Financing Energy Efficiency in the Tertiary Sector

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SEI Forum – Madrid, 15 June 2017

FINANCING ENERGY EFFICIENCY

We have money, but cannot find "good" projects!

Financial sector

"Investement"

TRUST EPC SOUTH

Capacity Building
GREPCon Tool
Pipeline of EPC Projects

We have "good" projects, but we are looking for money!

EPC providers and tertiary sector / real estate agents

"Sustainable energy project"

Adapted from C. MILIN, ECEEE 2013

FINANCING ENERGY EFFICIENCY

KEY BARRIERS

- **Credit risk**: In most cases, the credit worthiness of the final user/beneficiary is the key issue driving investor decision making, but also the credit worthiness of the EPC provider can play a role
- **Performance and technical risks**: apart from the credit risk, also performance, equipment and other contractual risks need to be taken account by the investors
- **Lack of track record**: the relative absence of (numerous) successful cases causes lack of confidence on the investor side

- **Decision making**: Especially for EPCs, complex decision making procedures delay contract start
- **Administrative hurdles**: can also play a role, especially if civil works are involved in the planned interventions

Source: Trust EPC South, EEFIG

FINANCING ENERGY EFFICIENCY

KEY DRIVERS

- **Standardisation**: the energy efficiency investment process, from the definition of the energy saving measures onwards, should be standardised
- **Robust baselining**: the definition of the initial energy consumption situation is key to a correct estimation of savings and financial returns
- **Reduction of transaction costs**: the reduction of all the costs involved in the preparation and assessment of an investment opportunity is key to untapping the investment potential
- **Insurances**: Insurance products are available to cover the equipment risk and also (recently) project performance risks

- **Clear business case**: the customer needs to understand all the benefits of the proposed energy saving measures (beyond the mere energy dimension) in order to facilitate decision making and mitigate rejection
- **Clear contractual arrangements**: Roles/responsibilities of each project stakeholder, validation of savings, sharing of financial benefits, performance guarantees, prices and termination cases need all be accounted for.

Source: Trust EPC South, EEFIG

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OUTCOMES

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KEY TARGET GROUPS

To whom?

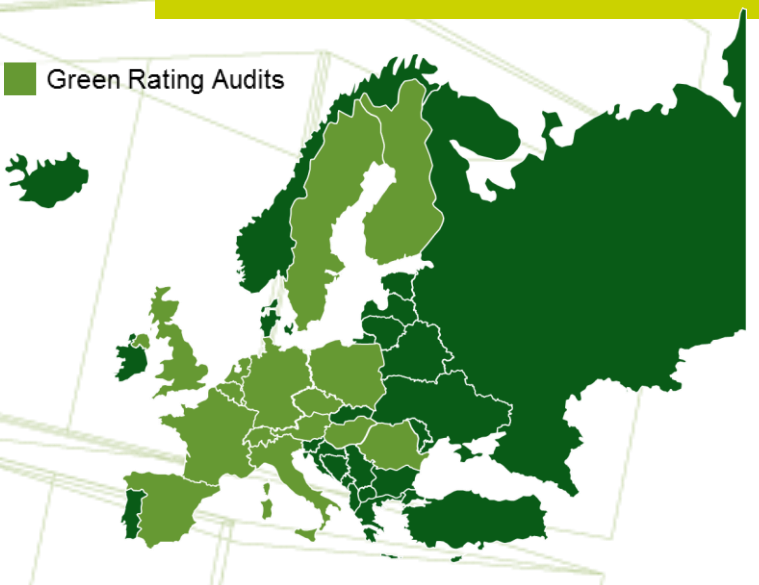
- Banks and other financing institutions
  - **Profitable projects**
  - **Need to assess risks**
  - **Seek transparency and standardisation**

- Tertiary and real estate actors
  - **Reducing energy** and **water costs**
  - **Improving user comfort**
  - **Increasing the value of the buildings**

