Following the GRI Standards guidelines, this year Advent conducted its first Materiality Assessment. For 2021, the Materiality Assessment was internal, with the commitment to expand and reach individually all its identified stakeholder groups in the future.

Material topics are those that can be considered important for reflecting the organization's economic, environmental, and social impacts, or topics that influence the decisions and assessment of stakeholders.

The Materiality Assessment was conducted under a three-stage process:

1. Identification

Advent identified the topics that most impact sustainable development and are crucial to its stakeholders. During this stage, we identified **27** material topics by taking into account the following factors:

- The interests and expectations of stakeholders;
- international standards, such as GRI Standards, and UN Sustainable Development Goals (SDGs);
- economic, environmental, and social impacts;
- future challenges of the sector;
- laws, regulations, and international agreements, important for the Company; and
- sustainable development-related threats and opportunities for the Company

2. Prioritization

The identified issues were prioritized from Advent's management based on their impact to sustainable development, under all pillars of ESG. To continue the prioritization process and include the views and expectations of its stakeholders, Advent engaged key executives to represent each stakeholder group. The executives were invited to participate in an online questionnaire and rate the topics, ensuring coverage of the needs and the expectations of all internal and external stakeholders.

3. Validation

In the final step of the materiality assessment, the Executive Team engaged in reviewing and validating the materiality assessment outcomes. Out of **27** total material topics examined, **17** material topics were prioritized in the following table, identifying the level of stakeholder interest and impact on them, each also correlated with the Company's impact.





Material Topics and Boundaries

Material Topic ¹	SDGs Impact	Impact Boundaries
Intellectual and Industrial Property for sustainable value creation	 	<ul style="list-style-type: none"> Regulators, Government Bodies, Policy makers Industry Associations & Business Networks Customers Local Communities Peers/Competitors
Economic Performance and Growth	 	<ul style="list-style-type: none"> Employees Shareholders & Investors Suppliers Creditors and Financial Institutions Regulators, Government Bodies, Policy makers Local Communities
Product Safety, Quality and Reliability	 	<ul style="list-style-type: none"> Customers Regulators, Government Bodies, Policy makers Shareholders & Investors Suppliers End users
Business Investments and Innovation	   	<ul style="list-style-type: none"> Shareholders & Investors Local Communities Academia and Research Institutions
Diversity, Equity and Inclusion	 	<ul style="list-style-type: none"> Employees Customers Suppliers Shareholders & Investors Regulators, Government Bodies, Policy makers Local Communities NGOs and Civil Society

¹Material topics in the table are presented in order of classification according to the materiality assessment process.





Material Topic ¹	SDGs Impact	Impact Boundaries
<p>Corporate Governance and Business Ethics</p>	 	<ul style="list-style-type: none"> ▪ Employees ▪ Customers ▪ Shareholders & Investors ▪ Suppliers ▪ Creditors and Financial Institutions ▪ Regulators, Government Bodies, Policy makers ▪ Local Communities ▪ Peers / Communities
<p>Talent Attraction, Retention and Development</p>	 	<ul style="list-style-type: none"> ▪ Employees ▪ Shareholders & Investors ▪ Local Communities
<p>Occupational Health and Safety</p>	 	<ul style="list-style-type: none"> ▪ Employees ▪ Regulators, Government Bodies, Policy makers ▪ Shareholders & Investors
<p>Women Empowerment</p>	  	<ul style="list-style-type: none"> ▪ Employees ▪ Local Communities ▪ Regulators, Government Bodies, Policy makers ▪ NGOs and Civil Society
<p>Industry-Academia research collaboration</p>	  	<ul style="list-style-type: none"> ▪ Industry Associations & Business Networks ▪ Academia and Research Institutions ▪ Peers/Competitors ▪ NGOs and Civil Society

¹Material topics in the table are presented in order of classification according to the materiality assessment process.

Material Topic ¹	SDGs Impact		Impact Boundaries
Employee Training and Development			<ul style="list-style-type: none"> ▪ Employees ▪ Shareholders & Investors ▪ Customers ▪ End users ▪ Academia and Research Institutions
Data Privacy and Security			<ul style="list-style-type: none"> ▪ Employees ▪ Shareholders & Investors ▪ Customers ▪ Regulators, Government Bodies, Policy makers ▪ End users
Stakeholder Engagement			<ul style="list-style-type: none"> ▪ All stakeholders
Employee wellbeing and workplace empathy			<ul style="list-style-type: none"> ▪ Employees ▪ Shareholders & Investors
Hydrogen and Fuel Cell Standardization			<ul style="list-style-type: none"> ▪ Regulators, Government Bodies, Policy makers ▪ Industry Associations & Business Networks ▪ Customers ▪ Academia and Research Institutions
Responsible and Sustainable Sourcing of Materials			<ul style="list-style-type: none"> ▪ Customers ▪ Suppliers ▪ Regulators, Government Bodies, Policy makers ▪ Local Communities ▪ End users
Internal Communication and Grievance Mechanisms			<ul style="list-style-type: none"> • Employees • Shareholders & Investors • Customers • Suppliers

¹Material topics in the table are presented in order of classification according to the materiality assessment process.

Advent's Products SDG Impact

UN Sustainable Development Goals	Our products' impact
 <p>SDG 7 Ensure access to affordable, reliable, and modern energy for all</p>	<p>Advent's HT-PEM fuel cells are positioned to be a global leader in the transition to clean, renewable energy. Millions of people lack access to electricity. In the long-term, "In the long-term, Advent's technology could provide lower cost electricity to millions"</p>
 <p>SDG 9 Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation</p>	<p>Advent's fuel cells will be critical to adopting clean energy. The benefit of our model is that it does not require additional hydrogen infrastructure, enabling our products to operate in local conditions inhospitable to battery-based technology.</p>
 <p>SDG 12 Ensure sustainable consumption and production patterns</p>	<p>Advent's HT-PEM fuel cells can work with green e-fuels, such as methanol, and not produce any harmful byproducts. The rise of fuel cells will decrease global reliance on fossil fuels, helping to reach the ambitious goals outlined in the Paris Agreement.</p>
 <p>SDG 13 Take urgent action to combat climate change and its impacts.</p>	<p>The adoption of Advent fuel cells has the potential of reducing GHG emissions, contributing to the "below 1.5°C" commitment of the Paris Agreement. If approved, our pioneering project of coal power plants replacement of Western Macedonia in Greece will assist Greece in combating climate change challenges.</p>

Responsible Growth

Material Topic

GRI 102-7, GRI 201-1, GRI 203-1, GRI 416-2

Economic Performance and Growth

Advent Technologies creates sustainable value for its customers, its supply chain and other stakeholders/third parties that are affected by its operations. The Company is determined to generate long term business value and operational success, by leading its operations in an environmentally and socially sound manner. By creating sustainable products and services and continuously developing its product range, Advent Technologies is working on minimizing its environmental footprint. In 2021, Advent Technologies revenue increased by \$6,186,190, or 701%, from \$882,652 in 2020 to \$7,068,842 in 2021.

This increase resulted from a) increased demand from customers for Advent's MEAs and other products, as a result of Advent's customers increasing their own testing and usage of Advent's products, b) revenue from UltraCell's operations (acquired on February 18, 2021) and c) revenue from SerEnergy and FES's operations (acquired on August 31, 2021).

DIRECT ECONOMIC VALUE GENERATED AND DISTRIBUTED BY ADVENT

2021 Direct economic value generated	
Revenues	\$7,068,842
2021 Economic value distributed	
Operating Costs	\$46,602,111
Employee wages and benefits	\$28,133,457
Payments to providers of capital	\$12,433
Payments to government by country	\$957,943
Social Product	\$50,823,497

