CARNOT CAPITAL

# CARNOT EFFICIENT RESOURCES

## IMPACT REPORT 2022

In cooperation with: PRI Principles for Responsible Investment | Swiss Sustainable Finance | IFC International Finance Corporation WORLD BANK GROUP

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# CARNOT EFFICIENT RESOURCES

**The Carnot Efficient Resources Fund is an Impact investment fund that invests in listed equities. The companies represented in the fund develop and produce products and technologies that reduce the consumption of natural resources and reach people around the world. In addition to the financial return, the fund investor, as co-owner of the portfolio companies, has a substantial positive effect in terms of the UN's sustainable development goals. This impact report aims to illustrate and quantify this effect.**

*The new disclosure requirements on sustainability in the financial services sector (SFDR, Sustainable Finance Disclosure Regulation) and the nomenclature regarding sustainability (EU taxonomy) require an addition to the Carnot Impact Report. We now disclose the share of taxonomy-compliant sales of the companies in the fund and include the adverse sustainability impacts (PAI, Principal Adverse Impacts) in the SDG mapping.*

Carnot Impact Investing is a blended approach, which differentiates itself through financial as well as social and environmental performance. The effects (impact) are created in seven steps:

1. Topic of resource efficiency
2. Controversial activities (ESG top-down analysis)
3. Financial analysis
4. Sustainability (ESG bottom-up analysis)
5. Impact validation
6. Engagement
7. Negative Impact (Principal Adverse Impact PAI)

In the appendix, the report is supplemented by examples, external reports on sustainability and the carbon footprint as well as information on Carnot Capital memberships and publications.

## 1. Topic of Resource Efficiency

The Carnot Efficient Resources Fund invests exclusively in companies with products, services and development projects that reduce the consumption of natural resources. The reduction of resource consumption must be part of the company strategy. Such companies can be assigned to the basic elements fire, water, earth and air based on the ancient four-element theory. The following overview shows which topics the Carnot Efficient Resources Fund currently covers.

**1. Fields of Activity of the Portfolio Companies*** **as of 31/12/2022**

| ENERGY | EARTH | WATER | LUFT |
|---|---|---|---|
| 46.3 % | 26.0 % | 19.1 % | 8.6 % |

**ENERGY**
- ✓ Climate control
- ✓ Smart buildings
- ✓ Windows, doors
- ✓ Lighting
- ✓ Engineering
- ✓ Internet of things
- ✓ Economical engines
- ✓ Rail transport
- ✓ Waste to energy
- ✓ Wind and solar energy

**EARTH**
- ✓ Agricultural tech.
- ✓ Plant protection
- ✓ Nutrients
- ✓ Feed
- ✓ Packaging
- ✓ Recycling
- ✓ Fisch farming
- ✓ Forestry

**WATER**
- ✓ Water Infra.
- ✓ Water purification
- ✓ Waste water treatment
- ✓ Sanitary products
- ✓ Irrigation

**LUFT**
- ✓ Emission control
- ✓ E-mobility
- ✓ Clean fuels
- ✓ Battery technology

* Measured by position sizes

## 2. Controversial Activities

First, we screen portfolio candidates for controversial activities. Companies with such activities are excluded due to their negative impact (negative screening). For certain activities, a low turnover tolerance threshold is applied.

## 3. Financial Analysis

In our opinion, sustainability and the impact are only guaranteed if the company has a solid financial basis. We expect

a) a strong balance sheet,
b) an economic benefit of the products for the buyers,
c) a good return on capital employed (ROCE).

A high ROCE promotes growth and innovation, which in turn reinforces the positive impact.

## 4. Sustainability Analysis

The Carnot Efficient Resources fund invests exclusively in sustainable companies. The analysis is made by Carnot Capital. Portfolio candidates for which no sustainability assessment is available are audited specifically by us on following a questionnaire. This procedure significantly expands the investment universe. The analysis includes a catalogue of

a) environmental (products, production, supply chain),
b) social (suppliers, employees, employer, clients) and
c) governance issues.

