

# CARNOT EFFICIENT ENERGY

IMPACT REPORT 2021



In cooperation with:



# TABLE OF CONTENTS

<b>1. Topic of Energy Efficiency</b>	<b>3</b>	<b>APPENDIX</b>	<b>8</b>
<b>2. Controversial Activities</b>	<b>4</b>	<b>1. Examples</b>	<b>8</b>
<b>3. Financial Analysis</b>	<b>4</b>	<b>2. External Sustainability Assessment</b>	<b>9</b>
<b>4. Sustainability Analysis</b>	<b>4</b>	<b>3. CO<sub>2</sub> Foot Print</b>	<b>9</b>
<b>5. Impact Validation</b>	<b>5</b>	<b>4. Memberships</b>	<b>10</b>
a) Addressed Sustainable Development Goals (SDGs)	5	<b>5. Publications</b>	<b>10</b>
b) Portfolio Share of Impact Companies	6	<b>Who is Carnot Capital?</b>	<b>11</b>
c) Share of Revenues of Companies with Impact Products	6		
d) Research & Development of Impact-Products	7		
<b>6. Engagement</b>	<b>7</b>		



# CARNOT EFFICIENT ENERGY

The Carnot Efficient Energy Fund is an impact investment fund. It invests in listed companies that develop and produce energy efficient products and technologies reaching people all around the world. In addition to the financial return, the fund investor, as co-owner of the portfolio companies, generates a substantial positive effect in terms of the UN's sustainable development goals. This impact report aims to illustrate and quantify this effect. Carnot Capital's full impact investing approach also relies on engagement to map, measure and create impact.

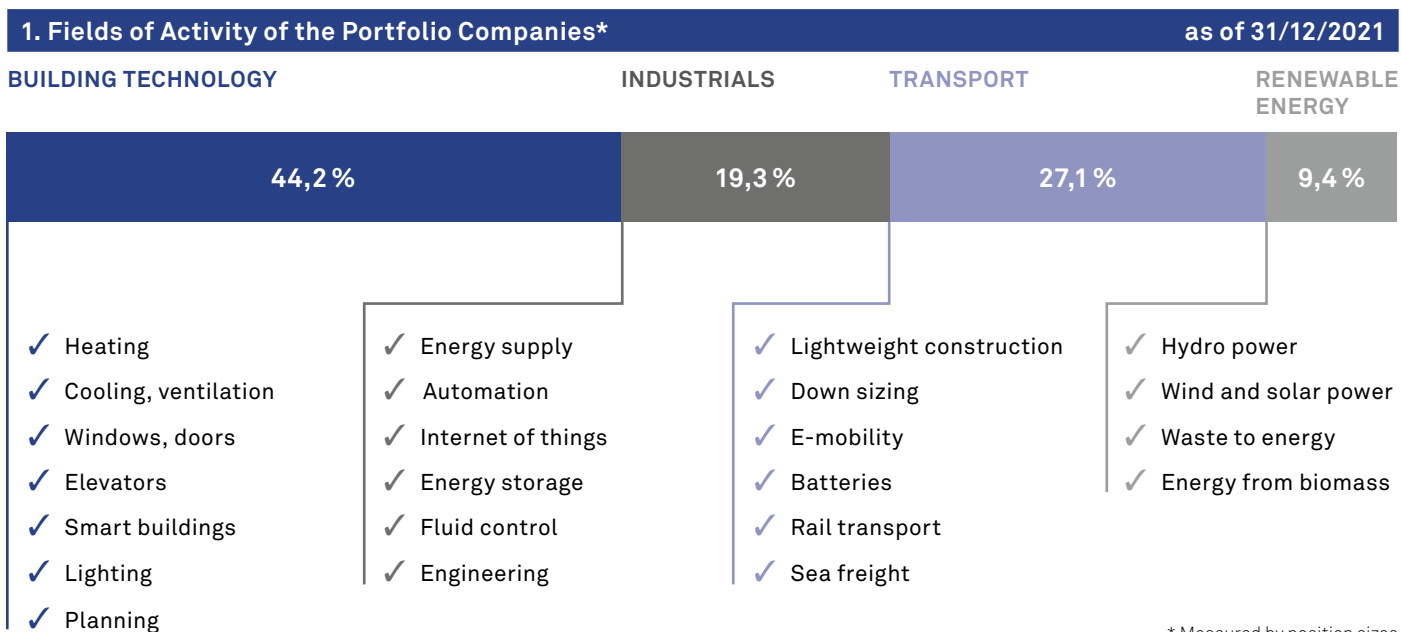
Carnot Impact Investing is a blended approach, which differentiates itself through the combination of financial as well as social and environmental performance. The positive effects (impact) are created in six steps:

