SUMA CAPITAL's SCEEF II 2020 Impact Report

As of December 31st, 2020 portfolio

Suma Capital

Report
April 2021

pwc

Content

1. Objective of this report

We are aware that SUMA CAPITAL has identified responsible investment as a relevant business opportunity; indeed, challenges such as climate change or the depletion of resources will necessarily generate new investment needs in the following years. Nevertheless, we also understand that, as a responsible impact investor, SUMA CAPITAL recognizes a social role for investment, supporting economic activity that upgrades rather than damages natural and social capital.

As a result of the latter, SUMA CAPITAL, in its 'SC Infra' investments, seeks a **double objective in its investments: financial and social-environmental performance, which is quantified and reported to its investors**. Therefore, the aim of this report is to complement the financial information of the investments and to cover this second objective.

In order to do so, the 'SC Infra' Projects, which are grouped in Energy Transition and Circular Economy initiatives, have been analysed and modelled, in order to obtain its social-environmental impact by calculating its **Key Impact Indicators**.

'SC Infra' – Types of projects

Energy Transition

SUMA CAPITAL promotes projects that optimize the most efficient use of energy, by improving energy efficiency, generating renewable energy, or rationalizing mobility and transport.

Circular Economy

SUMA CAPITAL promotes projects that increase the reuse, recycling or recovery of waste by generating new resources or energy.

Objective of this report – Impact valuation

Social & environmental (S&E) Impact

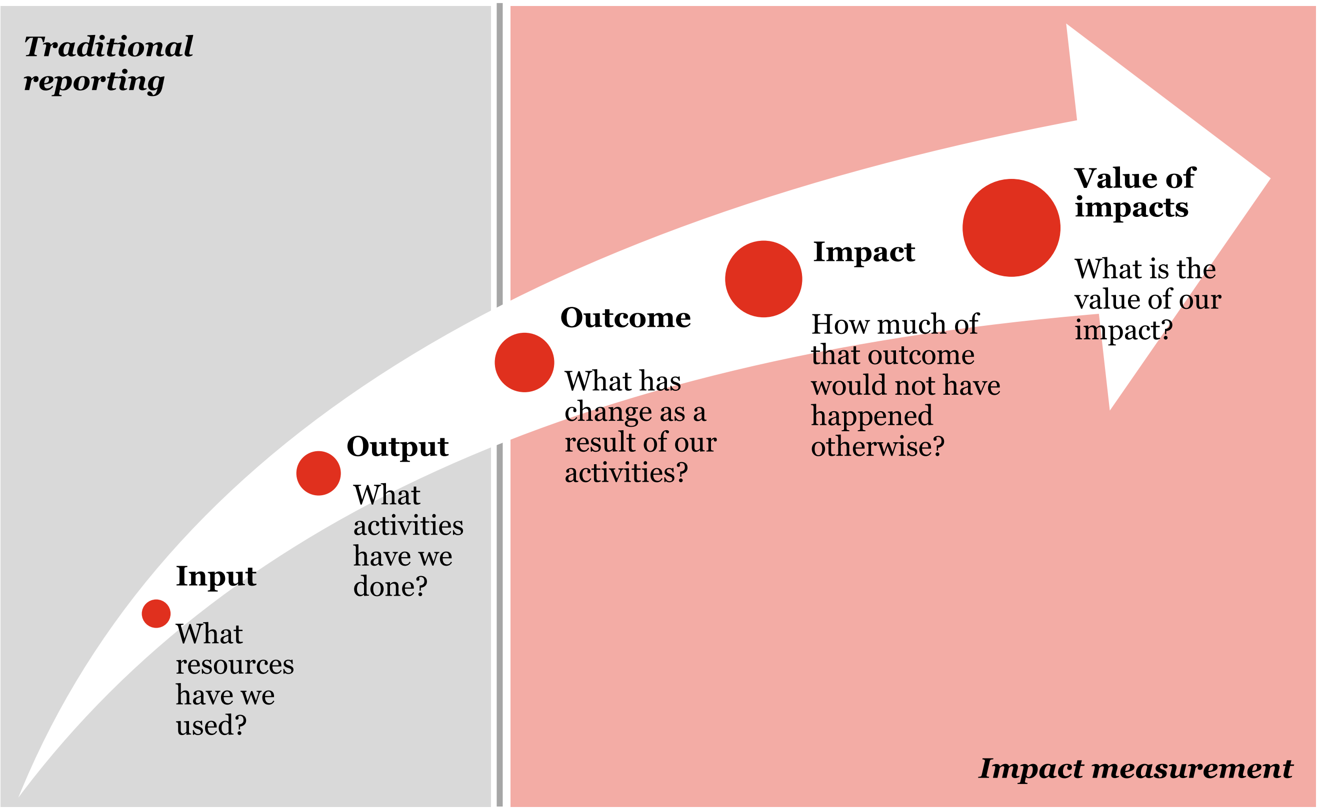
By promoting Energy Transition and Circular Economy projects, SUMA CAPITAL improves ***key indicators*** *for our society.*

In this respect, SUMA CAPITAL asked PwC to help him build a robust, consistent methodology specifically designed to measure the social and environmental impact associated to SUMA CAPITAL's funded activities in SCEEF II, throughout the life span of the projects. The results obtained will also enable to broadly communicate the social and environmental benefit associated to these activities.

2. Measuring what matters
Impact valuation: going a step further

We have used Impact Valuation to take our investments beyond traditional reporting frameworks to help us and our investors to understand the **full extent of our impact and the value that is created for society**. Whilst conventional measurement techniques mainly focus on the inputs and outputs of a given activity, Impact Measurement & Valuation (IM&V) techniques can reveal the relationship between a business's inputs and activities, their outputs and their longer term outcomes and associated impacts for society.

Impact measurement is gaining momentum in the Impact Investment industry. The impact investors are able to clearly measure their social and environmental impact (S&E impact) generated alongside a financial return.



2. Measuring what matters
Impact valuation: a brief insight

We have used IM&V to take traditional environmental and social metrics (eg. kgCO2e, m³ of water, job creation, etc.) and convert them into monetary values, allowing comparison and evaluation across impact areas. PwC's approach to IM&V seeks to **value the impacts on people that result from corporate-driven changes in the natural and socio-economic environment**, for example through the use of natural resources within a corporate value chain. The values generated represent an estimate of the **change in wellbeing** (or in economic terms 'welfare') experienced by people as a result of corporate activities. These values, also called as **'externalities'**, can be either positive or negative in order to reflect an associated benefit or an associated cost to society.

These 'externalities' can be categorised in a series of **Key Impact Indicators (KII)**, thus, obtaining a complete understanding of the social and environmental performance of the projects. Also, through these KII, these externalities can be monetized, being able to reflect the performance of the projects through their **SEROI (Social and Environmental Return on Investment)**.

Expression of impacts from investments in monetary terms

Impact valuation takes these…		***…and by means of Key Impact Indicators…***		***converts them into…***
Fuel consumption Electricity production Electricity reduction thanks to energy efficiency measures …	→	Particulate Matter emissions avoided (PM10-eq) Total primary energy savings (MJ, or oil-eq) Greenhouse Gas Emissions reduction (ton CO2e) …	→	€ **SEROI (S&E* Return on Investment)**

Externalities avoided thanks to sustainability positive investments

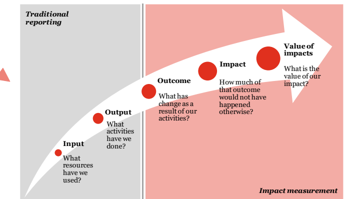
The monetization of these impacts makes it possible to translate the social and environmental costs avoided thanks to SUMA CAPITAL's positive investments into economic terms.