The classification includes the sustainability contribution of the industry as well as the sustainability contribution of the individual company. We use the increasingly well-founded reporting of companies as well as Bloomberg and Sustainalytics as sources of information. Finally, we consider the comprehension of the business model that we gain in fundamental analysis to be a prerequisite for a sustainability assessment.

| 2. Controversial Activities | | 31/12/2022 | 31/12/2021 |
|---|---|---|---|
| | **Tolerance Threshold** | **Portfolio Share** | **Portfolio Share** |
| **Genetic engineering** | 5% | 0% | 0% |
| **Nuclear energy (power plants, technology)** | 5% | 0% | 0% |
| **Weapons (systems, components)** | 5% | 0% | 0% |
| **Extraction of fossil fuels** | 0% | 0% | 0% |
| **Land mines, cluster munitions** | 0% | 0% | 0% |
| **Addictive substances (tobacco, alcohol)** | 0% | 0% | 0% |
| **Sex business** | 0% | 0% | 0% |
| **Gambling** | 0% | 0% | 0% |

| 3. Relevant Financial Figures | 31/12/2022 | 31/12/2021 |
|---|---|---|
| **Average debt ratio** (net debt/EBITDA) | 0.4x | 0.5x |
| **Average return on capital employed** (ROCE) | 32.4% | 32.1% |

| 4. Sustainability (Bottom-Up) | 31/12/2022 | 31/12/2021 |
|---|---|---|
| **Share of sustainable companies in the portfolio** | 100% | 100% |
| **Average score**<br>Scale from 0-100, sustainable as of 50 point | 74 | n.a. |
| **EU taxonomy-compliant turnover** | 35.4% | n.a. |

## 5. Impact Validation

### a) Addressed Sustainable Development Goals (SDGs)

The portfolio companies make it possible to reduce resource consumption and thus have a decisive impact on the "UN's Sustainable Development Goals" (SDGs).

The strongest support is given to goal no. 9 "Industry, Innovation, Infrastructure" because a variety of resource efficient products contribute to a modern infrastructure and environmentally friendly industrial processes. The Impact on "Affordable and Clean Energy" (no. 7) and "Climate Action" (no. 13) is also significant. The other goals in the table are supported mainly by the companies in the areas of drinking water, wastewater, food production and waste treatment.