1. Topic of energy efficiency
2. Controversial activities (ESG top-down analysis)
3. Financial analysis
4. Sustainability (ESG bottom-up analysis)
5. Impact validation
6. Engagement

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 Energy Efficiency

The Carnot Efficient Energy Fund invests exclusively in companies with products, services and development projects that reduce energy consumption. The reduction of energy consumption must be part of a company's strategy. Such companies can be found in the building technology, industry and transport sectors. Some portfolio companies also generate revenue from renewable energy products, which is shown separately in the following overview.



\* Measured by position sizes

## 2. Controversial Activities

Potential portfolio companies are examined for controversial activities and excluded if necessary 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

In the sustainability analysis of portfolio candidates, we investigate the strategic significance of sustainability and assess

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

2. Controversial Activities		31/12/2021	31/12/2020
	Tolerance Threshold	Portfolio Share	Portfolio Share
Weapons (systems, components)	5 %	3,9 %	3,1 %
Nuclear energy (power plants, technology)	5 %	4,2 %	0 %
Extraction of fossil fuels	0 %	0 %	0 %
Land mines, cluster munitions	0 %	0 %	0 %
Genetic engineering	0 %	0 %	0 %
Addictive substances (tobacco, alcohol)	0 %	0 %	0 %
Sex trade	0 %	0 %	0 %
Gambling	0 %	0 %	0 %

3. Relevant Financial Figures		31/12/2021	31/12/2020
Average debt-equity ratio (net debt/EBITDA)		0,6 x	0,7 x
Average return on capital employed (ROCE)		32,6 %	34,4 %

4. Sustainability (Bottom-Up)		31/12/2021	31/12/2020
Share of sustainable companies in the portfolio		100 %	100 %
Average number of points		72	69

Scale from 0-100, considered sustainable from 50 points

## 5. Impact Validation

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

The portfolio companies make it possible to reduce energy consumption and thus make a decisive contribution to the United Nations Sustainable Development Goals (SDGs). The main goals addressed are “Affordable and Clean Energy” (# 7) as well as “Climate Action” (#13). Furthermore, the portfolio companies contribute to modern infrastructures and cleaner industries (# 9), make transport systems more sustainable (# 11) and support the decoupling of economic growth and environmental degradation (# 8). Some portfolio companies have additional effects in terms of further development goals.

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 (see below).

### Addressed Development Goals (SDGs) ranked by impact of the fund\*



#### Affordable and Clean Energy

- 7.2 Increase the share of renewable energy
- 7.3 Increase energy efficiency



#### Climate Action

- 13.2 Integrate climate change measures into national policies, strategies and planning



#### Sustainable Cities and Communities

- 11.2 Modern public transport systems
- 11.6 Reduce environmental impact of cities, improve air quality, efficient waste management



#### Industry, Innovation, Infrastructure

- 9.4 Modernising Infrastructure, environmentally friendly industrial processes



#### Decent Work and Economic Growth

- 8.4 Decouple economic growth from environmental degradation

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

5.a) Assessment of the Impact According to SDG per Investment Impact Heatmap, as of 31/12/2021