Responsible Growth

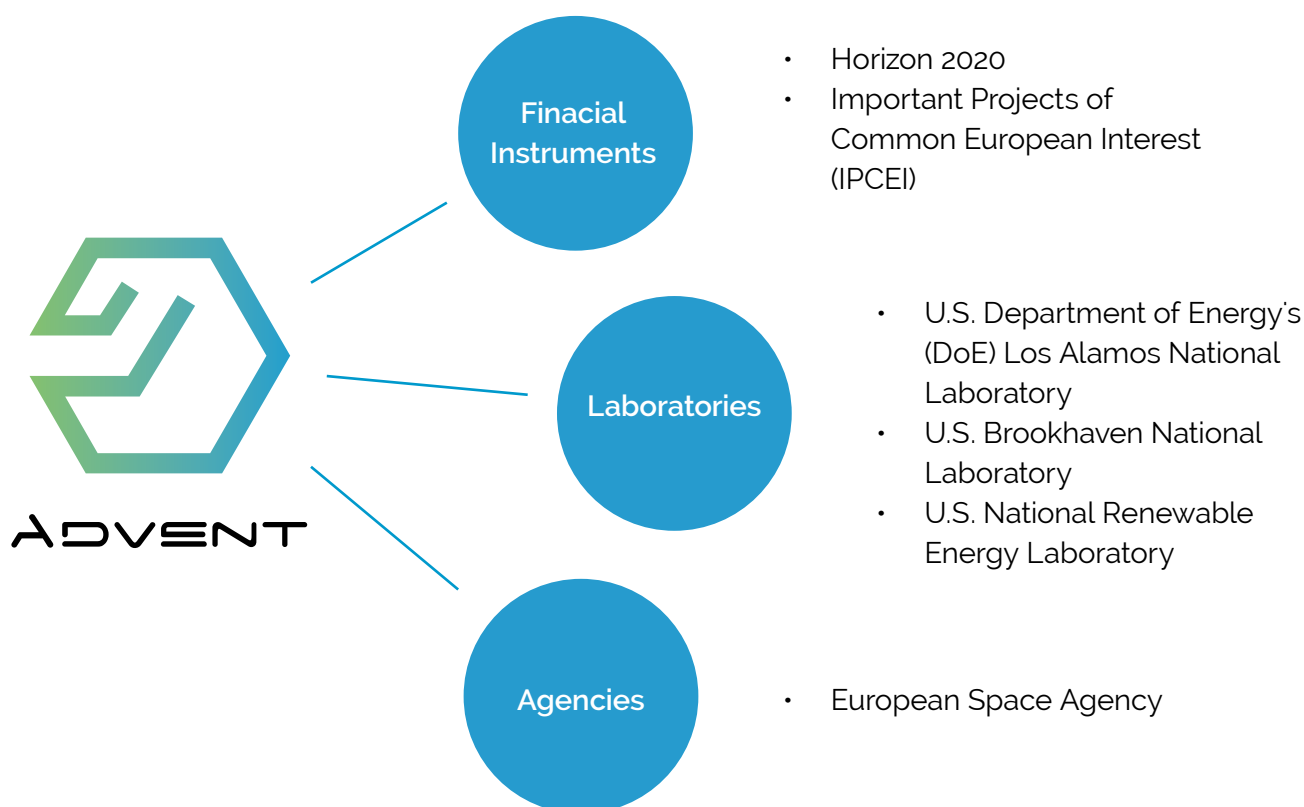
Investment and Innovation

Material Topic

Business Investment and Innovation

Many of our clients have set ambitious goals to minimize their environmental footprint, and we recognize that our products and solutions are assigned to be part of this achievement. Our innovative products and services enable our clients to conserve their energy resources, reduce their dependency on fossil fuels, reduce their emissions, and give them the opportunity to make smart decisions. Maintaining and strengthening our focus on research and innovation, we offer innovative solutions to our clients, community, and industry, and we contribute to the achievement of the sustainable development goals, for our Company's economic growth and for society as a whole. In 2021, our R&D department grew and created significant partnerships with financial institutions and research agencies, in European Union and the United States of America.

Our HT-PEM technology, pioneered in 2006, can operate at high temperatures (between 160°C and 220°C) with the potential to operate between 80°C and 240°C, unlike typical LT-PEM fuel cells that are limited below 100°C. This temperature advantage allows the fuel cell to work with other fuels and have reliable operation at extreme conditions. This capability enables us to be highly positioned in the off-grid and portable power markets in selected applications, like telecom towers and critical infrastructure power needs. Currently, these applications rely on diesel generators, which are primed for replacement for environmental and cost reasons; batteries, which are unable to provide a long-term year-round solution; and pure hydrogen, which presents difficult logistical concerns.



EU Initiatives

Important Projects of Common European Interest ("IPCEI")

White Dragon

With the goal of fully decarbonizing Greece's energy system, White Dragon is an ambitious IPCEI project seeking to replace the coal-fueled power plants of Western Macedonia in Greece. The project plans to use large-scale renewable electricity to produce green hydrogen by electrolysis in Western Macedonia. HT-PEM fuel cells can provide a combination of both heat and electrical power. The heat generated by the project can initially be used in conjunction with the district heating networks of Western Macedonia. Moreover, there is potential for additional uses in other applications requiring a heating and/or cooling system, (industrial workings, data centers and greenhouses). The project has been approved by the Greek government, but is still pending approval from the European Union.

Green HiPo

Green HiPo is another IPCEI project related to the manufacturing of HT-PEM fuel cells to **produce heat and power**. It is expected to take place mainly in Western Macedonia, with opportunities for expansion, and is linked to, but independent of, the White Dragon project. A production facility will be established in Western Macedonia, Greece, with a staggered production plan. We will start with 15kW stacks, integrate to 120kW modules, then 1MW scale single units, and ultimately multi-MW fully integrated systems. The project has been approved by the Greek government, but is still pending approval from the European Union.

White Dragon

- » Project duration: **2022 - 2029**
- » Anticipated Hydrogen production: **250,000 tons / year**
- » Anticipated Hydrogen for other uses: **58,000 to 71,000 tons / year**
- » Anticipated CO₂ savings: **11.5 million tons / year**
- » Anticipated Job creation: **18,000** direct jobs and **29,500** indirect

Green HiPo

- » Total investment will be over EUR **4 billion**.
- » Project duration: **2022 - 2029**
- » Anticipated Job creation **1,400** jobs in innovative sustainable technology

Horizon 2020

Advent is a partner in the European Union's Horizon 2020. Horizon 2020 is the biggest European Union research and innovation program ever. It seeks to fund research supporting the **transition to a reliable, sustainable and competitive energy system**.



Intellectual and Industrial Property for sustainable value creation

Material Topic

Advent is continuously implementing innovations to address global sustainability challenges and consequences of climate change. Our innovations aim to transform businesses and accelerate the net zero transition. Our strategic approach is to use our intellectual property and our facilities in supporting the cause.

Advent has been issued, acquired, licensed, or applied for approximately **190** international and United States patents, with a concentration in membranes, electrodes, and MEAs. In the MEA sector, Advent's products include two existing membrane technologies: "**TPS**[®]", which Advent has exclusive rights to use and was obtained through patents filed by its founders and technical staff, and "**PBI**" technology, of which Advent is a selective licensee. Leveraging its membrane technologies, Advent also has intellectual property for lightweight stacks made through advances in bipolar plate materials, which support water-cooled systems.

In March 2022, Advent announced the availability of its next-generation MEAs ("Advent MEA"). These MEAs have already been provided for testing to select strategic partners. The Advent MEA is currently being developed within the framework of LInnovator, the Company's joint development program with the U.S. Department of Energy's Los Alamos National Laboratory (LANL), Brookhaven National Laboratory (BNL), and National Renewable Energy Laboratory (NREL). The first-year milestones already achieved were:

- Accelerated stress testing confirmed the potential for significant (>5x) improvement in lifetime versus current HT-PEM MEAs.
- Strong potential for 2x and 3x power density increase versus current HT-PEM MEAs.

Commercial Progress:

- Advent distributed samples of its MEAs to major OEMs for test and evaluation. Advent is now in various discussions for Joint Development Agreements in the Genset, Heavy Duty Automotive, Marine, and Aviation markets.
- Advent intends to scale up the production capacity of Advent MEA in the order of 100s of kilowatts (fuel cell power equivalent) per month in mid-2023 and megawatts per month by the end of 2023.
- Advent intends that both its own products (Serene, Honey Badger, MZERØ) and 3rd party products will be able to use the new Advent MEAs in mass-production from 2024, according to the Company's growth plan.

The new Advent MEA will enable us to manufacture fuel cells that last at least three times as long and have double the power density of our previous systems. This development is expected to revolutionize the fuel cell industry, since these will be the first PEM-based fuel cells worldwide that can consistently operate above 100oC for more than 10,000 hours and are ideal for heavy-duty mobility.

We expect these advantages will enable Advent to reduce the cost to end-users of fuel cells and encourage a wider market adoption. This and other partnerships, joint ventures, and joint

development agreements, including those with DoE, NASA (through Advent's affiliation with Northeastern University) and the **European Space Agency**, are expected to assist Advent in the mobility and off-grid power markets. Through the ambitious project with the European Space Agency, we seek to develop **a closed-loop regenerative fuel system** for space-based applications, such as exploration missions and satellites. The system will rely on our proprietary HT-PEM technology, and, once completed, this system could complement or even replace batteries.

GRI 102-9, GRI 204-1, GRI 308-1

Value Chain

Responsible and Sustainable Procurement and Supply Chain

Our Supply Chain

Advent's culture highlights the need for the development of long-term collaboration with all suppliers. Through our "value creation" approach, we aim to engage and work only with suppliers and contractors that act in an economically, environmentally, and socially responsible manner. Our suppliers are crucial to our ability to run our business. They are involved in every phase of our operations and play an important role in positively influencing the environment and the local communities where we operate. Sustainable sourcing is the integration of social, ethical, and environmental performance factors into the process of selecting suppliers, with the ultimate goal to build strong, long-term relationships with them, contributing to a thriving society. At Advent, we have a strong commitment to ethical business practices, protecting the environment, and treating people with respect and dignity. We expect the same commitment from our business partners, and we communicate this through our business interactions with them. In the upcoming years, we will set specifications and principles that will cover the requirements (environmental, integrity, health & safety, and human rights) we expect our suppliers to meet. Advent aims to be a responsible member of society and operate responsibly and sustainably throughout its value chain.

Emphasis is placed on strengthening our relationships with local communities, by working with local suppliers and contractors where it is feasible. We want to provide direct and indirect economic benefits to the economies we operate in and create shared value through our business.

Management of procurement is performed separately for every entity of the Company, though all responsible stakeholders ensure the availability of the products and services for the operation of the Company.

Some of the key actions of our procurement chain:

- Installation material;
- Hardware;
- Installing contractors and civil construction companies (mainly in the Philippines);
- Laboratory equipment;
- Chemicals;
- Transportation services;
- Fuels;
- Packaging material;
- Automation products;
- Industry instruments and parts;
- Repairs and maintenance; and
- Consumables

Distribution

The distribution of Advent's products complies with our general terms of sales and delivery. These terms apply to our distribution center, our external partners, and the transport companies worldwide that we collaborate with. Our primary goals, stated in this document, are to achieve the highest and best combination of delivery time, competitive prices, and qualitative products.