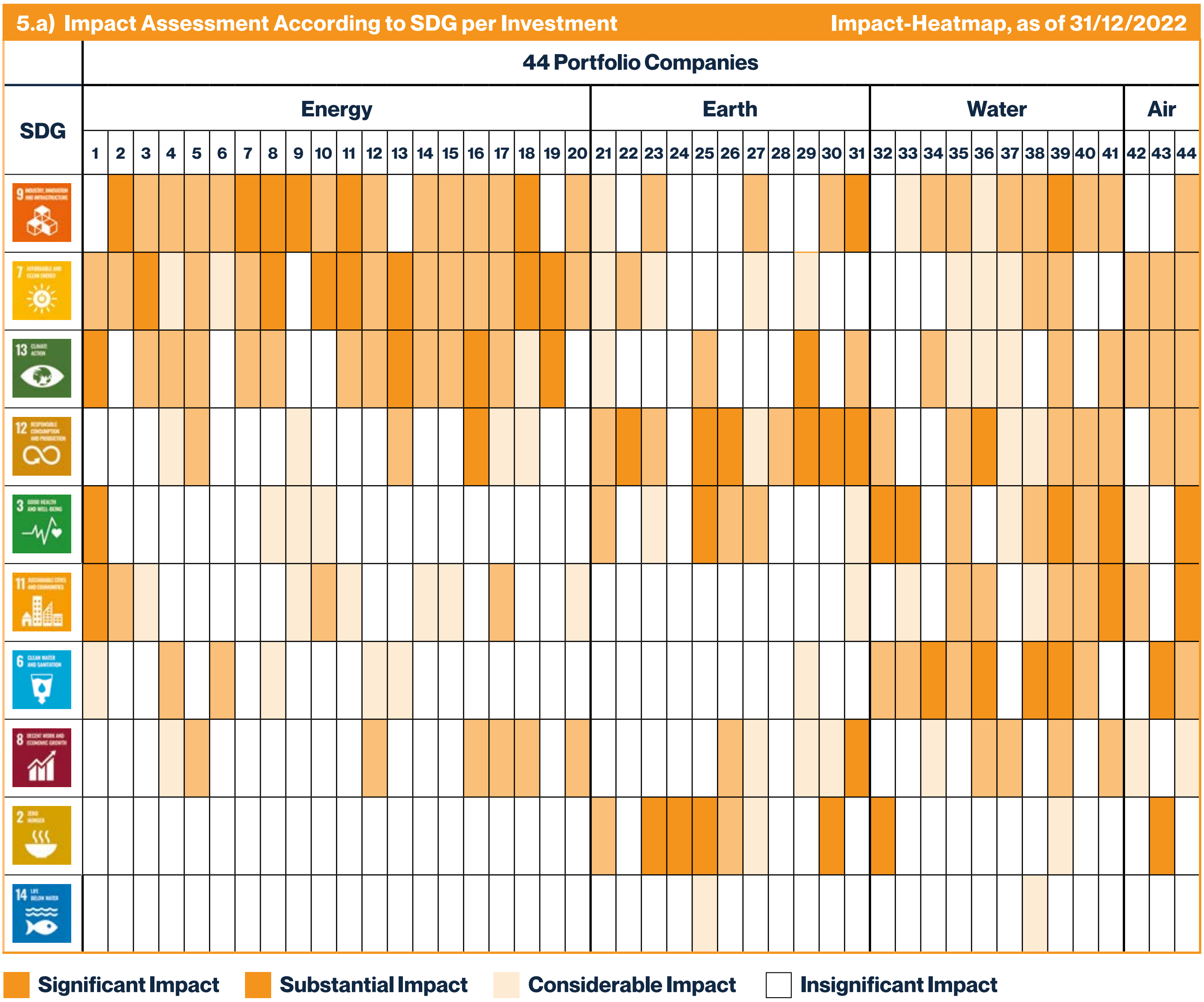
| Addressed Goals (SDGs), ranked by impact of the fund* | Product Examples |
|---|---|
| **Industry, Innovation, Infrastructure**<br>9.4 Modernising infrastructure, environmentally friendly industrial processes | Smart buildings, Heat exchangers<br>City cleaning<br>Wastewater treatment |
| **Affordable and Clean Energy**<br>7.2 Increase the share of renewable energy<br>7.3 Increase energy efficiency | Waterpower<br>Heat pumps<br>Water management<br>Internet of things |
| **Climate Action**<br>13.2 Integrate climate change measures into national policies, strategies and planning | Heat pumps<br>Energy from waste<br>Intelligent climate control |
| **Responsible Consumption and Production**<br>12.2 Sustainable management and efficient use of natural resources<br>12.3 Reduce food losses and waste<br>12.5 Reduce waste generation through prevention, reduction, recycling and reuse | Organic food<br>Packaging<br>Agricultural technology<br>Recycling |
| **Good Health and Well-Being**<br>3.9 Substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination | Drinking water treatment<br>Nutrients<br>Sludge drying |
| **Sustainable Cities and Communities**<br>11.2 Modern public transport systems<br>11.6 Reduce environmental impact of cities, improve air quality, efficient waste management | Rail transport<br>E-mobility<br>Waste management |
| **Clean Water and Sanitation**<br>6.1 Access to safe and affordable drinking water for all<br>6.3 Substantially increasing recycling and safe reuse of water<br>6.4 Reduce water shortages through by increasing water-use efficiency | Water pipes<br>Irrigation technology<br>Sanitary ware |
| **Decent Work and Economic Growth**<br>8.4 Decouple economic growth from environmental degradation | Energy efficient industrial Technology |
| **Zero Hunger**<br>2.1 Ensure access to safe, nutritious and enough food<br>2.4 Ensure sustainable and efficient food production | Fertilizer<br>Food preservation |
| **Life Below Water**<br>14.7 Sustainable management of fisheries, aquaculture and tourism | Fish farming |

* The size of the symbols corresponds to the extent of the impact according to the heatmap. Source: Carnot Capitall

In our impact measurement, we consider the share of revenues of the relevant products as well as their effectiveness. We map the results according to companies and development goals in an impact heatmap.