SDG	30 Portfolio Companies																													
	Building Technology												Industrials										Transport							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
	Significant	Significant	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial
	Significant	Significant	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial
	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial
	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial
	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial	Substantial

Significant Impact
  Substantial Impact
  Considerable Impact
  Insignificant Impact

## b) Portfolio Share of Impact Companies

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

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

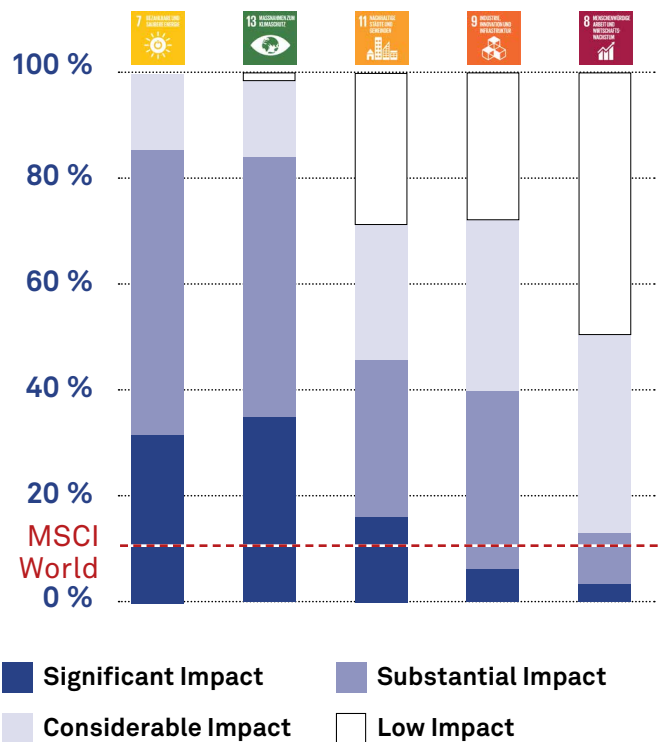
In our impact analysis, we determine which part of a company's revenue has a positive impact. On average, the portfolio companies generate more than half of the turnover with products, services

and projects with a positive impact (see table for details). A fund investment of CHF 1 million accounts for approximately CHF 0.3 million of revenues with a positive environmental impact. Part of this revenue has a social impact at the same time, as outlined (SDGs 9.4 und 11.2). The figure is down on the previous year because valuations measured in terms of sales (price/sales) have increased.

### 5. b) Portfolio Share with Impact, as of 31/12/2021

Carnot Efficient Energy	100 %
Benchmark MSCI World*	10 %
<b>Portfolio share with environmental impact</b>	<b>100 %</b>

 <b>7 BEZAHLBARE UND SAUBERE ENERGIE</b>	<b>Affordable and Clean Energy</b>	<b>100 %</b>
 <b>13 MASSNAHMEN ZUM KLIMASCHUTZ</b>	<b>Climate Action</b>	<b>100 %</b>
 <b>11 NACHHALTIGE STÄDTE UND GEMEINDEN</b>	<b>Sustainable Cities and Communities</b>	<b>72.3 %</b>
 <b>9 INDUSTRIE, INNOVATION UND INFRASTRUKTUR</b>	<b>Industry, Innovation, Infrastructure</b>	<b>71.3 %</b>
 <b>8 NACHHALTIGES VERBRAUCH UND WIRTSCHAFTS WACHSTUM</b>	<b>Responsible Consumption and Production</b>	<b>50.4 %</b>



\* Source: yourSRI/MSCI

### 5. c) Revenues with Impact Products

	31/12/2021	31/12/2020
<b>Impact products* revenue per CHF 1 million investment amount</b>	CHF 300'000**	CHF 373'000**
<b>As % of total sales revenue of the portfolio companies</b>	70 %	73 %
<b>** Price/Sales</b>	2,35	1,95

\*pure environmental Impact

#### d) Research & Development of Impact Products

A significant positive impact results from the research and development expenses of the portfolio companies. Measured by the turnover of the companies, the expenditure amounts to about 3.3%. On a fund investment of CHF 1 million, more than ten thousand francs of development expenditure are spent to improve energy efficiency.