Value Chain

Product Safety, Quality and Reliability

Material Topic

In our production facilities, we have standards and procedures that guarantee the level of quality of our products, following safety protocols and practices either set by the communities that we are members of (Greentown Labs, Northeastern University, Patras Science Park), or by our Company directly. We carefully select our suppliers seeking to combine quality with know-how. We are fully equipped with laboratories and research centers to support our work and growth. With the grand opening of our Hood Park facility in 2022, Products and Processes Quality Control Protocols will be further developed and applied at all stages of production. Our Quality Control processes include:

- Compliance certificated and acceptance reports (by field engineers);
- Inspections at sites for testing the functioning of our products (PAT (provisional acceptance test) and FAT (final acceptance test), by field engineers) and validation of the quality; and
- Equipment quality testing



Value Chain

Customer Relationship

At Advent, we place our customers at the core of our business. We strive to differentiate our products with innovative improvements by identifying and covering customers' needs and expectations. We are proud to serve a **world-class customer base**, with clean power solutions, across various industries. Consistent with our vision and mission, we are committed to delivering well-tested low-carbon technology solutions, including eco-friendly energy storage and generation, based on circular processes with low CO₂ emissions. We aim to produce products that help our customers achieve their environmental objectives and minimize their impacts.

As a provider of core technology, we create long-term partnerships with our customers. Our relationship with them is divided into a two-role activity: as a developer and as a manufacturer. Some industries supported by our products are portable power, off-grid power, aviation, automotive, flow batteries, IoT markets, membranes and MEAs. We are also a developer of applications, from portable power supplies to automobiles.

All our customers are welcome to express concerns or complaints by contacting our experienced team. Advent's goal is to improve our customers' experience and meet their expectations. We support them via partners, local service hubs, and remotely from our dedicated support teams. We constantly monitor customer feedback and respond in the following ways:

- **Onsite support;**
- **Remote support:** we log in to customers' solutions, modules, and cabinets where we identify status and help solve issues;
- **Remote monitoring:** we monitor our customers' solutions, fleet management, and act upon alerts;
- **Maintenance & Spare parts:** we provide the necessary consumables and spare parts to secure optimal operations of customers' solutions. All spare parts are in stock at our headquarters or at our local service hubs ready for shipping and our service team is always ready to identify customers' needs on spare parts.

Environment

Environmental Performance

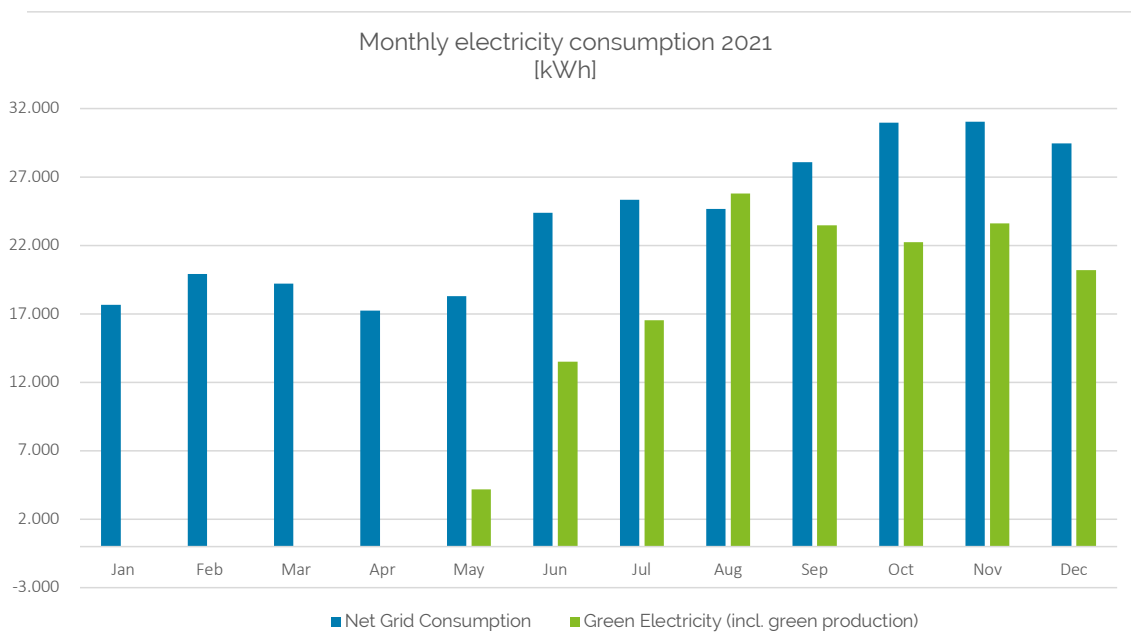
Our Company respects the environment. We constantly explore new and efficient ways to reduce energy consumption. Advent is committed to minimizing carbon dioxide emissions with an effective energy management system. As of 2021, Advent is in compliance with environmental regulations.

Energy Management

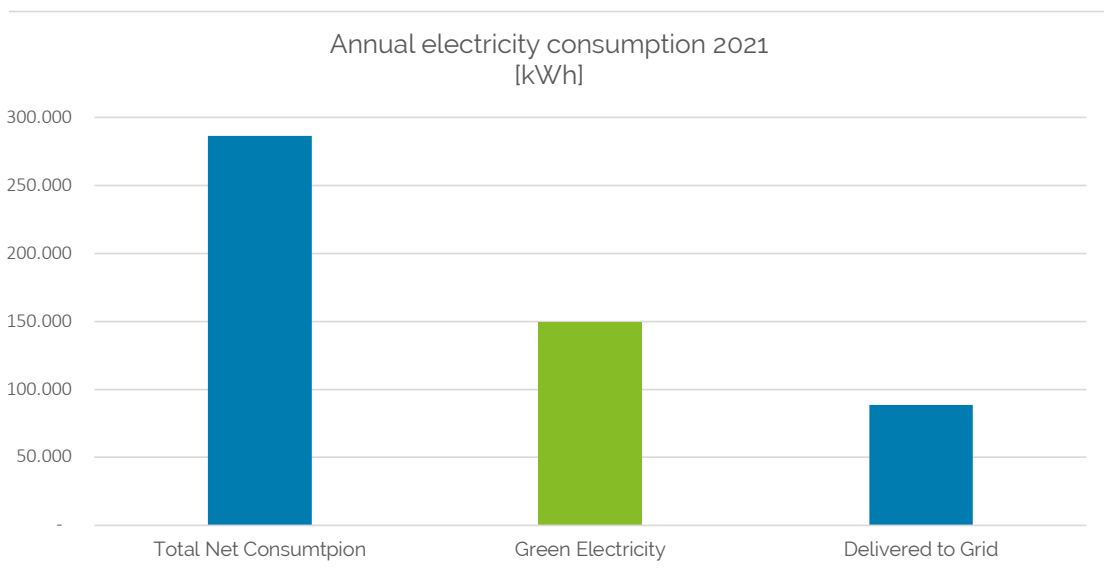
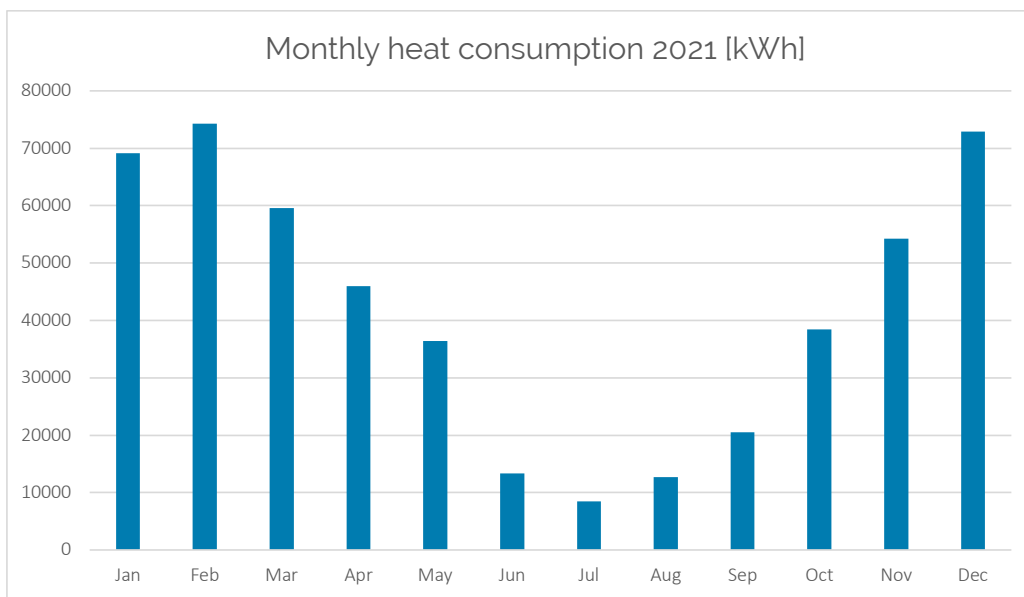
Global environmental challenges include increased energy and fossil fuel demand, scarcity of materials and natural resources. Stakeholders are pressuring businesses to change their production processes and shift to greener and more efficient operations. At Advent, we ensure that the resources we use in the production phases are used wisely, responsively, and efficiently. Our goal is to use energy responsibly, by adopting technologies and business decisions that will contribute to high energy efficiency and reduce the total amount of energy that is consumed during production. In all our facilities, we use electricity and heating fuels from the local public networks, or from private electric utility companies, to meet our needs.