## b) Portfolio Share of Impact Companies

The focus on resource efficiency means that all positions have a positive environmental impact (excluding cash portion).




*Impact Heatmap – Carnot Efficient Resources – December 2022*

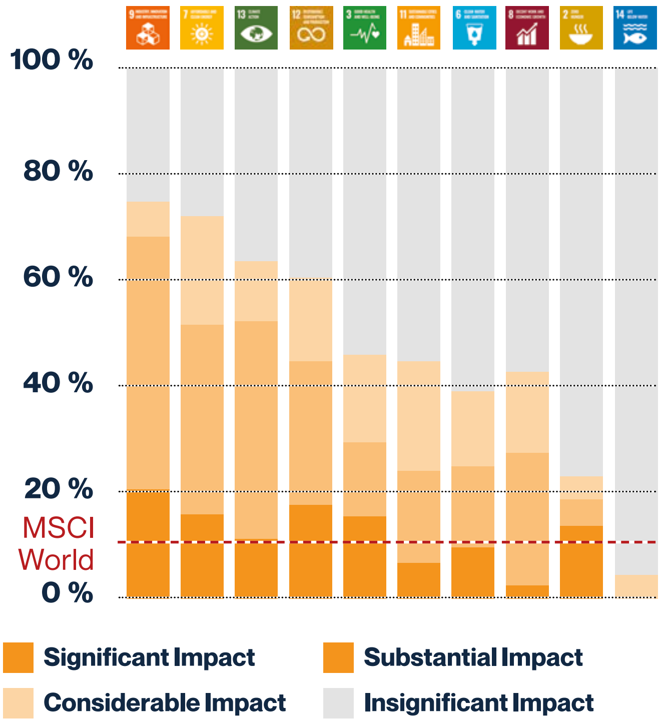
### c) Share of Revenues of Companies with Impact Products

In our impact analysis, we determine which part of a company's revenue has a positive impact. On average, the portfolio companies generate more than half of the turnover with products, services and projects with a positive impact. A fund investment of EUR 1 million accounts for approximately EUR 0.7 million of revenues with a positive environmental impact. Part of this revenue has a social impact at the same time, as outlined (SDG 3 Health and Well-Being, SDG 2 Zero Hunger, etc.).

**5. b) Portfolio Share with Impact** — **as of 31/12/2022**

| | |
|---|---|
| **Carnot Efficient Resources** | **100 %** |
| Benchmark MSCI World* | 10 % |
| **Portfolio share with environmental impact** | **100 %** |

| | |
|---|---|
| **Industry, Innovation, Infrastructure** | **74.8 %** |
| **Affordable and Clean Energy** | **72.1 %** |
| **Climate Action** | **63.7 %** |
| **Responsible Consumption and Production** | **60.4 %** |
| **Good Health and Well-Being** | **45.9 %** |
| **Sustainable Cities and Communities** | **44.8 %** |
| **Clean Water and Sanitation** | **42.8 %** |
| **Decent Work and Economic Growth** | **39.2 %** |
| **Zero Hunger** | **23.1 %** |
| **Life Below Water** | **4.5 %** |




* Source: your SRI/MSCI

| **5. c) Revenues with Impact Products** | **31/12/2022** | **31/12/2021** |
|---|---|---|
| **Impact products* revenue per EUR 1 million investment amount** | EUR 735,000** | EUR 744,000** |
| **As % of total sales revenue of the portfolio companies** | 68 % | 68 % |
| **** Price/Sales** | 0.93 | 0.91 |

*Pure environmental Impact

### d) Research & Development of Impact Products

A significant positive impact results from the research and development activities of the portfolio companies because they lead to new resource-saving products. Measured in terms of sales, R&D expenditure accounts for around 3%. For a fund investment of EUR 1 million, tens of thousands of euros of research and development expenditure are thus spent on improving resource efficiency.