- At one company, where the top management was liable of serious mistakes, we demanded a review of the incidents and the appropriate consequences.
- With two companies, we discussed communication with investors and demanded a more concise presentation of the business development and, in one case, the resumption of dividend payments.

## 6. Engagement

Carnot uses its numerous contacts with the executives of the portfolio companies to stimulate changes in the interests of sustainability. The basis for this engagement is primarily derived from the impact analyses. In 2021, we primarily discussed focusing on circular economy issues and corporate governance aspects. The most important engagements are as follows:

- We encouraged a software company to expand to Europe because its software solutions can substantially reduce resource use, which is a major need among European process industries.
- We recommended that a company in the chemical sector introduce a mass balance from procurement and sales in order to disclose the origin of raw materials (fossil, biological, recycled) and to actively manage it.
- We recommended that two companies focus more consistently on the electrification of cars and commercial vehicles.
- For one biomass equipment supplier, we recommended a more active and systematic approach to issues such as biofuels, waste separation and biological feedstock.

5. d) R & D Expenditure for Impact Products	31. 12. 2021	31. 12. 2020
<b>R &amp; D expenditures per CHF 1 million investment amount</b>	CHF 14,000*	CHF 22,000*
<b>As % of total sales revenue of the portfolio companies</b>	3,3 %	4,4 %
<b>* Price/Sales</b>	2,35	1,95

6. Engagement	31. 12. 2021	31. 12. 2020
<b>Opened engagement initiatives</b>	<b>8</b>	<b>3</b>
Closed cases	6	2
<b>Pending cases</b>	<b>10</b>	<b>8</b>