The below data refers to Advent A/S energy consumption (company's biggest production facility)

The total annual consumption for electricity in Advent A/S in 2021 was 286MWh, of which 150MWh were locally produced green energy, and 89MWh returned to the power grid based on green energy production. This has resulted in a net energy consumption of 197MWh. 52% of our consumption was produced using green biofuels, and 48% came from the electricity grid. The total annual consumption for heating purposes in 2021 was 505MWh.



From February 2022, the electrical energy consumption across all operations of Advent A/S will go 100% green and the production of green energy for the power grid will be based on renewable biofuels



The total amount of consumed electricity of **Advent Technologies GmbH** in Achern, Germany in 2021 was **302.528 kWh²**.

²Advent Technologies GmbH has its premises inside the plant of Fischer Group.

In 2021, we moved our headquarters to 200 Clarendon street. The building is in the heart of Boston's Back Bay. The office is green and efficient. With 191,380 square meters of space, this iconic building has been improved and modernized mechanically. 200 Clarendon was certified by Energy Star and the U.S. Green Building Council (USGBC) as a Gold Leadership in Energy & Environmental Design. (LEED).



In addition, Advent joined Greentown Labs, **a climate action incubator community**. About 125 pioneers of climate action are participating in this climate campus of shared knowledge and innovation. At Greentown Labs, we are collaborating with startups, investors, and other key players of the climate industry. The lab provides us the necessary resources to complete our projects. As our R&D is located temporarily in Greentown Labs, our responsibility concerning energy efficiency and management is oriented to the sub-metered level of the space and equipment we use. We strive to conserve as much energy as possible at our sites. Most of the energy consumption in Greentown Labs comes from prototyping on site, machine shop, chemistry labs, and office spaces.

Driven by the United Nations Sustainable Development Goals, we commit ourselves to continuously improve our performance regarding energy use in our daily operations, production, and innovate new energy efficient products.



Environment

Carbon Footprint and Decarbonization

Advent is constantly responding to the global mandate for decarbonization

As a responsible sustainability-driven company, we are constantly responding to the global mandate of decarbonization through the production of innovative and energy efficient products and solutions.

Decarbonizing the World One Fuel Cell at a Time

The Hydrogen Fuel Cell produced by Advent generates CO₂-free electricity and heat and is three times more efficient than an internal combustion engine due its electrochemical device characteristic. An internal combustion engine has an efficiency of approximately **30%**, whereas our fuel cells can reach an efficiency of up to **95%** (electrical efficiency amounting to 50%, heat approximately to 45%). Secondly, hydrogen is carbon-free, meaning it's the ultimate solution for a **true zero emission technology**.

Additionally, our technology can be used for decarbonizing industrial and mobility applications so that the EU and the US governments' aspiring goals for decarbonization and carbon neutrality can be fulfilled. Aviation, shipping, and heavy duty automotive are only some of the industries that cannot rely solely on battery power, requiring zero-emission fuels such as hydrogen. These transitions to carbon neutral operations can be achieved using our products. Our two pending Important Projects of Common European Interest, **the White Dragon and Green HiPo projects**, with our innovative fuel cell technology, will, if approved, enable the replacement of Greece's largest coal-fired plants with renewable solar energy parks.

supported by green hydrogen production (4.65GW), and fuel cell heat and power production (400MW), navigating Greece to its transition to green energy production.

Serene, one of our product lines, offers high CO₂ emission reduction. With the Serene product line, methanol is used as the hydrogen and energy carrier and is then converted into hydrogen by internal fuel processing. The product line positively impacts the environment by offering higher system efficiency, simplified fuel logistics, and easy installation and services. Looking at the core operation of the units at a production stage, CO₂ emissions are usually emitted with the use of traditional power generators in stationary systems, such as diesel gensets. The CO₂ footprint from a diesel genset is approximately **992 g CO₂/kWh**.³ With the use of Serene products, emissions can be reduced to **605 gCO₂/kWh**.⁴ Compared to diesel, green methanol production has significantly increased over the years, and is expected to play a major role in the green transition. Using bio methanol (biowaste) in the production processes, jointly with Serene fuel cells, can minimize the carbon footprint up to **167 gCO₂/kWh**, while it can be even lower if electro methanol is used (electro methanol is methanol produced by water hydrolysis and CO₂ capturing).



Companies with high carbon emitting industrial processes have the opportunity to change the way they operate by using the decarbonization technologies of Advent to significantly minimize their carbon footprint. The CO₂ reduction from the Serene product compared to diesel gensets is estimated to be **1.357MT** (metric ton).⁵

³ 25% efficient genset, fossil fuel source, not including production and transport GHG contributions.

⁴ 41% efficient genset, fossil fuel source, not including production and transport GHG contributions.

⁵ Customers operate 80% on grey methanol and 20% on bio-methanol.

“According to Convert Natural Gas-Driven Chemical Pumps, Wellheads currently emit 182.5 thousand cubic feet (mcf) of methane annually. However, Advent’s innovative solutions can help the world to decarbonize faster through the entire withdrawal of the wellhead emissions. Equipped with Advent’s M-ZERØ™ unit, a wellhead emits 0m³ of methane. Advent has entered an agreement to trial 10 M-ZERØ™ units in Canada, resulting in an approximate annual methane emission savings of 1,825 mcf or the equivalent of GHG emissions from 99.2 passenger cars.”

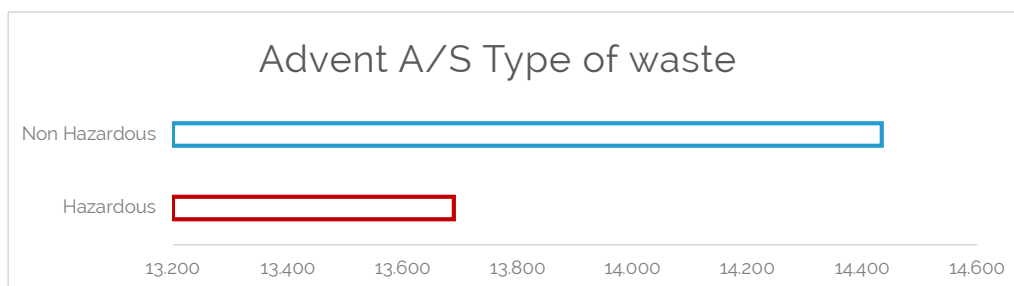


Environment

Circular Economy and Waste Management

The more efficiently we use materials to manufacture our products, the fewer resources we utilize, and we produce less waste. Our approach to material uses and waste management throughout our production processes and facilities is to minimize, reuse, and recycle. The operation of our Company regarding waste production and management is innovative and environmentally friendly. In 2021, out of all our facilities, except Advent Green Energy Philippines, the disposal of waste was restricted to packaging material and non-hazardous materials. Specifically, for Advent A/S, it is estimated that approximately, **2m³** solid waste is disposed per week (packaging material wood, cartons, ropes) and **100 m³/y annually**.

We continuously try to manage our solid waste and recycle it in our production processes, and we cooperate with certified waste management companies. We aim to reduce the amount of waste we generate and to reuse as many materials as possible. Advent A/S has identified effective practices to manage its waste disposal, by recycling its **51.32%** of its produced waste. The recycled material includes packaging cardboard, hazardous waste, iron and metal, food waste, paper, and e-waste. Out of **28.123 kg** of generated waste, we succeeded in recycling **14.434 kg** of disposed materials and waste.



Form of treatment	Faction group	Total Quantity (kg)
Recycling	Packaging cardboard	1,700,00
	Hazardous Waste	663,00
	Iron and Metal	8459
	Food waste	1,078,00
	Other waste	980,00
	Paper incl. newspapers	64,00
	Small equipment (WEEE)	1,490,00
Incineration	Hazardous Waste	4,489
	Suitable for combustion	9,200,00
Total		28,123,00

Environment

Water Management

Water scarcity is affecting more and more regions of the world, as the frequency and intensity of climate-related phenomena increase. At Advent, we value water resources, both surface (fresh) water and groundwater, and believe it is essential to use water responsibly, as access to potable water is a growing challenge. We carefully manage our wastewater and water use by implementing water management practices across the Company, always adapting to new regulatory and best practices developments. Our water management responsibility is based on mapping the processes of our locations and maintaining a low usage to mitigate any related risk with water bodies. The associated water risks apply particularly to sites where higher water intensity is needed for manufacturing our products.

Issues that we include in our water management approach are:

- Water quality;
- Maintaining clean water bodies;
- Regulatory constraints; and
- Financial implications from misuse of water bodies

In 2021, Advent expanded its operations and acquired new facilities. We seek to record and elaborate data from our new facilities and update our water management approach. Due to the nature of the operation, our facilities in the Philippines have lower water consumption, as it is mainly a warehouse property. The table below presents data from Advent A/S regarding 2021 operational activity. Aalborg Forsyning A/S, a local water supplier for our facilities in Denmark, is one of the biggest utility companies in Denmark. It is actively overseeing and mitigating all risks following international agreements regarding sustainable development and the use of groundwater resources.