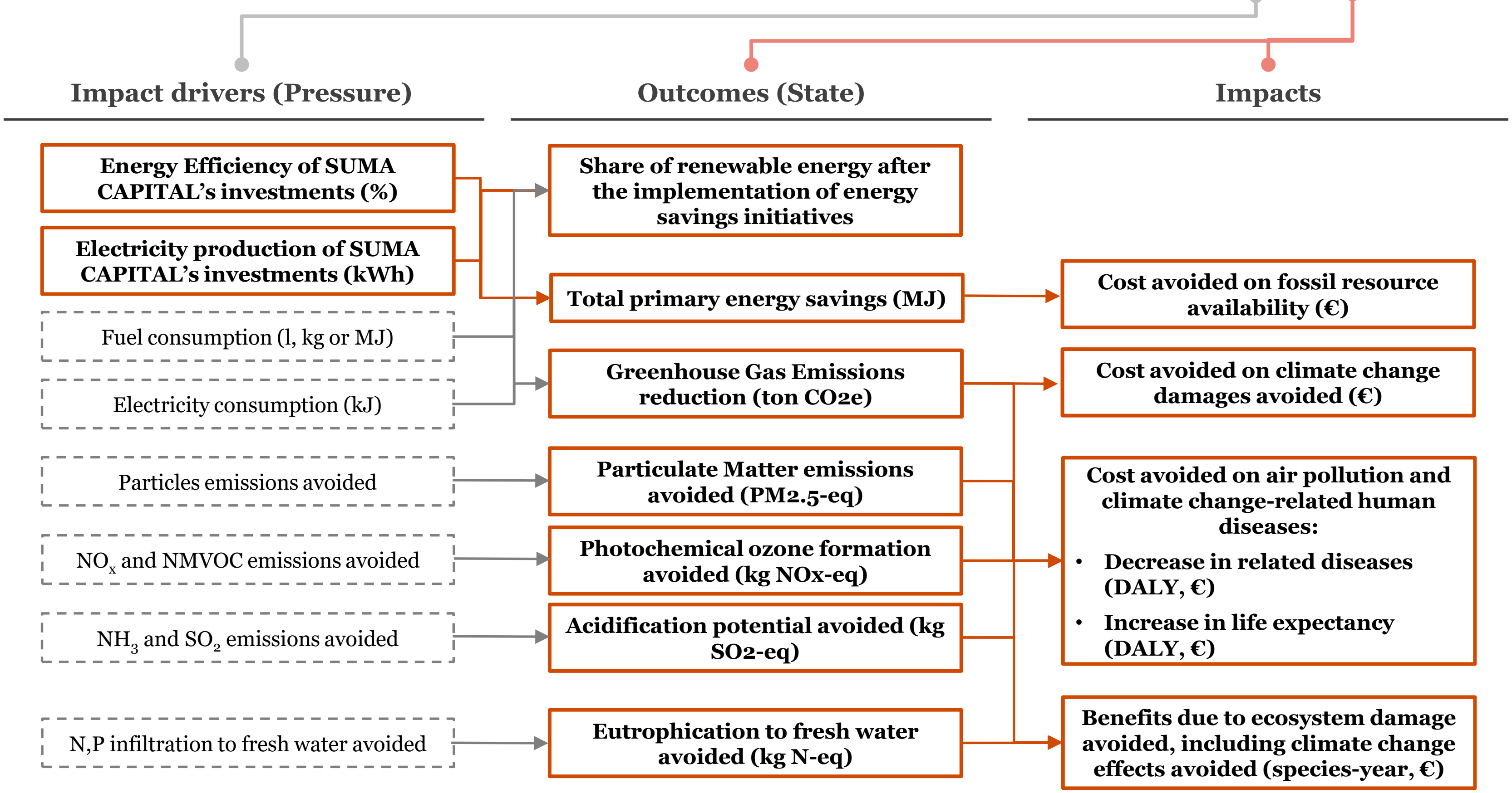
** S&E refers to Social and Environmental.*

2. Measuring what matters

Impact valuation: overview of Key Impact Indicators

The following chart summarizes the Impact drivers, intermediate indicators and **Key Impact Indicators** to be assessed for the SCEEF II Projects. The chart follows the previously proposed **impact valuation scheme**, upon which the IM&V methodology has been built.





3. SCEEF II’s Global Impact at a Glance

SCEEF II’s Impact Valuation: Portfolio

The Impact Valuation calculations have considered all SCEEF II Projects as of Dec 31 2020, and have integrated the financial inputs required for the project to function (CAPEX and OPEX). In this sense, CAPEX invested by the Fund has a multiplier effect by permitting additional expenditures (OPEX and additional CAPEX) throughout the life span of the projects.

Type of project	Project	Sector	Total amount (CAPEX)[1]	Total amount (OPEX)[2]	Total amount (CAPEX+OPEX)
Circular Economy	1. Aranda District Heating	Waste to Energy	15.0 M€	17.4 M€	**32.4 M€**
Energy Transition	2. Cooltra Inversión Motos	Mobility	5.0 M€	0.06 M€	**5.1 M€**
Energy Transition	3. EE Infrastructures	Energy Efficiency	7.7 M€	5.2 M€	**12.9 M€**
Circular Economy	4. Guadalajara District Heating	Waste to Energy	24.8 M€	39.7 M€	**64.5 M€**
Energy Transition	5. Hinojosa Solar Power	Solar Power	17.2 M€	5.7 M€	**22.9 M€**
Circular Economy	6. SC Valorizaciones Agropecuarias	Waste to Energy & Resource	7.4 M€	99.0 M€	**106.3 M€**
Circular Economy	7. SC Zero Waste Biopower	Waste to Energy & Resource	101.0 M€	743.1 M€	**844.1 M€**
Energy Transition	8. QOICHI 1	Solar Power	18.0 M€	4.1 M€	**22.1 M€**
Circular Economy	9. UNUE Gas Renovable	Waste to Energy	2.2M€	7.8 M€	**9.9 M€**
Circular Economy	10. Anoltri Invest	Waste to Energy & Resource	34.3 M€	123.6 M€	**157.9 M€**
			Total amount (CAPEX+OPEX)		**1,278.3 M€**

[1] The figures included in this table, and considered in the IM&V calculations, do not include committed quantities that are add-ons.

[2] OPEX estimated for the life span of the projects and discounted at 6%.

Also, SCEEF II’s projects contribute significantly to the following **Sustainable Development Goals (SDGs)**:

- **SDG 2: Zero hunger**
- **SDG 6: Clean water and sanitation**
- **SDG 8: Decent work and economic growth**
- **SDG 11: Sustainable cities and communities**
- **SDG 13: Climate Action**
- **SDG 3: Good health and well-being**
- **SDG 7: Affordable and clean energy**
- **SDG 9: Industry, innovation and infrastructure**
- **SDG 12: Responsible consumption and production**
- **SDG 15: Life on land**

3. SCEEF II's Global Impact at a Glance

SCEEF II's Impact Valuation and SDG targets achievement

As it has been referred, SCEEF II projects significantly contribute to SDG 2, 3, 6, 7, 8, 9, 11, 12, 13 & 15. In the following table, the correlation between each project and the respective SDG targets are shown (the description of each target appears in the Appendix).