# APPENDIX

## 1. Examples

Company and Products with Impact	Details	* Scale: significant, substantial, considerable, insignificant																
 	<b>Building technology/Smart Home</b>																	
<p>Roller shutter with sensor for automated control</p>	<table border="1"> <tr><td>Portfolio weight</td><td>4.6%</td></tr> <tr><td>Share of revenue from energy efficient products</td><td>90%</td></tr> <tr><td>ROCE</td><td>&gt; 50%</td></tr> <tr><td>Net debt</td><td>0x</td></tr> <tr><td>R &amp; D expenditure (% revenue)</td><td>8.2%</td></tr> <tr><td>Sustainability (0-100)</td><td>62</td></tr> <tr><td>Environmental impact*: SDG 7/13</td><td>substantial</td></tr> <tr><td>Social impact*: SDG 11</td><td>considerable</td></tr> </table> <p>Automation of sun protection increases the use of blinds by a factor of 20, reducing energy consumption for lighting, heating and cooling. Motorization and automation is thus an important part in an automated, energy-efficient smart building.</p>	Portfolio weight	4.6%	Share of revenue from energy efficient products	90%	ROCE	> 50%	Net debt	0x	R & D expenditure (% revenue)	8.2%	Sustainability (0-100)	62	Environmental impact*: SDG 7/13	substantial	Social impact*: SDG 11	considerable	
Portfolio weight	4.6%																	
Share of revenue from energy efficient products	90%																	
ROCE	> 50%																	
Net debt	0x																	
R & D expenditure (% revenue)	8.2%																	
Sustainability (0-100)	62																	
Environmental impact*: SDG 7/13	substantial																	
Social impact*: SDG 11	considerable																	
 	<b>Industry/renewable energy</b>																	
<p>Engineering of a sawmill and biomass plant. Full digitalization, own electricity production from waste, CO<sub>2</sub> negative.</p>	<table border="1"> <tr><td>Portfolio weight</td><td>4.9%</td></tr> <tr><td>Share of revenue from energy efficient products</td><td>70%</td></tr> <tr><td>ROCE</td><td>&gt; 50%</td></tr> <tr><td>Net debt</td><td>1.7x</td></tr> <tr><td>R &amp; D expenditure (% revenue)</td><td>20%</td></tr> <tr><td>Sustainability (0-100)</td><td>79</td></tr> <tr><td>Environmental impact*: SDG 7/13/8</td><td>considerable</td></tr> <tr><td>Social impact*: SDG 9</td><td>substantial</td></tr> </table> <p>AFRY provides strategic advice to companies and cities on resource efficiency, is a planning partner at project level and carries out development assignments at product and technology level. Important topics are emission reduction in process industries, water and waste in cities, green buildings, trading systems for green energy and emission rights, transport planning or emission reduction in vehicles.</p>	Portfolio weight	4.9%	Share of revenue from energy efficient products	70%	ROCE	> 50%	Net debt	1.7x	R & D expenditure (% revenue)	20%	Sustainability (0-100)	79	Environmental impact*: SDG 7/13/8	considerable	Social impact*: SDG 9	substantial	
Portfolio weight	4.9%																	
Share of revenue from energy efficient products	70%																	
ROCE	> 50%																	
Net debt	1.7x																	
R & D expenditure (% revenue)	20%																	
Sustainability (0-100)	79																	
Environmental impact*: SDG 7/13/8	considerable																	
Social impact*: SDG 9	substantial																	
 	<b>Transport/consumption reduction</b>																	
<p>Analog semiconductors and sensors</p>	<table border="1"> <tr><td>Portfolio weight</td><td>4.0%</td></tr> <tr><td>Share of revenue from energy efficient products</td><td>33%</td></tr> <tr><td>ROCE</td><td>23%</td></tr> <tr><td>Net debt</td><td>0.1x</td></tr> <tr><td>R &amp; D expenditure (% revenue)</td><td>15.6%</td></tr> <tr><td>Sustainability (0-100)</td><td>71</td></tr> <tr><td>Environmental impact*: SDG 7/13/8</td><td>considerable</td></tr> <tr><td>Social impact*: SDG 9/11</td><td>considerable</td></tr> </table> <p>“Downsizing” the engine saves around 15% on fuel. Melexis (Belgium) manufactures temperature sensors for cars with such engines as well as electric cars. Other Melexis sensors are used for the variable speed motor drives of cooling systems, which reduce power consumption by about 40%.</p>	Portfolio weight	4.0%	Share of revenue from energy efficient products	33%	ROCE	23%	Net debt	0.1x	R & D expenditure (% revenue)	15.6%	Sustainability (0-100)	71	Environmental impact*: SDG 7/13/8	considerable	Social impact*: SDG 9/11	considerable	
Portfolio weight	4.0%																	
Share of revenue from energy efficient products	33%																	
ROCE	23%																	
Net debt	0.1x																	
R & D expenditure (% revenue)	15.6%																	
Sustainability (0-100)	71																	
Environmental impact*: SDG 7/13/8	considerable																	
Social impact*: SDG 9/11	considerable																	