## 6. Engagement

If the Carnot Impact Analysis reveals questions (e.g. on corporate governance) or suggestions for improvement (e.g. on the impact reporting of the company), Carnot uses its contacts to the management level to address these commitment issues personally.

## 7. Negative Impact (Principal adverse impact (PAI)

The European Union (EU) regulation on sustainability-related disclosure requirements in the financial services sector (SFDR) defines 18 core indicators that can have an adverse impact. Mirroring the Positive Impact (considerable, substantial, significant impact), the Negative Impact (adverse, negative, strong negative impact) describes opposite consequences.

The Carnot Impact process focuses on reducing consumption by making better, i.e. more efficient, use of the product factors employed. Concrete fields of application are the topics of energy and natural resources. Focusing on the issue of reducing consumption is an effective filter, so that most companies with significant adverse impacts in climate indicators and other environment-related indicators do not even enter the investment universe. By verifying and documenting that sustainability is part of the company's strategy, the likelihood of significant adverse impacts in the areas of social and employment issues, respect for human rights, and combating corruption and bribery is greatly reduced. By excluding companies with controversial activities, the adverse impacts are further reduced. Finally, portfolio companies are screened individually for significant adverse impacts (PAIs) using an ESG bottom-up analysis, taking into account the industry-specific profile of environmental and social risks. PAIs are examined, recorded, commented on, and assessed against the SDG grid. At the portfolio level, PAIs are reduced through engagement and through non-investment or divestment.

| 5. d) R & D Expenditure for Impact Products | 31/12/2022 | 31/12/2021 |
|---|---|---|
| **R & D expenditures per EUR 1 million investment amount** | EUR 30,000 | EUR 31,500 |
| **As % of total sales revenue of the portfolio companies** | 3.0% | 3.1% |

| 6. Number of Engagement Cases | 31/12/2022 | 31/12/2021 |
|---|---|---|
| **Opened engagement initiatives** | **1** | **1** |
| Closed cases | 2 | 0 |
| **Pending cases** | **1** | **2** |

| 7. Carnot Impact Process: Principal Adverse Impact (PAI) and SDG Mapping | | |
|---|---|---|
| **Adverse sustainability indicator** | **SDGs affected** | **Summary remarks** |
| **1. GHG emissions** | 13 CLIMATE ACTION | The GHG emissions Scope 1/2/3 of portfolio companies are assessed. Companies with significant GHG emissions are assigned a negative impact with regard to SDG 13. The investment guidelines exclude the particularly problematic producers of fossil raw materials. Operators of coal-fired power plants are only considered if their overall generation mix has a low carbon footprint. Companies with other critical activities, such as airline operations, chemicals, steel or cement production, are only considered for investment if they undertake extraordinary efforts, particularly in research and development, to make the company and the industry as a whole more $CO_2$-friendly. |
| **2. Carbon footprint** | | See PAI 1 |
| **3. GHG intensity of investee companies** | 13 CLIMATE ACTION | The GHG intensity of the companies is analysed and compared to the GHG reduction effects of the products in the Energy Efficiency theme - Carnot Capital's main investment theme. When assessing PAI, not only the effective emission intensity is evaluated, but also the efforts to reduce emissions, especially in the area of R+D. Portfolio companies outside the energy efficiency theme are assigned a negative score on SDG 13 if they produce energy intensively. |
| **4. Exposure to companies active in the fossil fuel sector** | 13 CLIMATE ACTION | Companies that extract fossil raw materials are excluded from the investment universe. Companies that offer technologies and services for such companies are not excluded in principle. For such companies, the GHG impact of the technologies and services (as in other industries) is compared with the GHG impact of the industry standard technology. |
| **5. Share of non-renewable energy consumption and production** | 13 CLIMATE ACTION | Electricity producers with fossil power plants are only considered as an exception (see PAI 1). Energy intensive companies with a high share of fossil energy and no positive impact in energy efficiency receive a negative SDG 13 rating. |
| **6. Energy consumption intensity per high impact climate sector** | 13 CLIMATE ACTION | A high energy intensity is assessed negatively in relation to SDG 13 if the products have no or only a low energy saving effect or if the proportion of fossil energy in the energy mix is above average. |
| **7. Activities negatively affecting biodiversity-sensitive areas** | 14 LIFE BELOW WATER<br>15 LIFE ON LAND | A negative assessment with regard to SDG 14 & 15 is given to companies whose emissions significantly pollute water or soil, and companies whose products impair biodiversity and promote monocultures. Particularly critical are fertilizer manufacturers, manufacturers of pesticides, soil cultivation machines, plants for the pulp industry, river power plants, and shipping companies with ships without ballast water treatment. |