Type of project	Project	Sector	2 Zero Hunger	3 Good Health and Well-Being	6 Clean Water and Sanitation	7 Affordable and Clean Energy	8 Decent Work and Economic Growth	9 Industry, Innovation and Infrastructure	11 Sustainable Cities and Communities	12 Responsible Consumption and Production	13 Climate Action	15 Life on Land
Circular Economy	1. Aranda District Heating	Waste to Energy	-	3.9.	-	7.1,3	8.2,3,4	9.1,4	11.3,6	12.2,5	13.2	15.1,2,5
Energy Transition	2. Cooltra Inversión Motos	Mobility	-	3.9.	-	7.2.	8.2,3,4	9.1,4	11.2,3,6	12.2	13.2	15.1,5
Energy Transition	3. Efficiency & Environment Infrastructures II	Energy Efficiency	-	3.9.	-	7.1,3	8.2,3,4	9.1,2,4	11.6	12.2	13.2	15.1,5
Circular Economy	4. Guadalajara District Heating	Waste to Energy	-	3.9.	-	7.1,3	8.2,3,4	9.1,4	11.3,6	12.2,5	13.2	15.1,2,5
Energy Transition	5. Hinojosa Solar Power	Solar Power	-	3.9.	-	7.2	8.2,3,4	9.1	-	12.2	13.2	15.1,5
Circular Economy	6. SC Valorizaciones Agropecuarias	Waste to Energy & Resource	2.4.	3.9.	6.3,6	7.1	8.2,3,4	9.1,4	-	12.4,5,6	13.2	15.1,5
Circular Economy	7. SC Zero Waste Biopower	Waste to Energy & Resource	2.1,4	3.9.	6.3,6	7.1	8.2,3,4	9.1,4	-	12.4,5,6	13.2	15.1,5
Energy Transition	8. QOICHI 1	Solar Power	-	3.9.	-	7.2	8.2,3,4	9.1	-	12.2	13.2	15.1,5
Circular Economy	9. UNUE Gas Renovable	Waste to Energy	-	3.9.	-	7.1,2	8.2,3,4	9.1,4	-	12.2	13.2	15.1,5
Circular Economy	10. Anoltri Invest	Waste to Energy & Resource	2.4.	3.9.	6.3,6	7.1,2	8.2,3,4	9.1,4	-	12.4,5,6	13.2	15.1,5

** Note: benefits to SDG may derive directly from the project, or as a consequence of the reduction of non-renewable electricity generation in the grid. Benefits to SDG have been accounted for in the impact model methodology.*

3. SCEEF II's Global Impact at a Glance

SCEEF II Impact Valuation: Headline Results

Based on the Key Impact Indicators for SCEEF II, some additional information related to the **social and environmental impact (S&E impact)** to be achieved during the **life span of the projects** have been obtained, as follows:

~7.3 million tons of CO_{2e} will be avoided...

...throughout the life span of SCEEF II projects. GEI Emissions avoided are comparable to 0.43 million tons of CO_{2e} per year in the next 17 years[1]...

~44,000 ha.

...this is approximately equivalent to the CO_2 absorbed per year by 44,000 hectares of Spanish pine forest.

[1] 19 years is the weighted average life span of SCEEF II Projects, according to estimated S&E Benefit.

~54 million GJ of primary energy from fuels will be avoided...

...throughout the life span of SCEEF II projects. The primary energy avoided is comparable to 3.2 million GJ per year in the next 17 years[1]...

~26,000

... this is equivalent to the household consumption of gas and petroleum products of around 26,000 EU citizens.

[1] 19 years is the weighted average life span of SCEEF II Projects, according to estimated S&E Benefit.

~ 420 DALYs[2] (years of 'healthy' life gained)

SCEEF II projects will contribute with +420 DALYs, mainly due to the reduction of climate change-related damages and diseases in the population.

[2] DALYs stands for: Disability-Adjusted Life Years, and it is a measurement of one lost year of 'healthy' life.

~ 1.7 species-year[3]

...will be protected thanks to SCEEF II Projects, mainly thanks to **climate change effects, terrestrial acidification and freshwater eutrophication avoided.**

[3] The indicator: 'species-year' is established by ReCiPe methodology, and accounts for the Ecological Damage caused or avoided in terrestrial, freshwater and marine water ecosystems.

3. SCEEF II's Global Impact at a Glance
SCEEF II Impact Valuation: Headline Results (continued)

Based on the Key Impact Indicators for SCEEF II, some additional information related to the **social and environmental impact** to be achieved during the **life span of the projects** have been obtained, as follows:

Increase of +20% of energy efficiency performance…

…thanks to around 1,030 million kWh of energy consumption reduction, throughout the life span of Energy Efficiency and District Heating projects.

SCEEF II's projects, and in a particular manner waste to energy & resource projects, help diminish terrestrial acidification…

~ 8,000 ha.

…of land will be preserved from acidification[1] throughout the life span of these projects. This is approximate equivalent to 10,000 football pitches.

[1] *Assuming a critical load for acidification equal to 300 meq/year (characteristic of Mediterranean areas) and a fate factor equal to 0.5.*

SCEEF II's waste to energy & resource projects help diminish nutrients (Nitrogen and Phosphorus) release of freshwater ecosystems…

~ 10 hm³

…of fresh water will not be eutrophized throughout the life span of these projects. This is approximately equal to 4,000 Olympic swimming-pools.

~ 4,500 net jobs

SCEEF II's projects will help create on the order of 4,500 net jobs.

3. SCEEF II's Global Impact at a Glance

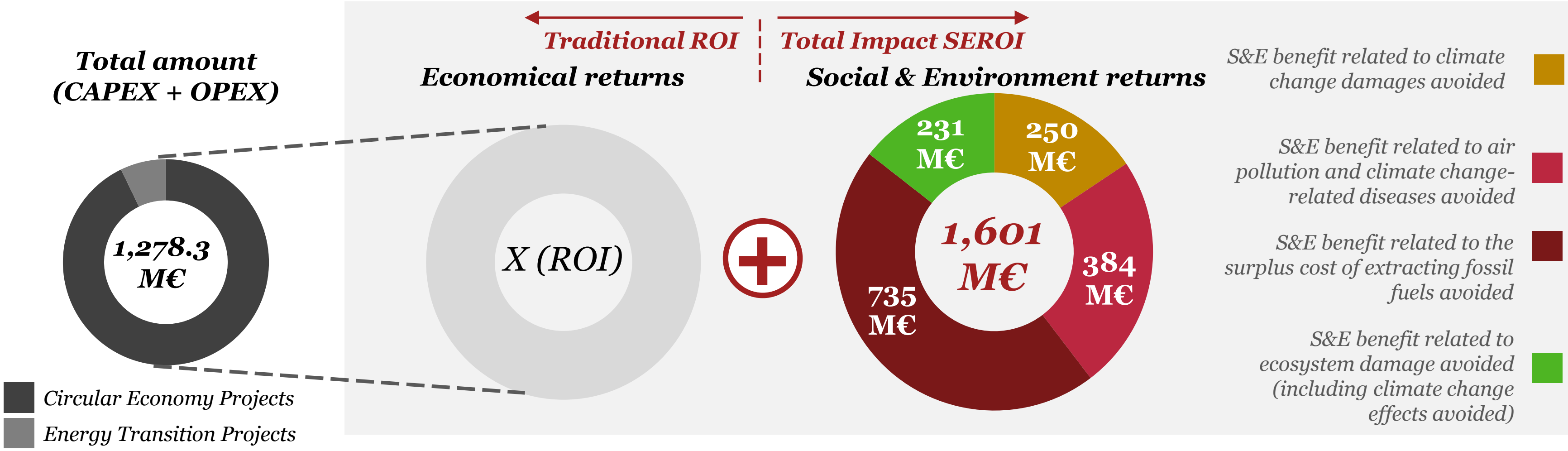
SCEEF II's Impact Valuation: Global Results

After applying the Impact Valuation methodology, it has been demonstrated that SCEEF II generates value beyond what is captured by traditional financial measurement. Alongside traditional expected benefits, SCEEF II's projects turn out to be a trigger for additional positive co-benefits for the society which are represented in these monetized Key Impact Indicators, which are related to the referred SDG:

- **S&E benefit related to climate change damages avoided**
- **S&E benefit related to air pollution and climate change-related diseases avoided**
- **S&E benefit related to the surplus cost of extracting fossil fuels avoided**
- **S&E benefit related to ecosystem damage avoided (including climate change effects avoided)**

SCEEF II promote, in a **multiplier effect**, additional financial inputs (**up to 14x in OPEX and extra CAPEX during the lifespan of the projects**) which, in turn, result in relevant benefits to society.