Water Consumption January – November 2021*	
	Amount (m³)
	Advent A/S
	521

* December Data could not be retrieved in time for inclusion in this report

GRI 102-7, GRI 102-8, GRI 401-2, GRI 403-5, GRI 404-1, GRI 404-2,
GRI 404-3, GRI 405-2, GRI 406-1

Society

Human Capital

Human Capital Management

In 2021, across the Globe (Europe, USA, and Asia), 169 people were employed by Advent, not including contractors and consultants. The following key figures include all the information recorded and registered in all our operational sites.

The percentage of temporary employees was approximately 2% during the reporting period, while the share of permanent workforce was 98%.

Most of Advent's employees worked on a full-time basis, with only 3% of the workforce being on a part-time employment basis.

Advent is an **Equal Opportunity Employer** that does not discriminate on the basis of actual or perceived race, color, national origin, sex, gender, gender identity, pregnancy, religion, physical or mental disability, age, or any other characteristic. Our management team is dedicated to this policy with respect to recruitment, hiring, placement, promotion, transfer, training, compensation, benefits, employee activities, and general treatment during employment.

Human Resources 2021 Highlights



35

20%

WOMEN



134

80%

MEN

Total Number of Employees*

169

* not including contractors and consultants.

Workforce by employment contract, gender and geographical area

	Greece		USA		Denmark		Germany		Philippines	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Permanent	20	10	29	6	48	9	11	6	22	4
Temporary	3	-	-	-	-	-	1	-	-	-
Total	33		35		57		18		26	

Workforce by type of employment, gender and geographical area

	Greece		USA		Denmark		Germany		Philippines	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Full-time	23	9	29	5	48	9	11	4	22	4
Part-time	-	1	-	1	-	-	1	2	-	-
Total	33		35		57		18		26	

Workforce by gender, age group and geographical area

	Greece		USA		Denmark		Germany		Philippines	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
>30	9	2	3	2	5	0	3	2	8	3
30-50	10	7	12	2	33	5	8	3	10	1
+50	4	1	14	2	10	4	1	1	4	0
Total	33		35		57		18		26	

Society

Talent Management

Material Topic

Talent Attraction, Retention and Development⁶

We are committed to establishing long-lasting relationships between our management team and employees. We use an open-door policy that allows for discussing concerns regarding operations and working conditions. We strive to create a respectful working environment across all operational sites and facilities. Our top priority is the continuous development and performance of our employees. We provide the necessary tools to achieve successful professional skills and development within our Company. We are proud to attract and maintain a highly skilled, diverse, and inclusive workforce dedicated to achieving our business objectives.

In addition to our positive working environment and competitive salaries, we strive to improve our workplace and offer the best working conditions to our employees. Therefore, we invest in our employees' health (physical and mental) and their future by providing them comprehensive benefits. Advent evaluates and updates its benefits programs and policies to meet present and future requirements. Additional benefits are provided to all full-time and certain part-time employees. These benefits include medical; time-off benefits, such as vacations and holidays; insurance benefits; lactation breaks for women; retirement plans; and more. Under the insurance programs employees receive comprehensive health and other insurance coverage for themselves and their families.

Training and Development

Our employees participate in various, inclusive **training and development programs** with different training subjects to expand their competencies. Some of the trainings relate to:

- professional skills improvement
- human rights
- ethics
- health and safety issues on all laboratory processes
- technological expertise.

Our operational priorities are outlined by high ethical standards, with zero tolerance for violence or harassment. We require standard business ethics trainings for our employees. Additionally, we evaluate our employees at least once a year through formal performance evaluations. Informally, we encourage employees to discuss with their supervisors their goals for development and their performance on a frequent basis.

⁶ Linked material topics: Talent Attraction, Retention and Development, Internal Communication

Trainings

	Internal	External	Hours	Employees	Location
Professional improvement / skills development		●	30	2	Greece
Trade Secret Security	●		1	16	Greece
Anti-harassment and business ethics training		●		40	USA
Professional improvement / skills development		●	30 (days)	10	Denmark
Health and Safety	●		5	50	Denmark

Material Topic

Academia and Research Collaboration

We also cooperate with academia and research institutions, to equip our employees with the necessary knowledge to be able to respond to the demanding and competitive landscape, and to strengthen our employment rate by recruiting and providing internships for our young scientists. .

Cooperation with Academia

	Internships
University of Patras (Total Internships)	1
University of Rennes (Total Internships)	1
University of Bern (Total Internships)	1
New England School of Law (Total Internships)	1

Material Topic

Diversity, Equity and Inclusion

At Advent, we believe what makes people unique is what makes them great. We strive to build a diverse and inclusive culture. Advent offers an **equal opportunities workplace** and promotes respect for human rights, diversity, and inclusion. Through a structured process, we constantly strive to identify and eliminate any kind of harassment within the Company and foster a decent and equal working environment. As a diverse, equitable, and inclusive culture is crucial for our long-term success and strategy, we want our people to feel valued and respected; we do not tolerate violence, discrimination, or harassment. Any questions or concerns from our employees about equity, diversity, and inclusion in the workplace can be discussed with the Human Resources department. Physical or mental limitations of qualified employees with disabilities are respected and accommodated, allowing them to perform their job duties. Additionally, salaries are defined

by the level of each position, educational level, and experience, with no pay gap between female and male employees.

No cases of discrimination were reported during the past year.

The promotion of inclusion and diversity are two strong ingredients in our culture. We consider ourselves a workplace of equal opportunities, where diversity and healthy competition thrives. Advent's management team is responsible for ensuring compliance with the relevant policies and for preventing any kind of discrimination or harassment in the workplace.

Material Topic

Occupational Health, Safety and wellbeing⁷

To ensure the safety of our employees at our operations, we maintain and exceed all applicable safety and health requirements. At all locations, Advent adheres to rigid standards to ensure we meet or exceed local health and safety standards. Currently, we are in the process of implementing a Group Health and Safety Policy that will describe in detail our commitment to our employees' wellbeing. In Advent's Employee Handbook, we outline our current practices on health and safety issues and the procedures our management team oversees. Our employees are able to report to management any incident or dangerous conditions they recognize. Any workplace injury, accident, or illness must be reported to the employee's supervisor as soon as possible. Our goal is to eliminate the chance of injuries and fatalities through cooperative efforts with our employees, and through actions supporting employee health and wellness, e.g., usage of safety equipment or clothing. Senior management oversees the execution of all requisite safeguards for the protection of the workforce self-assessment, risk identification, reporting, investigation, and audits to implement and ensure best practices across the workforce.

Employees periodically receive training on all new equipment from vendor representatives to maintain safe use. All employees involved in production are trained on all laboratory processes internally, aiming to ensure that health and safety standards are kept at a high level. For example, we have established Standard Operating Procedures and Job Safety Approvals for all the laboratory processes.

Patras, Greece

In accordance with Greek legislation and the Hellenic Labor Inspectorate (SEPE), we have appointed a responsible Safety Engineer to prevent accidents and implement safety principles across the Company, and build Advent's safety and quality business culture. As members of the Science Park of Patras, we follow the facility safety management plan and are trained accordingly. For the years 2020-2021, no injury or accident was recorded by our safety engineer.

Boston, U.S.A.

In our premises in Boston, we follow the strict guidelines and measures derived from Greentown Labs. Included in these measures are an established facility safety management system and related trainings.

⁷ Linked material topics: Occupational Health and Safety, Employee wellbeing and workplace empathy



Society

Human Rights

Human Rights Principles

Human Rights Principles apply to the whole Company, including employees, contractors and consultants, owned entities, and facilities. Senior management is responsible for ensuring adherence to this policy and proper investigation of any violations.

As an international company, Advent is committed to respecting and advancing human rights across the globe and in its operations. As a responsible business, we are committed to follow the principles laid out in the **UN's International Bill of Human Rights** and the **International Labor Organization's Declaration on the Fundamental Principles and Rights at Work**. We recognize that every person inherently possesses basic freedoms and rights that we have the duty to respect and protect. We do not tolerate any kind of discrimination or violation of our shared values in our operations and those of our suppliers. Our policies set out our commitments and expectations that our employees and all our stakeholders shall respect in all our business operations and relationships. Human rights are built into the day-to-day operation of Advent. Our Employee Handbook touches on several key areas, including diversity, non-discrimination, accessibility, bullying and harassment, health and safety, minimum age requirements, and working hours.

Compliance Principles

Slavery and Human Trafficking

As a responsible Company, we condemn modern slavery and human trafficking. We always seek to ensure that all labor rendered is free, voluntary, and is appropriately compensated. Advent will not engage in, support, or condone any form of forced or compulsory labor including debt bondage, indentured servitude, or withholding necessities. We expect that our business partners, including suppliers, similarly refrain from any form of compulsory labor.

Third Parties

Our business partners are screened for human rights violations, with the understanding that certain countries and geographic regions are considered more at risk for human rights violations.

Child Labor

Advent respects the rights of children and supports the elimination of child labor. We will not employ nor support the employment of children under the age of majority.

Indigenous Rights

We respect the local culture, values, customs, and laws of all locations in which we operate. When choosing locations for operations, we consider the rights of indigenous people and their ability to freely consent in matters affecting them.

Freedom of Association and Collective Bargaining

Advent respects the right of our workers to associate and to engage in collective bargaining. We understand that a dialogue between the management and the employees is of critical importance. Our employees are free to form, join, or not join a union without fear of reprisal.