**8. Emissions to water**

Portfolio companies are screened for emissions to water and assessed negatively, if applicable, if they belong to a process industry (chemicals, food, waste recycling, recycling, etc.). In the case of companies in the fishing industry, efforts to prevent emissions are assessed and positive consideration is given to the fact that the industry produces animal proteins with low water consumption.

**9. Hazardous waste and radioactive waste ratio**

Companies with nuclear power plants are excluded from the investment universe, except for shareholdings that are smaller than the exclusion threshold or activities in trading. Other companies are screened to determine whether hazardous waste is generated in production and whether it is treated without significant adverse effects. The PAI analysis also considers whether the products themselves generate hazardous waste, e.g. PVC.

**10. Violations of UN Global Compact principles and Organisation for Economic Cooperation and Development (OECD) Guidelines for Multinational Enterprises**

Companies known to have violated the OECD Guidelines for Multinational Enterprises are ranked with a negative impact on SDG 8. Particular caution is required for companies with substantial operations in countries with a poor ranking on the Corruption Index.

**11. Lack of processes and compliance mechanisms to monitor compliance with UN Global Compact principles and OECD Guidelines for Multinational Enterprises**

Carnot checks whether the portfolio companies monitor compliance with the OECD Guidelines for Multinational Enterprises and whether they handle complaints. An assessment with regard to SDG 8 is negative (only) if the company does not document any efforts in terms of the concerns in the OECD Guidelines.

**12. Unadjusted gender pay gap**

Carnot takes note of the companies' reporting on gender distribution and earnings gaps. However, we do not derive any strong negative or negative impacts in terms of the SDGs from this.

**13. Board gender diversity**

Carnot takes note of gender diversity in governance bodies, but does not infer strong negative or negative impacts in terms of the SDGs.

**14. Exposure to controversial weapons (anti-personnel mines, cluster munitions, chemical weapons and biological weapons)**

Companies involved in controversial weapons are excluded from the universe. For other weapons, a tolerance threshold of 5% applies. These companies will be assigned a negative score on SDG 16.

| | |
|---|---|
| **15. GHG intensity** | Not applicable (Investments in sovereigns and supranationals) |
| **16. Investee countries subject to social violations** | Not applicable (Investments in sovereigns and supranationals) |
| **17. Exposure to fossil fuels through real estate assets** | Not applicable (Investments in real estate assets) |
| **18. Exposure to energy-inefficient real estate assets** | Not applicable (Investments in real estate assets) |

# APPENDIX

## 1. Examples

**Companies and Products with Impact** | **Details** | *** Scale: significant, substantial, considerable, low impact**

signify

*Intelligent outdoor lighting*

**Energy/Lighting**

| | |
|---|---|
| Portfolio weight | 2.4 % |
| Share of revenue from resource efficient products | 84 % |
| ROCE | 49 % |
| Net debt | 1.3 x |
| R&D expenditure (% revenue) | 4.2 % |
| Sustainability | yes |
| Environmental impact*: SDG 7/13 | significant |
| Social impact*: SDG 9 | substantial |

LED bulbs save about 50 % energy compared to fluorescent tubes, even 80% compared to halogen bulbs. Signify is one of the world's largest LED lighting manufacturers and is pushing ahead with intelligent lighting controls, which significantly reduce energy consumption further.