In this regard, **every 1€ dedicated to SCEEF II projects** (CAPEX and OPEX) **will generate an estimated 1.25 € for society**, over the whole life span of these projects.



3. SCEEF II's Global Impact at a Glance

SCEEF II's Impact Valuation: Global Results (continued)

The Impact Valuation methodology has been applied for each type of project that comprises SCEEF II, obtaining these monetized Key Impact Indicators. The following chart summarizes this data.

Type of project	Project	Sector	S&E benefit related to climate change damages avoided	S&E benefit related to air pollution and climate change-related diseases avoided	S&E benefit related to the surplus cost of extracting fossil fuels avoided	S&E benefit related to ecosystem damage avoided (including climate change effects avoided)	*S&E Benefit of the projects*	*SEROI Benefit of the Projects*
Circular Economy	1. Aranda District Heating	Waste to Energy	15.2 M€	1.1 M€	51.2 M€	9.5 M€	**77.0 M€**	**2.37x**
Energy Transition	2. Cooltra Inversión Motos	Mobility	0.04 M€	0.13 M€	0.14 M€	0.04 M€	**0.35 M€**	**0.07x**
Energy Transition	3. Efficiency & Environment Infrastructures II	Energy Efficiency	1.5 M€	4.8 M€	2.6 M€	1.8 M€	**10.6 M€**	**0.82x**
Circular Economy	4. Guadalajara District Heating	Waste to Energy	34.8 M€	2.3 M€	117.0 M€	21.6 M€	**175.8 M€**	**2.72x**
Energy Transition	5. Hinojosa Solar Power	Solar Power	4.4 M€	20.2 M€	11.5 M€	6.3 M€	**42.4 M€**	**1.85x**
Circular Economy	6. SC Valorizaciones Agropecuarias	Waste to Resource	16.2 M€	44.7 M€	27.6 M€	17.7 M€	**106.3 M€**	**1.00x**
Circular Economy	7. SC Zero Waste Biopower	Waste to Energy & Resource	126.7 M€	282.2 M€	422.2 M€	134.0 M€	**965.1 M€**	**1.14x**
Energy Transition	8. QOICHI 1	Solar Power	9.0 M€	26.2 M€	15.7 M€	7.9 M€	**58.8 M€**	**2.66x**
Circular Economy	9. UNUE Gas Renovable	Waste to Energy	3.0 M€	1.8 M€	2.5 M€	2.4 M€	**9.7 M€**	**0.97x**
Circular Economy	10. Anoltri Invest	Waste to Energy & Resource	39.6 M€	0.2 M€	84.9 M€	29.9 M€	**154.6 M€**	**0.98x**
	TOTAL IMPACT RESULTS (S&E BENEFITS & RETURNS)		**250.4 M€**	**383.7 M€**	**735.5 M€**	**231.0 M€**	**1,600.6 M€**	**1.25x**

3. SCEEF II's Global Impact at a Glance
SCEEF II's Impact Valuation: Global Results (continued)

Additionally, the Impact Valuation methodology has enabled to obtain other relevant Key Impact Indicators, in particular terms for each type of project that comprises SCEEF II. These indicators have been calculated in terms of the life span of each project. The following chart summarizes this data.

Type of project	Project	Sector	GHG emissions avoided	Primary energy from fuels avoided	DALYs increase in society*	Species-year increase in biodiversity*
Circular Economy	1. Aranda District Heating	Waste to Energy	494,500 ton $CO_{2,e}$	1,257,800 GJ	19.9 DALY	0.05 species-year
Energy Transition	2. Cooltra Inversión Motos	Mobility	930 ton $CO_{2,e}$	8,900 GJ	0.2 DALY	0.001 species-year
Energy Transition	3. Efficiency & Environment Infrastructures II	Energy Efficiency	37,700 ton $CO_{2,e}$	1,094,600 GJ	7.4 DALY	0.03 species-year
Circular Economy	4. Guadalajara District Heating	Waste to Energy	1,130,600 ton $CO_{2,e}$	2,814,900 GJ	45.7 DALY	0.11 species-year
Energy Transition	5. Hinojosa Solar Power	Solar Power	141,100 ton $CO_{2,e}$	2,344,000 GJ	10.0 DALY	0.03 species-year
Circular Economy	6. SC Valorizaciones Agropecuarias	Waste to Resource	466,000 ton $CO_{2,e}$	3,323,800 GJ	27.8 DALY	0.12 species-year
Circular Economy	7. SC Zero Waste Biopower	Waste to Energy & Resource	3,535,900 ton $CO_{2,e}$	26,081,400 GJ	245.0 DALY	1.11 species-year
Energy Transition	8. QOICHI 1	Solar Power	175,600 ton $CO_{2,e}$	3,073,000 GJ	12.8 DALY	0.03 species-year
Circular Economy	9. UNUE Gas Renovable	Waste to Energy	90,800 ton $CO_{2,e}$	1,502,300 GJ	4.5 DALY	0.01 species-year
Circular Economy	10. Anoltri Invest	Waste to Energy & Resource	1,199,200 ton $CO_{2,e}$	12,504,700 GJ	48.7 DALY	0.18 species-year
	KEY IMPACT INDICATORS (KII) - RESULTS		7,272,400 ton $CO_{2,e}$	54,005,300 GJ	421.9 DALY	1.68 species-year

** Note: the indicators: DALY and species-year are expressed on a yearly basis, as these indicators are associated with a year time span.*

4. SCEEF II's Portfolio Detailed Impact

Circular Economy: 1. *Aranda District Heating*

Challenge

Bioenergy for heat is gaining force in the EU, due to, among other reasons, its **positive contribution in reducing fossil fuel dependence**. It is important to note that the latter factor is crucial in Spain, where almost all its fossil fuels are imported.

In the EU, biomass use for heat is already mainstream, and represents around **86,000 ktoe** (44% of the overall renewable energies production), although Spain is still lagging in this respect.

District Heating: Response and Impact

The main impacts of the District Heating projects come from its contribution in **diminishing fossil fuel dependence** and **CO2 emissions**.

In particular, since the **production** of energy in the 'District' is **centralized**, the resulting 'economies of scale' bring about a significant increase in energy efficiency (**10,400 MWh per year**), which consequently results in an extra **decrease on primary energy demand**.

With regard to atmospheric pollution, the impact is lower than the impact associated with conventional boilers, thanks to the gas cleaning systems installed in the project (cyclon and sleeve filter), which reduce particulate matter (PM2.5) emissions.

All the biomass supply (**13,700 tonnes per year**) comes from Spanish **PEFC-certified** forests. The sustainable management of these natural resources helps **diminish the occurrence of forest fires** and **promote local employment**, along with other positive effects.

KII Results (over the life span of the project)

0.49 million ton CO2e emissions avoided

1.26 million GJ of primary energy avoided

19.9 DALYs that benefit society

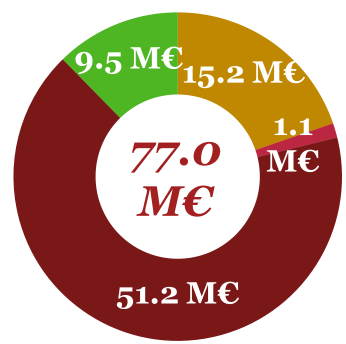
0.05 species-year that benefit biodiversity

Additional facts...

...Increase in Thermal Energy Efficiency.

...Consumption of biomass from sustainable certified forests (PEFC).