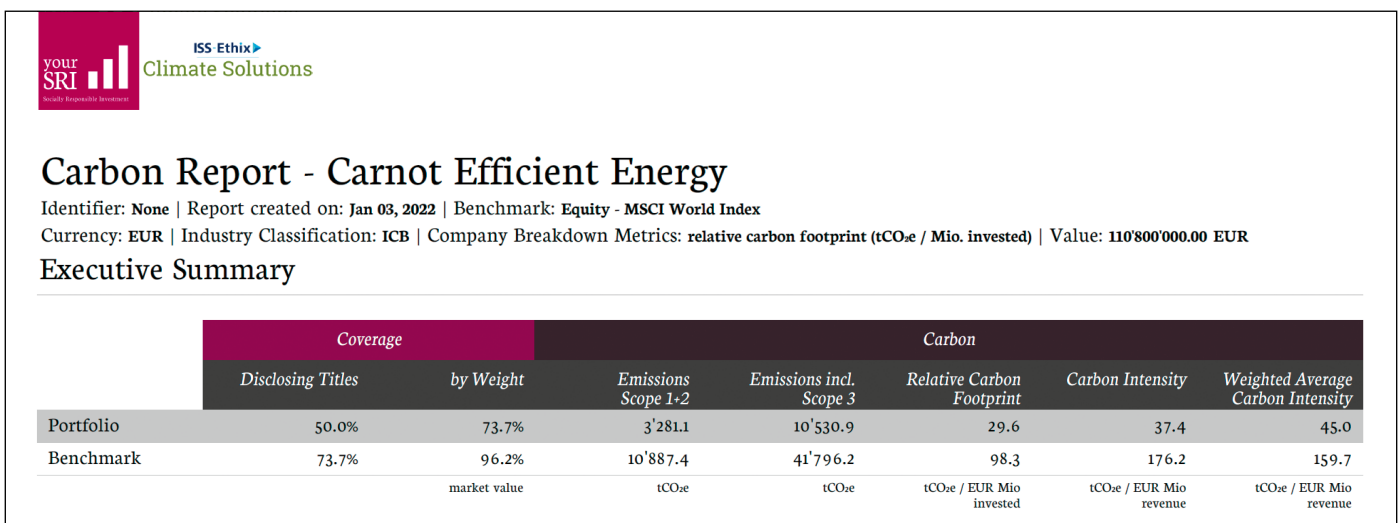
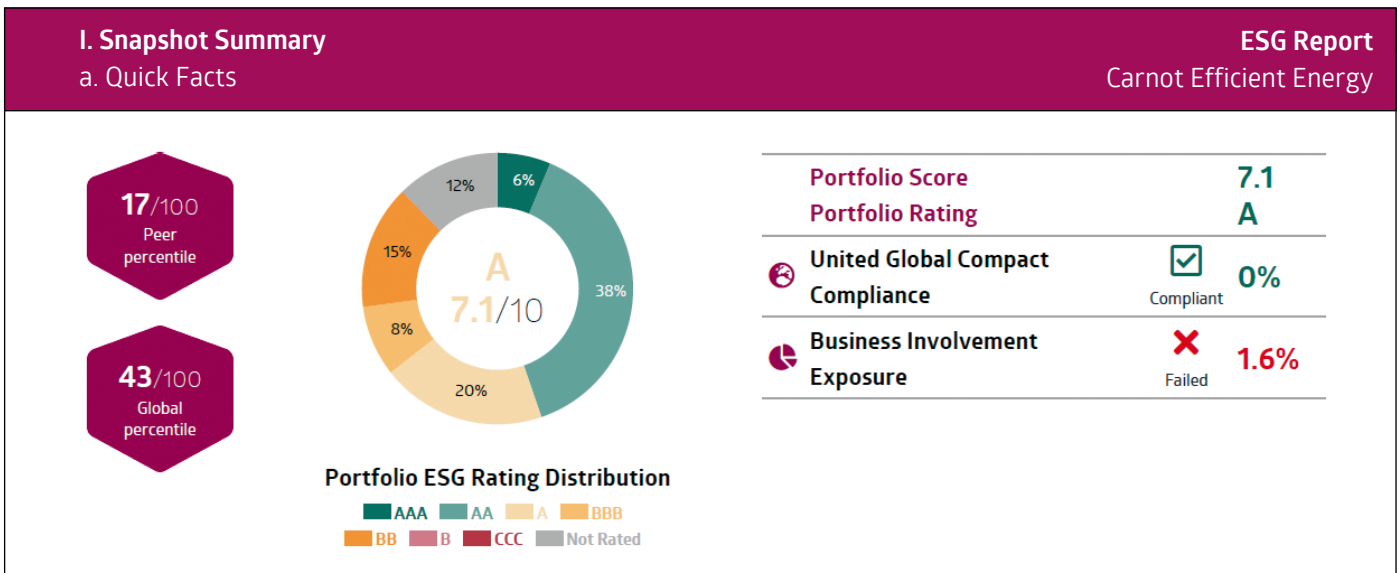
## 2. External Sustainability Assessment

We have the Carnot Efficient Energy 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 (Portfolio 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. The result of the external report corresponds to our internal assessment.