Material Topic

Women Empowerment

The unique challenges and discrimination faced by women internationally, domestically, and in the workplace, are a serious issue for Advent; therefore, we have a zero-tolerance policy for all forms of workplace harassment. We believe that women's rights and inclusion are critical to our continued success, and we strive to ensure that they are protected in our operations and our relations with third parties. We seek not only to respect women's rights, but also to help women develop skills and take advantage of opportunities that allow both personal and professional growth.

Society

Society and Communities

Our Social Commitment

As a global company with a commitment to contribute to the communities we operate and live, Advent will enhance its community engagement and leverage its position in social responsibility, by being part of shaping a more sustainable world.

Through our advanced technological products and our services, we are determined to be involved in all aspects of community engagement. Advent, as a business member of the communities in which it operates, supports the local economies at all levels and ensures that our operations create value and employment opportunities.

Our goal is to emerge as a trusted partner in all communities in which we operate. To achieve our goals, we will create an integrated approach on our dialogue with local communities and other civil society stakeholders. The pillars of our approach, that will ensure our commitment to society and active participation are:

- Promoting local employment;
- Supporting civil society and local organizations; and
- Strengthening local economic development

Our approach is to establish an open dialogue, set priorities and create long term partnerships and alliances. Through the unprecedented COVID-19 pandemic, we had to face serious challenges. We supported our employees and prioritized their health and safety. Our senior management team handled our COVID-19 response, developing and implementing strategies to effectively overcome it. The success of our COVID-19 response involved all of Advent's business units. Having in mind the severity of the situation, we kept track of the **local communities' measures** to ensure safety, which is a prerequisite for our operations to function. Therefore, we developed adequate safety guidelines in our facilities but also allowed flexible work to accommodate safety during the pandemic.

Throughout the pandemic, our top priority was to ensure the health and safety of our employees and their families, and minimize the number of COVID-19 cases. Moreover, we introduced new policies and altered the physical environment where remote working was not feasible, to ensure physical distancing, frequent cleaning, daily temperature checks, and, depending on the region, regular COVID-19 testing.

As we emerge from the pandemic, we continue to focus on health, safety, and economic recovery.

Governance

Material Topic

GRI 102-5, GRI 102-16, GRI 102-18, GRI 418-1

Corporate Governance and Business Ethics

Advent is publicly listed on the **NASDAQ** Stock Exchange, debuting as a public company on February 4, 2021. As a NASDAQ-listed company, Advent complies with all applicable laws and regulations. Our Company's highest level of governance is the Board of Directors. Currently, our Board consists of five members, three independent and non-executive members and two executive members. The executive members are the chair of the board, CEO, and cofounder of the Company, Dr. Vasilis Gregoriou; and Dr. Emory De Castro, Advent's Chief Technology Officer. The present structure of the Board is presented below:

Board of Directors

1. **Vasilis Gregoriou Ph.D.**, Chief Executive Officer & Executive Chairman of the Board
2. **Emory De Castro Ph.D.**, Chief Technology Officer & Executive Board Member
3. **Katherine E. Fleming Ph.D.**, Non-Executive Board Member
4. **Katrina Fritz**, Non-Executive Board Member
5. **Anggelos Skutaris**, Non-Executive Board Member

The board oversees all matters necessary to Advent's successful operations, including risk assessment, current and future goals, strategic direction, and capital allocation. The board has three committees:

- Compensation Committee
- Audit Committee
- Nominating and Governance Committee

The **Compensation Committee** assists the Board of Directors in the oversight of working environment, culture, diversity, inclusion, and remuneration. The **Audit Committee** assists the Board in overseeing financial reporting, risk management, internal controls, and compliance. The **Nomination and Governance Committee** assists the Board in the oversight of board governance, composition, and board performance. Pursuant to the recommendations of the **Nominating and Corporate Governance Committee**, the Board of Directors has adopted **Corporate Governance Guidelines** to assist them in serving the best interests of the Company and its stockholders. The Guidelines are intended to be a framework for the conduct of the Board's business and are not a set of legally binding obligations.

The Board of Directors is responsible for overseeing the compliance of all policies and procedures, including ESG compliance and initiatives. Also, it is responsible for ensuring the compliance with

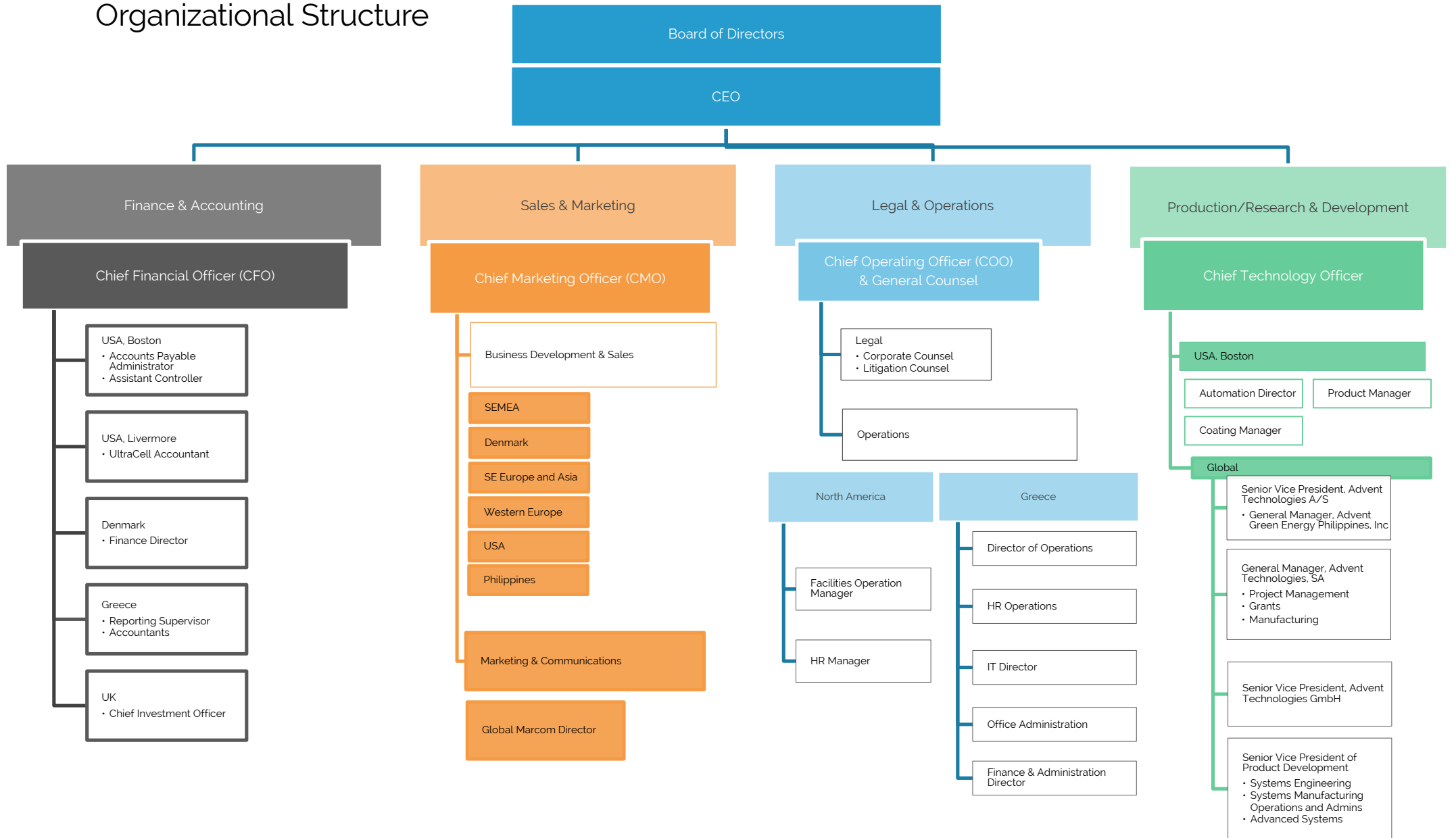
relevant laws and regulations in all sites of operation and is accountable for maintaining high moral and ethical standards. The nomination of the Board members may come from the board itself, or by Advent's stockholders. The election of board members requires a majority vote of the stockholders.

Advent recognizes the importance of gender diversity and acknowledges this value on the board. We are proud to report that currently our board is **40%** female. The Nominating and Governance Committee is responsible for ensuring the diversity of the Board.



Governance

Organizational Structure



Governance

Business ethics

We conduct an annual audit to ensure our corporate policies are up to date and effective. Our employees are involved in this assessment, as is the Board of Directors. Key policies reviewed annually include: The Employee Handbook, Code of Ethics, Whistleblower and Complaint, and Anti-Corruption.

Code of Conduct

Our Code of Conduct provides the ethical and legal framework for all employees. Advent's Code of Business Conduct and Ethics clearly provides the guiding principles for honest and ethical conduct; of business relationships; compliance with governmental law, rules, regulations; and the responsible use of assets and resources. The code has a comprehensive set of policies and controls to maintain and prevent ethical violations. [Advent's Code of Business Conduct and Ethics](#) is publicly available on our website.

Material Topic

Internal Grievance Mechanisms

At Advent, we are committed to promoting high standards of ethical business conduct and complying with applicable laws, rules, and regulations. Our Board has adopted a Whistleblower and Complaint Policy to receive and treat complaints from employees regarding accounting, internal accounting controls, or auditing matters. **Advent is committed to an environment where open, honest communication is the expectation, not the exception.** We want employees to feel comfortable in approaching their supervisor in instances when they believe violations of policies or standards have occurred. However, we realize that this may not always be the best option, so we established a reporting hotline, which can be reached either by phone or through a dedicated website. This service is confidential and anonymous. All concerns submitted through the hotline, email address, or website will be reviewed and investigated so that the Company may take corrective action.