Total Impact Results



...every 1 € invested in the project results in 2.37 € of S&E benefits

S&E benefit related to climate change damages avoided

S&E benefit related to air pollution and climate change-related diseases avoided

S&E benefit related to the surplus cost of extracting fossil fuels avoided

S&E benefit related to ecosystem damage avoided (including climate change effects avoided)

Also, this project contributes significantly to the following **Sustainable Development Targets**:

4. SCEEF II's Portfolio Detailed Impact

Energy Transition: 2. *Cooltra Inversión Motos*

Challenge

The EU is strongly committed to promoting an ecologic transition in the mobility sector. Specifically, the European Commission has launched a **Sustainable Urban Mobility Planning**, which, among other goals, intends to help balance the need for economic viability, social equity, health and environmental quality.

Sustainable Mobility: Response and Impact

Vehicles utilized in this sustainable mobility project function exclusively with electricity. The combustion avoided thanks to its utilization will result in S&E benefits: **reduction of fossil fuel dependence** and **improvement of the air quality** in cities, by diminishing NOx, SO2 and particulate matter (PM2.5) concentrations.

Since the electricity consumed to charge the vehicles is 100% renewable, there is a significant **reduction of CO2 emissions**.

In addition, this project have other relevant co-benefits that, although beyond the Impact Valuation Model proposed, must be taken into consideration: **improved vehicle utilization** (which consequently leads to an increment in overall S&E benefits) and **noise levels reduction**. When compared with automobiles, other co-benefits arise, such as its **lower space required**.

KII Results (over the life span of the project)

930 ton CO2e emissions avoided

8,900 GJ of primary energy avoided

0.19 DALYs that benefit society

4.8 ton $NOx_{,eq}$ emissions avoided (along with SO2 and PM2.5 emission reduction)

Additional facts...

...100% renewable energy consumed when charging the vehicles.

...the project promotes integration of renewables.

...the project will reduce noise levels in the cities, and increase space availability.

...the project guarantees better vehicle utilization ratios.

Total Impact Results

...every 1 € invested in the project results in 0.07 € of S&E benefits

S&E benefit related to climate change damages avoided

S&E benefit related to air pollution and climate change-related diseases avoided

S&E benefit related to the surplus cost of extracting fossil fuels avoided

S&E benefit related to ecosystem damage avoided (including climate change effects avoided)

Also, this project contributes significantly to the following **Sustainable Development Targets**:

4. SCEEF II's Portfolio Detailed Impact

Energy Transition: 3. *Efficiency & Environment Infrastructures II*

Challenge

Global demand for energy is forecast to increase by as much as 50% by 2030. The need for sustainable solutions may well be at odds with the need for resources to fuel growth. A new rethinking of energy efficiency treats it as an energy source in its own right representing **the value of energy saved**.

Specifically for the **EU**, the European Commission, through the **2030** Framework for climate and energy, has set an objective of **30% energy savings** compared with the business-as-usual scenario.

Energy Efficiency: Response and Impact

The S&E benefits obtained derive from an increment in electricity and natural gas efficiency in several buildings, which is accomplished by implementing **energy system upgrades**, as well as a **self-consumption electric system** (with photovoltaic energy).

Specifically with regard to the actualization of electric systems, the measurements implemented have allowed to **increase the energy efficiency** of the lighting (by installing LED and presence detectors), and air conditioning and compressors, in domestic, commercial and industrial buildings.

In overall terms, the implementation of these energy efficiency measures results on **savings of 21,000 MWh per year**. Also, the most important benefits monetized in the impact valuation model are, in order of importance, **air pollution and climate change-related diseases avoided and fossil resource availability**.

KII Results (over the life span of the project)

37,700 ton CO2e emissions avoided

1.09 million GJ of primary energy avoided

7.3 DALYs that benefit society

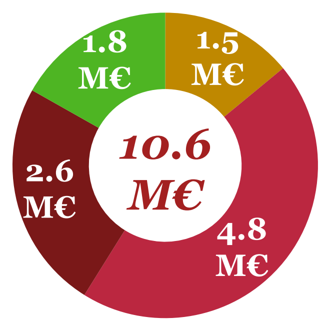
0.03 species-year that benefit biodiversity

Additional facts…

…Reduction of electricity and natural gas demand, thanks to the implementation of different energy efficiency measures.

…reduction of lighting pollution.

Total Impact Results



…every 1 € invested in the projects results in 0.82 € of S&E benefits

S&E benefit related to climate change damages avoided

S&E benefit related to air pollution and climate change-related diseases avoided

S&E benefit related to the surplus cost of extracting fossil fuels avoided

S&E benefit related to ecosystem damage avoided (including climate change effects avoided)

Also, this project contributes significantly to the following **Sustainable Development Targets**:

3.9 | 7.1 | 7.3 | 8.2 | 8.3 | 8.4 | 9.1

9.2 | 9.4 | 11.6 | 12.2 | 13.2 | 15.1 | 15.5

4. SCEEF II's Portfolio Detailed Impact

Circular Economy: 4. *Guadalajara District Heating*

Challenge

Bioenergy for heat is gaining force in the EU, due to, among other reasons, its **positive contribution in reducing fossil fuel dependence**. It is important to note that the latter factor is crucial in Spain, where almost all its fossil fuels are imported.

In the EU, biomass use for heat is already mainstream, and represents around **86,000 ktoe** (44% of the overall renewable energies production), although Spain is still lagging in this respect.

District Heating: Response and Impact

The main impacts of the District Heating projects come from its contribution in **diminishing fossil fuel dependence** and **CO2 emissions**.

In particular, since the **production** of energy in the 'District' is **centralized**, the resulting 'economies of scale' bring about a significant increase in energy efficiency (**23,200 MWh per year**), which consequently results in an extra **decrease on primary energy demand**.

With regard to atmospheric pollution, the impact is lower than the impact associated with conventional boilers, thanks to the gas cleaning systems installed in the project(cyclon and electrostatic precipitator), which reduce particulate matter (PM2.5) emissions.

All the biomass supply (**31,500 tonnes per year** approx.) comes from Spanish **PEFC-certified** forests. The sustainable management of these natural resources helps **diminish the occurrence of forest fires** and **promote local employment**, along with other positive effects.

KII Results (over the life span of the project)

1.13 million ton CO2e emissions avoided

2.81 million GJ of primary energy avoided

45.7 DALYs that benefit society

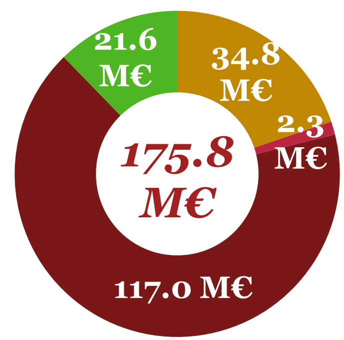
0.11 species-year that benefit biodiversity

Additional facts...

...Increase in Thermal Energy Efficiency.

...Consumption of biomass from sustainable certified forests (PEFC).

Total Impact Results



...every 1 € invested in the project results in 2.72 € of S&E benefits

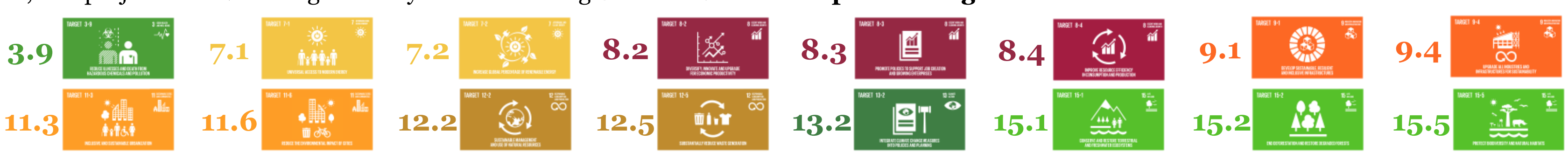
S&E benefit related to climate change damages avoided

S&E benefit related to air pollution and climate change-related diseases avoided

S&E benefit related to the surplus cost of extracting fossil fuels avoided

S&E benefit related to ecosystem damage avoided (including climate change effects avoided)

Also, this project contributes significantly to the following **Sustainable Development Targets**:



4. SCEEF II's Portfolio Detailed Impact

Energy Transition: 5. *Hinojosa Solar Power*

Challenge

In the EU, the share of electricity generation from renewable sources is around 34%. Although wind and hydropower account for approximately two-thirds of the total renewable electricity generation, solar energy has significantly expanded its share in the last decade.