## 3. CO<sub>2</sub> Foot Print

The shown Carbon Report was created by yourSRI and 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<sub>2</sub> 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).

This analysis does not consider the CO<sub>2</sub> reduction effects that the products, services and projects of the companies generate. These effects are, in our opinion, particularly important under the impact aspect, which is why we make our own assessment (see 5. Impact Validation).



Quelle: yourSRI.com

## 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 releases these rules.



## 5. Publications



Carnot Capital AG (December 2019), **Investments into Energy and Resource Efficiency with a Measurable Impact**, [https://www.carnotcapital.com/\\_pdf/dokumente/Carnot\\_Capital\\_Research\\_Paper\\_Impact\\_Investing\\_in\\_Public\\_Equities\\_EN.pdf](https://www.carnotcapital.com/_pdf/dokumente/Carnot_Capital_Research_Paper_Impact_Investing_in_Public_Equities_EN.pdf)



Carnot Capital AG (August 2019), **Carnot Impact Investing: Overview & Case Study Belimo**, [https://www.carnotcapital.com/\\_pdf/dokumente/Carnot\\_Impact\\_Case%20Study\\_Belimo\\_EN.pdf](https://www.carnotcapital.com/_pdf/dokumente/Carnot_Impact_Case%20Study_Belimo_EN.pdf)



Carnot Capital AG (September 2019), **Investoren aufgepasst!** Report in “Private – Das Geld-Magazin”, September 2019, [https://www.private.ch/media/docs/private/2019/04/de/022\\_Investoren-aufgepasst.pdf](https://www.private.ch/media/docs/private/2019/04/de/022_Investoren-aufgepasst.pdf)



Carnot Capital AG (September 2020), **Carnot Impact Investing: Overview & Case Study Akasol**, [https://www.carnotcapital.com/\\_pdf/dokumente/Carnot\\_Impact\\_Case\\_Study\\_Akasol\\_EN.pdf](https://www.carnotcapital.com/_pdf/dokumente/Carnot_Impact_Case_Study_Akasol_EN.pdf)

### **Contact and Feedback:**

Andreas Walther  
andreas.walther@carnotcapital.com  
+41 43 299 62 30

# WHO IS CARNOT CAPITAL?

Carnot Capital is an investment management company, specialized in energy and resource efficiency. The company was founded in Zurich in 2007 and received the permission as an asset manager for collective investments by the Swiss Financial Markets Supervisory Authority FINMA in 2013. Carnot Capital manages the equity impact funds Carnot Efficient Energy and Carnot Efficient Resources investing in listed companies with products and technologies that lower the consumption of energy and natural resources. Due to rising scarcity and increasing environmental problems these companies benefit from structural growth. Investments comply with sustainability standards (ESG). Stocks are selected based on a value approach which sets the quality of the company into the centre, particularly profitability and the strength of the balance sheet.

Carnot Impact Investing is a blended approach which differentiates itself through the combination of financial as well as social-ecological performance criteria and the documentation of the positive effects of the companies (impact from ESG & SDG mapping).

The name Carnot Capital refers to the French physicist Nicolas Léonard Sadi Carnot (1796–1834) who was able to define the maximum physical efficiency of a steam engine. Improving energy efficiency is nothing more than increasing the level of efficiency when converting primary energy to useful energy. To a certain extent, we relate maximizing the degree of efficiency to our investment activities, applying strict risk-return criteria. And that's why our creed is: Investments featuring a maximum degree of efficiency.

[www.carnotcapital.com](http://www.carnotcapital.com)



@CarnotCapital



Carnot Capital