Insider Trading Policy

The Insider Trading Policy ensures Advent's compliance with U.S. federal and state securities laws. These laws, among other things, prohibit certain persons who are aware of material nonpublic information about a company from trading, provides guidelines with respect to certain transactions involving Advent's securities, and regulates the handling of confidential information about the Company and the companies with which it does business.

Anti-Fraud Policy

Advent recently adopted a new Anti-Fraud Policy, which outlines the principles to which we are committed in relation to preventing, reporting, and remediating fraud. The primary goal of this new policy is to promote an ethical and fraud-free environment at Advent and safeguard the reputation and financial viability of the Company through improved management of fraud risk. More specifically, it sets out explicit steps to be taken in response to reported or suspected fraud and measures to prevent or minimize the risk of fraud.

Material Topic

Data Privacy and Security

Across our entities, we establish policies and processes to enhance our customers' experience in relation to our products and services, and foster at the same time the trust in our relationship. Privacy processes and customer security are a mandate in our daily activities and operations, and we strive to respond in innovative, business ways with advanced data management. Our Company's goal is to mitigate any risk and create an approach of data privacy culture in our business operations. Therefore, we are building a complete framework that will clearly follow and be compliant with all related data protection regulations. Our framework will assist our workforce to handle client data in an accountable way, that will safeguard their privacy. As a highly advanced technology company, we aim our approach to be a benchmark in the industry and in the data protection business frameworks. A data protection and privacy approach will be developed by Advent under the spectrum of privacy as a default pre-requirement and embedded in the design of our services, with the **transparency** and **respect** that every client or partner relationship dictates.

Appendix

GRI 102-45, GRI 102-46, GRI- 102-50, GRI 102-52, GRI 102-53, GRI 102-56

About this Report

Advent is publishing its first **ESG Report** in reference to the year 2021. With this publication, the Company affirms its commitment to ESG criteria and how it addresses its environmental, social, governance responsibilities and impacts. This report aims to foster an open communication on Advent's environmental, social, governance, and how, in collaboration, we can create **shared, long-term value**. At the same time, the Company sets its targets for the next year, to respond to the needs and expectations of its stakeholders.

The report has been prepared with reference to the **GRI Standards, "GRI-referenced"**, of the internationally acknowledged Global Reporting Initiative Organization. The report makes specific references to economic, environmental, and social impacts, cited in the GRI content index, where selected Standards are used to report on the material topics. As this is Advent's first ESG Report, some of the material topics that were identified could not be fully disclosed and related information and metrics could not be presented, as there is limited documentation on them. Advent is committed in its next reporting cycle and report to disclose additional information and cover related indicators accordingly with the standards. To define the Company's impacts and boundaries in sustainable development, Advent has considered the **United Nations' SDGs**, examining the impact and contribution of the identified material topics on each one of the 17 Sustainable Development Goals. Moreover, Advent follows the voluntary initiative from Nasdaq for disclosing data towards environmental, social and governance topics, as they identified by the Materiality Assessment. This ESG Report discloses information for the reporting period from **1/1/2021 to 12/31/2021** and covers all the entities, included in the [consolidated financial statements](#), as presented in the previous chapters.

We Support



GRI

NASDAQ

This report has been prepared with the guidance and support of the [Deloitte Risk Advisory: Climate and Sustainability Department](#). This report has not been externally assured. However, we are committed to continuously improving our ESG reporting.

Deloitte.

For more information regarding this report or any questions please contact:

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GRI 102-55

GRI Content Index

GRI Standards	Disclosure	Report Section/Reference	Page
GRI 101: Foundation 2016			
GRI 102: General Disclosures 2016 (GRI Referenced)			
	102-1 Name of the organization	About Advent	p. 7
	102-2 Activities, brands, products, and services	About Advent Products and Services	p. 7, 16
	102-3 Location of headquarters	About Advent	p.8
	102-4 Location of operations	About Advent	p.7
	102-5 Ownership and legal form	About Advent Governance: Corporate Governance and Business Ethics	p.7, 56
Organizational Profile	102-6 Markets Served	About Advent Business Value Model Products and Services	p.7, 13, 16
	102-7 Scale of the organization	About Advent Products and Services Responsible Growth: Economic Performance and Growth Society: Human Capital	p.7, 16, 32, 48
	102-8 Information on employees and other workers	Society: Human Capital	p.48
	102-9 Supply Chain	Value Chain	p.36-37
	102-12 External Initiatives	Memberships, Partnerships and Awards	p.20-21

GRI Content Index

	102-13 Membership of associations	Memberships, Partnerships and Awards	p.20-21
Strategy	102-14 Statement from senior decision-maker	Message from our Chairman & CEO	p.4-5
Ethics and integrity	102-16 Values, principles, standards, and norms of behavior	About Advent: Our Vision, Mission and Values Governance: Corporate Governance and Business Ethics	p.7, 12, 56-57
Governance	102-18 Governance structure	Governance: Corporate Governance and Business Ethics	p.58
	102-40 List of stakeholder groups	Our Approach to Sustainability: Stakeholder Engagement	p.25-26
	102-42 Identifying and selecting stakeholders	Our Approach to Sustainability: Stakeholder Engagement	p.24-26
	102-43 Approach to stakeholder engagement	Our Approach to Sustainability: Stakeholder Engagement	p.24-26
	102-44 Key topics and concerns raised	Our Approach to Sustainability: Stakeholder Engagement, Materiality Assessment	p.24-26, 28-30
	102-45 Entities included in the consolidated financial statements	About this Report	p.61
	102-46 Defining report content and topic Boundaries	Our Approach to Sustainability: Materiality Assessment About this Report	p.27, 61

GRI Content Index

Stakeholders Engagement	102-47 List of material topics	Our Approach to Sustainability: Materiality Assessment	p.28-30, 71
	102-48 Restatements of information	No restatements of information are included as this is the Company's first Report on ESG and Sustainability	
	102-49 Changes in reporting	No significant changes from previous reporting periods as is the Company's first Report on ESG and Sustainability	
	102-50 Reporting period	About this Report	p.61
	102-51 Date of most recent report	This is the Company's first Report on ESG and Sustainability	
	102-52 Reporting cycle	Annual	
	102-53 Contact point for questions regarding the report	About this Report	p.61
	102-55 GRI content index	GRI Content Index	p.63-69
	102-56 External Assurance	About this Report	p.61

GRI Standard	Disclosure	Report Section/Reference	Page
Topic Specific Standards			
Material Topics			
			p.22-23
GRI 103: Management Approach	103-1 Explanation of the material topic and its boundary	Our Approach to Sustainability Responsible Growth Environment Society Governance	p. 32-39 p. 40-47 p.48-55 p.56-60
Economic Performance & Growth			
GRI 201-1: Economic Performance	201-1 Direct economic value generated and distributed	Responsible Growth: Economic Performance and Growth	p.32
Talent Attraction, Retention, and Development			
GRI 401: Employment	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	Society: Human Capital Only limited information is available	p.50
Occupational Health and Safety			
Employee wellbeing and workplace empathy			
GRI 403: Occupational Health and Safety 2018	403-5 Worker training on occupational health and safety	Society: Human Capital Only limited information is available	p.50-51

Employee Training & Development

		Society: Human Capital	
	404-1 Average hours of training per year per employee	There is no consolidated information of average training hours per gender and per employee category.	
	404-2 Programs for upgrading employee skills and transition assistance programs	Society: Human Capital	
GRI 404: Training and Education		Society: Human Capital	p.50-51
	404-3 Percentage of employees receiving regular performance and career development reviews	Every employee, regardless its gender or role, is formally evaluated and receives a performance review annually. Performance evaluations, happens between supervisors and employees on a frequent basis to discuss job performance, goal achievement and sets goals for future performance.	

**Diversity, Equity, and Inclusion
Internal Communication and Grievance Mechanisms**

GRI 405: Diversity and Equal Opportunity	405-2 Ratio of basic salary and remuneration of women to men	Advent's policy is to remunerate women and men equally in all categories regardless of geographic location. Our systems and processes do not distinguish women and men.	p.51-52
GRI 406: Non-Discrimination	406-1 Incidents of discrimination and corrective actions taken	Society: Human Capital No incidents were reported during the reporting period.	p.51-52

Product Safety, Quality and Reliability

GRI 416: Customer Health and Safety	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	Responsible Growth: Value Chain	p.37
		No incidence of noncompliance with regulations and/or voluntary codes.	