In this regard, in 2020 **photovoltaic capacity in Spain has increased 30%** with respect to 2019, reaching an overall capacity of **11,500 MW**. Photovoltaic electricity generation in 2020 represented **6.1% of overall electricity generation** (from renewable and non-renewable sources) in this country.

Photovoltaic power: Response and Impact

This photovoltaic plant, located in Hinojosa, Badajoz, has an installed capacity of 22 MW. The energy generated in this plant is sold through the electricity grid. **Electricity generation per year** has been estimated equal to **40,800 MWh**.

The most important benefits, according to the impact valuation model, are **air pollution and climate change-related diseases avoided**, in first place, **and fossil resource availability**, in second place. Also, with the regard to this latter type of impact, the project also helps **reduce Spain's dependency on the import of fossil fuels**.

KII Results (over the life span of the project)

0.14 million ton CO2e emissions avoided

2.34 million GJ of primary energy avoided

10.0 DALYs that benefit society

0.027 species-year that benefit biodiversity

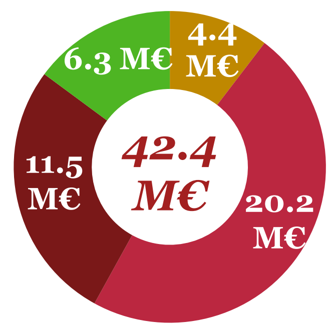
Additional facts...

... Reduction of Spain's dependency on fossil fuels.

... contribution to Spain's energy transition.

Total Impact Results

...every 1 € invested in the project results in 1.85 € of S&E benefits



S&E benefit related to climate change damages avoided

S&E benefit related to air pollution and climate change-related diseases avoided

S&E benefit related to the surplus cost of extracting fossil fuels avoided

S&E benefit related to ecosystem damage avoided (including climate change effects avoided)

Also, this project contributes significantly to the following **Sustainable Development Targets**:

3.9, 9.1, 7.2, 12.2, 8.2, 13.2, 8.3, 15.1, 8.4, 15.5

Suma Capital

4. SCEEF II's Portfolio Detailed Impact

Circular Economy: 6. *SC Valorizaciones Agropecuarias*

Challenge

Turning waste into a resource is one key to a circular economy. In this direction, the EU defines a so-called **'waste hierarchy'**, upon which non-recyclable waste should be materially or energetically recovered whenever possible, thus, limiting the use of landfilling.

Specifically, with regard to pig slurry treatment, Spain is one of the main pig producers in Europe. Annually, circa 50 million tons of pig slurry are generated in this country, and most of this waste is not treated adequately.

Waste management: Response and Impact

The project is a **pig slurry treatment plant**, which integrates a **cogeneration heat and power** (CHP) system. The **slurry treated** per year is equal to **64,400 tonnes**, approximately.

The plant is divided in two units. The first unit consists of anaerobic digestors where pig slurry is treated and **biogas and fertilizer** is generated as a result. The other unit is the CHP system, where natural gas and biogas generated by the biomethanization of pig slurry is utilized to **generate electricity and heat**. The **electricity** generated (**115,100 MWh per year**) is fed into the grid and the heat is used in the slurry treatment process in the anaerobic digestors. Also, **2,600 tonnes of fertilizer per year** are sold and used in local crops.

Other benefits that derive from the project are to **avoid uncontrolled management of pig slurry** (thus, decreasing acidification or eutrophication impacts and methane emissions) and **decrease water consumption**, thanks to the use of water from the pig slurry in the process.

KII Results (over the life span of the project)

0.47 million ton CO_2e emissions avoided

3.32 million GJ of primary energy avoided

27.8 DALYs that benefit society

0.12 species-year that benefit biodiversity

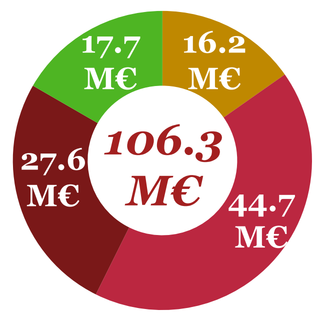
Additional facts...

...impact avoided of producing fertilizer from waste vs producing from virgin raw materials.

...water from pig slurry used in process, which involves a decrease of water consumption.

...direct contribution to the rural economy in Spain, dependant on the agricultural and livestock sector.

Total Impact Results



...every 1 € invested in the project results in 1.00 € of S&E benefits

S&E benefit related to climate change damages avoided

S&E benefit related to air pollution and climate change-related diseases avoided

S&E benefit related to the surplus cost of extracting fossil fuels avoided

S&E benefit related to ecosystem damage avoided (including climate change effects avoided)

Also, this project contributes significantly to the following **Sustainable Development Targets**:

4. SCEEF II's Portfolio Detailed Impact
Circular Economy: 7. *SC Zero Waste Biopower*

Challenge

Turning waste into a resource is one key to a circular economy. In this direction, the EU defines a so-called **'waste hierarchy'**, upon which non-recyclable waste should be materially or energetically recovered whenever possible.

Waste management: Response and Impact

The project comprises seven **cogeneration heat and power** (CHP) and **biomass assets**, which allow to adequately manage two types of waste: **olive mill waste (OMW)** and **pig slurry**, respectively. **Waste treated** is **220,100 tonnes per year**, approximately.

In order to do so, **waste** from these activities **is treated and valorised** (materially and energetically). In the case of OMW treatment, this is achieved by drying this waste by means of a cogeneration heat and power (CHP) plant, fed with natural gas and using the waste, along with other biomass, in another CHP process. In the case of pig slurry, this waste is introduced in an anaerobic digestor in order to produce biogas and compost; the biogas obtained is then mixed with natural gas in a CHP process. In overall terms, the projects **generate 1,103,000 MWh of net energy (gas and electricity) per year**, as well as **4,500 tonnes of fertilizer per year**, in approximate terms.

The project has a **relevant benefit in biodiversity**, since it helps **diminish** the **conventional management** of the waste (uncontrolled storage and disposal or utilization on soil), thus, reducing impacts such as acidification or eutrophication of fresh water. In the case of pig slurry treatment, methane emissions are also avoided thanks to its controlled valorisation.

KII Results (over the life span of the project)

3.54 million ton CO2e emissions avoided

26.1 million GJ of primary energy avoided

245 DALYs that benefit society

1.11 species-year that benefit biodiversity

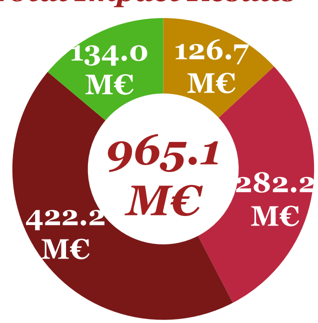
Additional facts...

...impact avoided of producing fertilizer and/or oil from waste vs producing from virgin raw materials.

...water from pig slurry and OMW used in process, which involves a decrease of water consumption.

...direct contribution to the rural economy in Spain, dependant on the agricultural and livestock sector.