CRODA

*The target are microplastic-free seed coatings for resistance*

**Earth/Food & Nutrition**

| | |
|---|---|
| Portfolio weight | 2.2 % |
| Share of revenue from resource effcient products | 50 % |
| ROCE | 41 % |
| Net debt | 0.1 x |
| R&D expenditure (% revenue) | 3.1 % |
| Sustainability | yes |
| Environmental impact*: SDG 12 | significant |
| Social impact*: SDG 2/3/8 | substantial |

Among other things, Croda produces nutrients for low-fat, healthy food and specialises in microplastic-free biostimulants, which are applied to seeds as a strengthening agent.

AO Smith

*Drinking water filter for household use*

**Water/Water Infrastructure**

| | |
|---|---|
| Portfolio weight | 2.2 % |
| Share of revenue from resource effcient products | 100 % |
| ROCE | 26 % |
| Net debt | 0 x |
| R&D expenditure (% revenue) | 2.8 % |
| Sustainability | yes |
| Environmental impact*: SDG 6/7 | significant |
| Social Impact*: SDG 3/9/11 | substantial |

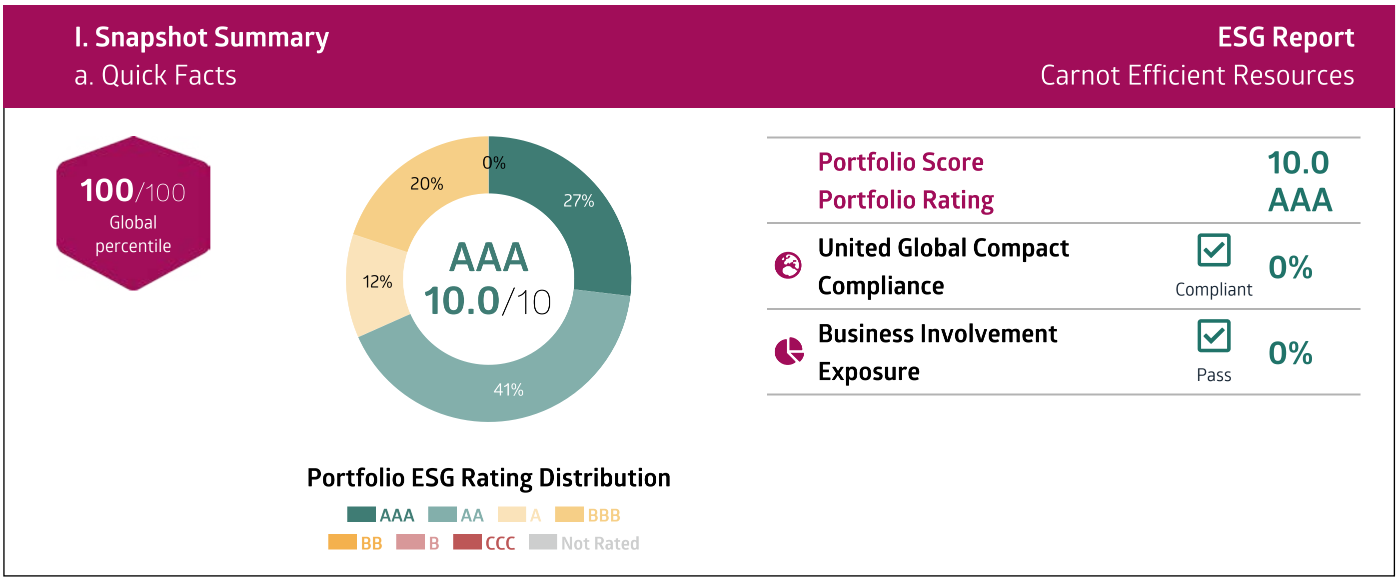
Heat pump water heaters are very efficient, resulting not only in significant savings in energy costs, but also in a significant reduction in greenhouse gas emissions.