Data Privacy and Security

GRI 418: Customer Privacy	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	Governance: Corporate Governance and Business Ethics Only limited information is available, in the next reporting cycle, further information will be provided. In 2021, there were no substantiated complaints concerning breaches of customer privacy and losses of customer data.	p.60
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Corporate Governance and Business Ethics

GRI General Disclosures	102-18 Governance structure	Governance : Corporate Governance and Business Ethics Only limited information is available, in the next reporting cycle, further information will be provided.	p.58
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Stakeholder Engagement

	102-40 List of stakeholder groups	Our Approach to Sustainability-Stakeholder Engagement	p.28-30
	102-42 Identifying and selecting stakeholders	Our Approach to Sustainability-Stakeholder Engagement	p.24-26
GRI General Disclosures	102-43 Approach to stakeholder engagement	Our Approach to Sustainability-Stakeholder Engagement	p.24-26
	102-44 Key topics and concerns raised	Our Approach to Sustainability-Stakeholder Engagement /Materiality Assessment	p.24-26 p.28-30

Business Investments and Innovation

GRI 203: Indirect Economic Impact	203-1 Infrastructure investments and services supported	Responsible Growth: Investment and Innovation No information is currently available. Hence, in the next reporting cycle, further information can be provided.	p.33-34
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Responsible and Sustainable Sourcing of Materials

GRI 204: Procurement	204-1 Proportion of spending on local suppliers	Responsible Growth: Value Chain	
GRI 308: Supplier Environmental Assessment	308-1 New suppliers that were screened using environmental criteria	No information is currently available. Hence, in the next reporting cycle, further information can be provided.	p.36-37

Additional Material Topics

Inlectual and Industrial Property for sustainable value creation

Advent Performance Indicator	Only limited information is available. Hence in the next reporting cycle, more information will be provided.	Responsible Growth: Investment and Innovation	p.33
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Women Empowerment

Advent Performance Indicator	Only limited information is available. Hence in the next reporting cycle, more information will be provided.	Society: Human Rights	p.53
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Industry-Academia research collaboration

Advent Performance Indicator	Only limited information is available. Hence in the next reporting cycle, more information will be provided.	Society: Human Capital	p.48
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Hydrogen and Fuel Standardization

Advent Performance Indicator	No information is currently available. Hence, in the next reporting cycle, further information can be provided.		
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Nasdaq ESG Reporting Guide

The following table presents the content corresponding to the relevant ESG metrics of the Nasdaq ESG Reporting Guide.

Nasdaq ESG Metrics			
Metrics	Description	Report Section/Reference	Page
Environmental Data			
E6. Water Usage			
E6.1	Total amount of water consumed	Water Management	p. 47
Social Data			
S6. Non-Discrimination			
-	Does your company follow a sexual harassment and/or non-discrimination policy? Yes	Human Rights Principles Compliance Principles Diversity, Equity and Inclusion	p. 53 p. 51
S8. Global Health & Safety			
-	Does your company follow an occupational health and/or global health & safety policy? Yes	Occupational Health and Safety	p. 52
Governance Metrics			
G1. Board Diversity			
G1.1	Percentage: Total board seats occupied by women (as compared to men) 40%	Corporate Governance	p. 56
G2. Board Independence			
G2.1	Does company prohibit CEO from serving as board chair? No	Corporate Governance	p. 56
G2.2	Percentage: Total board seats occupied by independents 60%	Corporate Governance	p. 56
G8. ESG Reporting			
G8.1	Does your company publish a sustainability report? Yes	About this Report	p. 61
G9. Disclosure Practices			
G9.1	Does your company provide sustainability data to sustainability reporting frameworks? Yes	About this Report	p. 61
G9.2	Does your company focus on specific UN Sustainable Development Goals (SDGs)? Yes	Advent's Products SDG Impact 2022 ESG Targets Materiality Assessment	p. 31 p. 23 p. 27-31
G9.3	Does your company set targets and report progress on the UN SDGs? Yes	2022 ESG Targets	p. 23

List of Material Topics

Pillar	S/N	Material Topic
ENVIRONMENT	1	Energy Management and Efficiency
	2	Carbon Footprint and Decarbonisation
	3	Sustainable Water and Wastewater Management
	4	Responsible and Sustainable Sourcing of Materials
	5	Circular Economy and Waste Management
SOCIAL	6	Occupational Health and Safety
	7	Employee Wellbeing and Workplace Empathy
	8	Talent Attraction, Retention and Development
	9	Employee Training and Development
	10	Diversity, Equity, and Inclusion
	11	Internal Communication and Grievance Mechanisms
	12	Community Engagement and Collective Actions
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Glossary and Abbreviations

Abbreviation	Term	Definition
CO ₂	Carbon dioxide	Carbon Dioxide, (CO ₂) is a colourless gas and is one of the most important greenhouse gases linked with climate change and global warming.
DME	Dimethyl Ether	A fuel that can deliver the power that diesel engines need, but with lower overall operating costs. DME is also an environmentally - friendly, non-toxic fuel that can easily meet strict emissions standards for soot and greenhouse gases.
DoE	Department of Energy (USA)	Primary governmental body responsible for clean energy R&D.
ESG	Environment, Social, Governance	ESG means using Environmental, Social and Governance factors to evaluate companies and countries on how far advanced they are with sustainability.
FAT	Final Acceptance Test	A review of design, labelling of equipment and a visual inspection of the facility. The results of the FAT are then presented in a detailed report. If the FAT is conducted during plant operation, the monitoring system also verifies the functionality of the plant.
gCO ₂	Gram of carbon dioxide	Unit of measure for carbon dioxide.
gCO ₂ /kWh	Grams of carbon dioxide per kiloWatt hour	Unit of measure for carbon dioxide, for the calculation of CO ₂ emission intensity.
GHG	Greenhouse gas	A gas that absorbs and emits radiant energy within the thermal infrared range. Greenhouse gases cause the greenhouse effect. The primary greenhouse gases in Earth's atmosphere are water vapor, carbon dioxide, methane, nitrous oxide and ozone.
GRI	Global Reporting Initiative	GRI is the independent, international organization that helps businesses and other organizations take responsibility for their impacts, by providing them with the global common language to communicate those impacts. We provide the world's most widely used standards for sustainability reporting - the GRI Standards.
GW	GigaWatt	A unit of power equal to one billion watts.

Abbreviation	Term	Definition
H ₂	Hydrogen	Hydrogen is the chemical element with the symbol H and atomic number 1. With a standard atomic weight of 1.008, hydrogen is the lightest element in the periodic table. Hydrogen is the most abundant chemical substance in the Universe, constituting roughly 75% of all baryonic mass.
HT-PEM	High-temperature proton exchange membrane	Operates at 160°C to 220°C.
IoT	Internet of Things	System of interrelated computing devices able to transfer data over a network.
IPCEI	Important Projects of Common European Interest	It may represent a very important contribution to economic growth, jobs and competitiveness for the European Union industry and economy. IPCEIs make it possible to bring together knowledge, expertise, financial resources and economic actors throughout the Union.
kWh	KiloWatt hour	Unit of power.
LOHC	Liquid Organic Hydrogen Carriers	Organic compounds that can absorb and release hydrogen through chemical reactions. LOHCs can therefore be used as storage media for hydrogen.
LT-PEM	Low-temperature proton exchange membrane	Operates below 100°C.
MEA	Membrane electrode assembly	An assembled stack of proton exchange membranes or alkali anion exchange membrane, catalyst and flat plate electrode used in fuel cells and electrolyzers.
MT	Metric Ton	Unit of measure.
MW	Megawatts	Unit of power.
OEM	Original equipment manufacturer	Company that produces devices from intermediate components.
OPVS	Organic Photovoltaics	A type of solar cell where the absorbing layer is based on organic semiconductors (OSC) – typically either polymers or small molecules. The primary role of the OPV will be to undertake constabulary missions, maritime patrol and response duties.
PAT	Provisional Acceptance Test	A conditional acceptance which means that the client has accepted the project, but performance needs to be verified or confirmed under operational conditions within an agreed period.
PBI	Polybenzimidazole	Polybenzimidazole fiber is a synthetic fiber with a very high decomposition temperature and doesn't exhibit a melting point. It has exceptional thermal and chemical stability and does not readily ignite.

Abbreviation	Term	Definition
PEM	Proton Exchange Membrane	PEM electrolyser systems were introduced to overcome some of the operational drawbacks of alkaline electrolysers. They use pure water as an electrolyte solution and avoid the recovery and recycling that is necessary with alkaline electrolysers. They can produce highly compressed hydrogen for decentralised production and storage at refuelling stations and offer flexible operation, including the capability to provide frequency reserve and other grid services. However, electrode catalysts need expensive materials, and their lifetime are currently shorter than alkaline electrolysers. Overall costs are also currently higher, as such they are less widely deployed.
R&D	Research and Development	Activities that a company undertakes to innovate and introduce new products and services. It is often the first stage in the development process.
RMFC	Reformed Methanol Fuel Cell	A subcategory of proton-exchange fuel cells fuel, methanol (CH ₃ OH), is reformed, before into the fuel cell.
SDGs	Sustainable Development Goals	The Sustainable Development Goals (SDGs), as the Global Goals, were adopted by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity.
UN	United Nations	The United Nations Organization (UNO) or Nations (UN) is an intergovernmental organization whose purpose is to maintain international peace and security, develop friendly relations among nations, achieve international cooperation, and be a centre for harmonizing the actions of nations.

Term	Definition
Decarbonisation	Reducing the use of carbon-intensive fossil fuels.
Electrolyser	A device which splits water into hydrogen and oxygen using electrical energy. When the electrical input comes from a renewable source, hydrogen has no carbon footprint.
Fuel Cell Standardization	The planned standardization of fuel cell modules includes physical dimensions, flow and digital interfaces, test protocols as well as safety requirements.
Green HiPo	This project concerns the development, design and manufacturing of HTPEM fuel cells to produce heat and power. The project is expected to take place mainly in Western Macedonia, Greece and aid significantly in the region's transition from a coal-based economy to a greener economic model.
White Dragon	This project aims to replace the coal-fired power plants across the region of Western Macedonia, Greece and transition to clean energy production and transmission, with the goal of fully decarbonising Greece's energy system.

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