Total Impact Results



...every 1 € invested in the project results in 1.14 € of S&E benefits

S&E benefit related to climate change damages avoided

S&E benefit related to air pollution and climate change-related diseases avoided

S&E benefit related to the surplus cost of extracting fossil fuels avoided

S&E benefit related to ecosystem damage avoided (including climate change effects avoided)

Also, this project contributes significantly to the following **Sustainable Development Targets**:

2.1, 2.4, 3.9, 6.3, 6.6, 7.1, 8.2, 8.3, 8.4, 9.1, 9.4, 12.4, 12.5, 12.6, 13.2, 15.1, 15.5

4. SCEEF II's Portfolio Detailed Impact
Energy Transition: 8. *QOICHI 1*

Challenge

In the EU, the share of electricity generation from renewable sources is around 34%. Although wind and hydropower account for approximately two-thirds of the total renewable electricity generation, solar energy has significantly expanded its share in the last decade.

In this regard, in 2020 **photovoltaic capacity in Spain has increased 30%** with respect to 2019, reaching an overall capacity of **11,500 MW**. Photovoltaic electricity generation in 2020 represented **6.1% of overall electricity generation** (from renewable and non-renewable sources) in this country.

Photovoltaic power: Response and Impact

Qoichi 1 is a photovoltaic engineering company located in Navarra that specializes in building **small-scale solar power plants** (with an approximate capacity of 1 MW per plant) in Spain. In the short term, it is expected that Qoichi 1 finishes a series of solar power plants with an overall capacity of 30 MW, with an estimated **electricity generation** equal to **57,000 MWh**.

The most relevant impacts avoided in this project are **air pollution and climate change-related diseases avoided**, in first place, **and fossil resource availability**, in second place. In line with this latter type of impact, the project also helps **reduce Spain's dependency on the import of fossil fuels**.

KII Results (over the life span of the project)

0.18 million ton CO2e emissions avoided

3.07 million GJ of primary energy avoided

12.8 DALYs that benefit society

0.03 species-year that benefit biodiversity

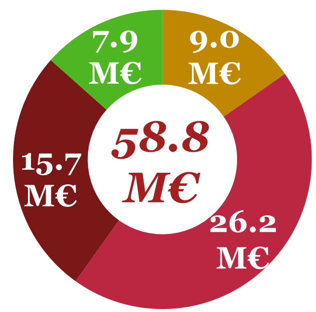
Additional facts...

... Reduction of Spain's dependency on fossil fuels.

... contribution to Spain's energy transition.

Total Impact Results

...every 1 € invested in the project results in 2.66 € of S&E benefits



S&E benefit related to climate change damages avoided

S&E benefit related to air pollution and climate change-related diseases avoided

S&E benefit related to the surplus cost of extracting fossil fuels avoided

S&E benefit related to ecosystem damage avoided (including climate change effects avoided)

Also, this project contributes significantly to the following **Sustainable Development Targets**:

3.9 · 7.2 · 8.2 · 8.3 · 8.4

9.1 · 12.2 · 13.2 · 15.1 · 15.5

4. SCEEF II's Portfolio Detailed Impact

Circular Economy: 9. *UNUE Gas Renovable*

Challenge

According to the 'European Biomethane Map' (developed by EBA and GIE), there is a significant growing trend in the generation of this type of renewable fuel. In this regard, the number of biomethane plants in Europe has increased by 51% in 2 years.

In Spain there are only two biomethane generation plants in Spain with grid injection, with combined production capacities of 1,050 Nm^3/h of biomethane.

Biogas upgrading: Response and Impact

The project consists of a system that allows **biogas upgrading for injection** into the natural gas grid. The main processes needed to upgrading include desulfurization (H_2S-removal), CO_2-removal and drying. It is estimated that this plant will inject 15,000 MWh in the first years of the project (2020 & 2021), and **20,000 MWh** from 2022 onwards.

As a result of this process, conventional natural gas is replaced by this type of renewable gas, which allows to **reduce fossil fuel depletion impacts**. Also, since this gas has been obtained from biogenic sources, the project helps **reduce climate change impacts**, which also contributes to benefits in **biodiversity and human health.**

KII Results (over the life span of the project)

0.09 million ton CO2e emissions avoided

1.5 million GJ of primary energy avoided

4.5 DALYs that benefit society

0.01 species-year that benefit biodiversity

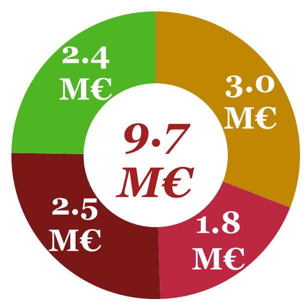
Additional facts…

… Reduction of Spain's dependency on fossil fuels.

… promotion of natural gas consumption, which is a cleaner alternative compared to other fossil fuels.

Total Impact Results

…every 1 € invested in the projects results in 0.97 € of S&E benefits



S&E benefit related to climate change damages avoided

S&E benefit related to air pollution and climate change-related diseases avoided

S&E benefit related to the surplus cost of extracting fossil fuels avoided

S&E benefit related to ecosystem damage avoided (including climate change effects avoided)

Also, this project contributes significantly to the following **Sustainable Development Targets**:

3.9, 9.1, 7.1, 9.4, 7.2, 12.2, 8.2, 13.2, 8.3, 15.1, 8.4, 15.5

4. SCEEF II's Portfolio Detailed Impact

Circular Economy: 10. *Anoltri Invest*

Challenge

Turning waste into a resource is one key to a circular economy. In this direction, the EU defines a so-called **'waste hierarchy'**, upon which non-recyclable waste should be materially or energetically recovered whenever possible, thus, limiting the use of landfilling.

Waste management: Response and Impact

The project comprises a plant located in Pina de Ebro and a second plant to be located in the central area of Spain that treats sewage sludge, originated from wastewater treatment plants, paper mills, breweries and other industries. The estimated quantity of **waste treated in both plants will surpass in** the order of **500,000 tonnes per year** in a five-year period.

This sludge is introduced in an **anaerobic digestor** in order to produce **biogas**, which is burnt in order to maintain the temperature of the digestor and to generate **electricity** (**40,600 MWh per year**, accounting for both plants). The remaining organic matter is then treated to produce fresh compost, or even refined compost. **Compost generated** is expected to reach around **75,000 tonnes per year** in a five-year period.

This process involves that the **sludge is treated and valorised** materially and energetically, avoiding the extraction of fossil fuels and the production of conventional fertilizers. As a consequence, the most relevant benefits from the project are **the reduction of fossil fuels depletion, the reduction of climate change effects and the preservation of biodiversity**.

KII Results (over the life span of the project)

1.20 million ton CO2e emissions avoided

12.5 million GJ of primary energy avoided

48.7 DALYs that benefit society

0.18 species-year that benefit biodiversity

Additional facts…

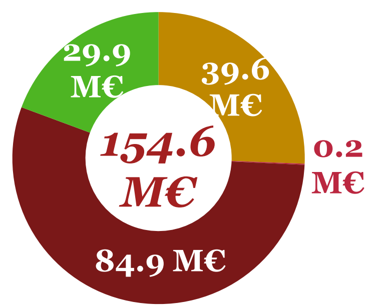
…impact avoided of producing fertilizer from waste vs producing from virgin raw materials.

…water from pig slurry used in process, which involves a decrease of water consumption.

…it ensures a proper treatment of sludge generated in industries such as paper mills or breweries.

Total Impact Results

…every 1 € invested in the project results in 0.98 € of S&E benefits



S&E benefit related to climate change damages avoided

S&E benefit related to air pollution and climate change-related diseases avoided

S&E benefit related to the surplus cost of extracting fossil fuels avoided

S&E benefit related to ecosystem damage avoided (including climate change effects avoided)

Also, this project contributes significantly to the following **Sustainable Development Targets**:

2.4, 3.9, 6.3, 6.6, 7.1, 7.2, 8.2, 8.3, 8.4, 9.1, 9.4, 12.4, 12.5, 12.6, 13.2, 15.1, 15.5

Appendix 1. Summary of methodology used

PwC suggested the following quantitative Key Impact Indicators for reflecting the environmental and social impact that arise from SCEEF II's investment activities. Other benefits (i.e. noise reduction, integration of renewables, etc.) have been considered through a qualitative assessment.