## 2. External Sustainability Assessment

We have the Carnot Efficient Resources Fund's sustainability reviewed externally by yourSRI. The analysis is based on the very comprehensive database of MSCI. The most important results are shown in the following overview (Snapshot Summary). It shows the sustainability rating (maximum AAA), the ranking in the entire universe (Global percentile), the rank in the peer group (Peer percentile), the compliance with the United Nations Global Compact (United Global Compact Compliance) and the portfolio share of companies with controversial activities (Business Involvement Exposure). The external result corresponds to our internal assessment.

## 3. $CO_2$ Foot Print

The carbon footprint was created with Bloomberg, it uses data from ISS Ethix. The carbon footprint of the Carnot Efficient Energy Fund is much smaller than that of the overall market, broken down to a fund investment of EUR 1 million or EUR 1 million in portfolio companies' revenue. This analysis covers the company's $CO_2$ emissions in the combustion of fuel (Scope 1) and the emissions of the electricity suppliers (Scope 2) as well as the emissions contained in the other services and products purchased (Scope 3).
The analysis does not consider the $CO_2$ reduction effects that the products, services and projects of the companies generate. These effects are, in our opinion, particularly important from an impact perspective. For this reason we make our own assessment (see 5. Impact Validation).




Source: yourSRI.com

*Business Involvement Exposure passed: See 2. Controversial Activities, Tolerance Threshold*

| **Carbon Footprint** | | **as of 31/12/2022** |
|---|---|---|
| | **Scope 1 & 2 Greenhouse Gas Emissions per Sales** *(tCO₂e / EUR Mio revenue)* | **Scope 1 & 2 Greenhouse Gas Emissions per EVIC*** *(tCO₂e / EUR Mio EVIC*)* |
| **Carnot Efficient Resources** | 81 | 53 |
| **MSCI World Index** | 168 | 57 |

*Enterprise Value including Cash

Source: Bloomberg

## 4. Memberships

Carnot Capital has committed as a signatory to implement the six United Nations Principles for Responsible Investment (UN PRI) in the investment process.
Carnot Capital is a member of Swiss Sustainable Finance.

Carnot Impact Investing-process follows 9 steps along the "Operating Principles for Impact Management". The IFC of World Bank Group released these rules.

## 5. Publications

Carnot Capital AG, **Investments into Energy and Resource Efficiency with a Measurable Impact,** https://25530849.fs1.hubspotusercontent-eu1.net/hubfs/25530849/Downloads/Research_Paper_Carnot_Impact_Investing_en.pdf

Carnot Capital AG, **Carnot Impact Investing: Overview & Case Study Belimo,** https://www.carnotcapital.com/hubfs/Carnot%20Impact%20Case%20Study%20Belimo%20EN.pdf?hsLang=en

Carnot Capital AG, **Carnot Impact Investing: Overview & Case Study Akasol,** https://www.carnotcapital.com/hubfs/Carnot%20Impact%20Case%20Study%20Akasol%20EN.pdf.pdf?hsLang=en

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# WHO IS CARNOT CAPITAL AG

Carnot Capital is an investment management company, specialized in energy and resource efficiency. We founded the company in 2007 in Zurich and received 2013 the permission as an asset manager for collective investments by the Swiss Financial Markets Supervisory Authority FINMA. We manage the equity funds Carnot Efficient Energy and Carnot Efficient Resources performing a sustainability examination ESG. We buy stocks of listed companies with products and technologies that lower the consumption of natural resources. Due to rising scarcity and increasing environmental problems, those companies profit from structural growth. The stock selection is based on a value approach, where the quality of the company is central. We only invest in established, profitable companies with strong balance sheets. Carnot Impact Investing is a blended approach, which differentiates itself through financial as well as social-ecological performance and by combining these two qualities and revealing the positive effects they have achieved (impact from ESG & SDG mapping).

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