Theme	KII	KII description	Raw/intermediate data
Energy savings	Energy efficiency of SUMA CAPITAL's investments	Amount of total energy savings by using funded technologies compared to the initial amount of total energy consumed (MJ)	- Amount of fuel/electricity consumption avoided by using funded technologies (in kWh, kg, m^3, l…) - Heating value of fuels (in MJ/kg, m3, l…) - Amount of total electricity energy avoided by using funded technologies (in MJ)
Energy savings	Total primary energy savings	Amount of total primary energy savings by using funded technologies (in MJ)	- Amount of total energy savings by using funded technologies compared to the initial amount of total energy consumed (MJ) - Factors of primary energy consumed over energy consumed in the combustion (in MJ/MJ)
Depletion of energy resources	S&E benefit related to the surplus cost of extracting fossil fuels avoided	Estimation of the Surplus cost potential avoided, derived from fossil resources not extracted thanks to primary energy savings (€ 2020)	- Amount of total primary energy savings by using funded technologies (in MJ) - End-point Characterization Factor: Fossil Fuel Scarcity (in $/kg, m3, l…) - GDP deflator (annual %) and Exchange rate
Climate change	Greenhouse gas emissions reduction	Amount of carbon savings by using funded technologies (in ton CO2e)	- Amount of fuel consumption avoided by using funded technologies (in kg, m3, l…) - Emission factor for every energy sources used (in ton CO2e/kg, m3, l…)
Climate change	S&E benefit related to air pollution and climate change-related diseases avoided	Economic estimation of the societal damages associated to climate change (in € 2020)	- Amount of carbon savings by using funded technologies (in ton CO2e) - Societal Cost of Carbon (in $/ton CO2e) - GDP deflator (annual %) and Exchange rate
Air pollution	Particulate Matter emissions avoided	Estimation of particulate matter emissions avoided by using funded technologies (in kg PM2.5,eq)	- Amount of fuel/electricity consumption avoided by using funded technologies (in kWh, kg, m3, l…) - Emission factor for every energy sources used (in kg pollutant/kWh, kg, m3, l…) - Mid-point Characterization Factor: (in kg PM2.5,eq/kg pollutant)
Air pollution	Photochemical ozone formation avoided	Estimation of photochemical ozone formation avoided by using funded technologies (in kg NOx,eq)	- Amount of fuel/electricity consumption avoided by using funded technologies (in kWh, kg, m3, l…) - Emission factor for every energy sources used (in kg pollutant/kWh, kg, m3, l…) - Mid-point Characterization Factor: (in kg NOx,eq/kg pollutant)
Air pollution	Acidification potential avoided	Estimation of Acidification potential avoided by using funded technologies (in kg SO2,eq)	- Amount of fuel/electricity consumption avoided by using funded technologies (in kWh, kg, m3, l…) - Emission factor for every energy sources used (in kg pollutant/kWh, kg, m3, l…) - Mid-point Characterization Factor: (in kg SO2,eq/kg pollutant)
Human Health	S&E benefit related to climate change damages avoided	Disability-adjusted life years (DALY) gained thanks to funded technologies Cost avoided on air pollution and climate change-related human diseases (in € 2020)	- Amount of air pollutants avoided by using funded technologies (in kg pollutant) - End-point Characterization Factor: (in DALY/kg pollutant) - GDP deflator (annual %) and Exchange rate
Biodiversity	Eutrophication avoided	Avoidance of nutrients (N,P) infiltrated to fresh water, leading to a reduction in eutrophication	- Amount (ton) of olive mill and slurry treated - LCA data on olive mill and slurry untreated
Biodiversity	S&E benefit related to ecosystem damage avoided (including climate change effects avoided)	Species-year gained thanks to funded technologies Benefit related to species-year preserved thanks to funded technologies (in € 2020)	- Amount of SO2 avoided by treating olive mill and slurry - Amount of nutrients (N,P) avoided by treating olive mill and slurry - End-point Characterization Factor (in species-year/kg pollutant) - GDP deflator (annual %)

Appendix 2. SDGs: description of Goals and Targets

In the following table the **SDG targets significantly related to SCEEF II's projects are referred**:

SDG	SDG Target
SDG 2: Zero hunger	2.1 By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round. 2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality
SDG 3: Good health and well-being	3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.
SDG 6: Clean water and sanitation	6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally 6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes
SDG 7: Affordable and clean energy	7.1 By 2030, ensure universal access to affordable, reliable and modern energy services 7.2 By 2030, increase substantially the share of renewable energy in the global energy mix 7.3 By 2030, double the global rate of improvement in energy efficiency
SDG 8: Decent work and economic growth	8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors 8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services 8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead
SDG 9: Industry, innovation and infrastructure	9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all 9.2 Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries 9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities

Appendix 2. SDGs: description of Goals and Targets (continued)

SDG	SDG Target
SDG 11: Sustainable cities and communities	11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons 11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries 11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.
SDG 12: Responsible consumption and production	12.2 By 2030, achieve the sustainable management and efficient use of natural resources 12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment 12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse 12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle
SDG 13: Climate Action	13.2 Integrate climate change measures into national policies, strategies and planning
SDG 15: Life on land	15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements 15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally 15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species

Appendix 3. Bibliography

1.- Methodologies:

PwC Methodology (Valuing corporate environmental impacts)

ReCiPe Methodology (Report I: Characterization).

2.- Main documentation and papers consulted:

EMEP/EEA air pollutant emission inventory guidebook 2019: (documents on Energy – Combustion).

WELL-TO-TANK Appendix 2 - Version 4a. Summary of energy and GHG balance of individual pathways. JRC Technical Reports

Table 8.2. Average Tested Heat Rates by Prime Mover and Energy Source, 2007 - 2017 (EIA, U.S. Energy Information Administration)

Escenarios para el sector energético en España 2030-2050. Economics for Energy ('Maintenance of current policies' scenario).

Getting Energy Prices Right. From Principle to Practice. IMF

3.- Additional documentation:

Monetary valuation in Life Cycle Assessment: a review

Emisiones de CO2 asociadas a la generación. REE

Electricity and heat for 2017. IEA

UK Government GHG Conversion Factors for Company Reporting (DEFRA)

Inflation, consumer prices (annual %). The World Bank; GDP per capita. The World Bank

Tipos de Interés y Tipos de cambio - Banco de España

Cuadros de cálculo de las emisiones para los ganaderos (avícola y porcino). PRTR

Comparison of Olive Pomace and Biowaste Composts in a Vegetable Cropping System

Appendix 3. Bibliography (continued)

3.- Additional documentation (continued):

Life Cycle Assessment of Slurry Management Technologies - Danish Ministry of Environment

Life Cycle Assessment of waste disposal from olive oil production: Anaerobic digestion and conventional disposal on soil

Life cycle assessment (LCA) of different fertilizer product types

Solid and gaseous bioenergy pathways: input values and GHG emissions. JRC

Sistema Español de Inventario de Emisiones. Metodologías de estimación de emisiones. MITECO

Development of a weighting approach for the Environmental Footprint. JRC

Fijación de CO2 por Pinus sylvestris L. y Quercus pyrenaica Willd. en los montes «Pinar de Valsaín» y «Matas de Valsaín»

Population and population change statistics. Eurostat

Final Energy consumption by sector. EEA

Brief on biomass for energy in the European Union. JRC

Renewable energy statistics Electricity production, consumption and market overview. Eurostat

Response of paddy rice to fertilisation with pig slurry in northeast Spain: Strategies to optimise nitrogen use efficiency

A Global Analysis of Acidification and Eutrophication of Terrestrial Ecosystems

Biodiesel production from an industrial residue: Alperujo

www.pwc.es/sostenibilidad