GREEN RATING™

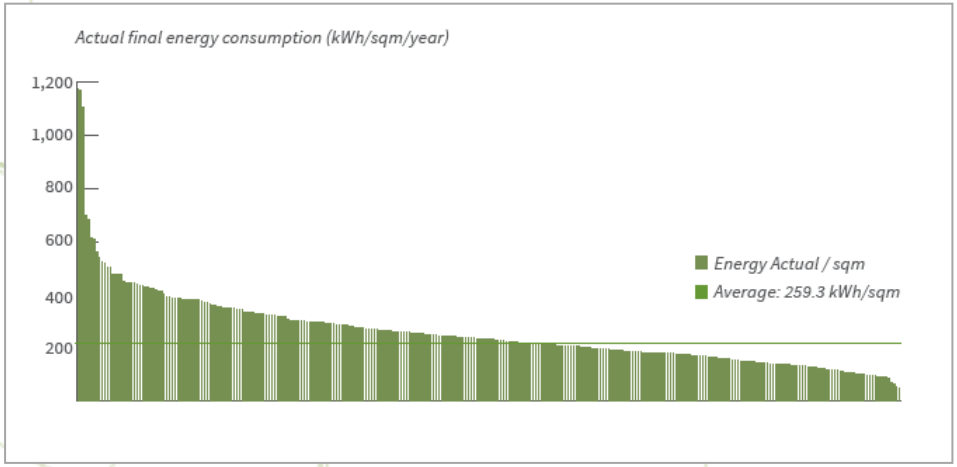
MARKET IMPACT

- More than **650** properties with **10** million m² of commercial real estate assessed in Europe
- Office, logistics and retail assets rated in more than **100 cities and 14 countries**
- **20 participating companies** among leading European property and auditing companies



Buildings by floor area

Buildings by construction year



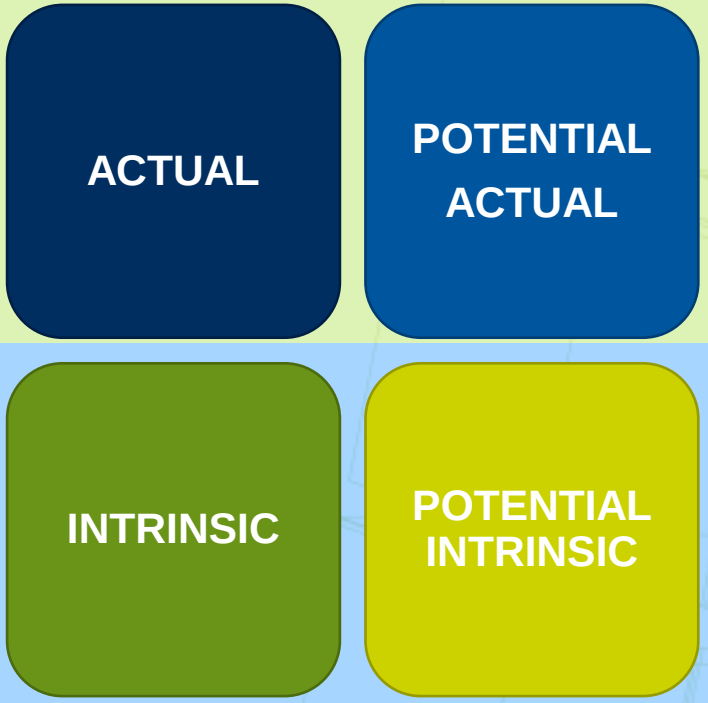
GREPCon TOOL

GREEN RATING™ METHODOLOGY

Four levels of performance

ACTUAL
Covers the building as it is, with its operation and tenants' behavior

POTENTIAL ACTUAL
Achievable through implementation of operational and behavioural recommendations



INTRINSIC
Related to building design, equipment and physical provisions

POTENTIAL INTRINSIC
Achievable through implementation of tech. recommendations covering the building design & equipment

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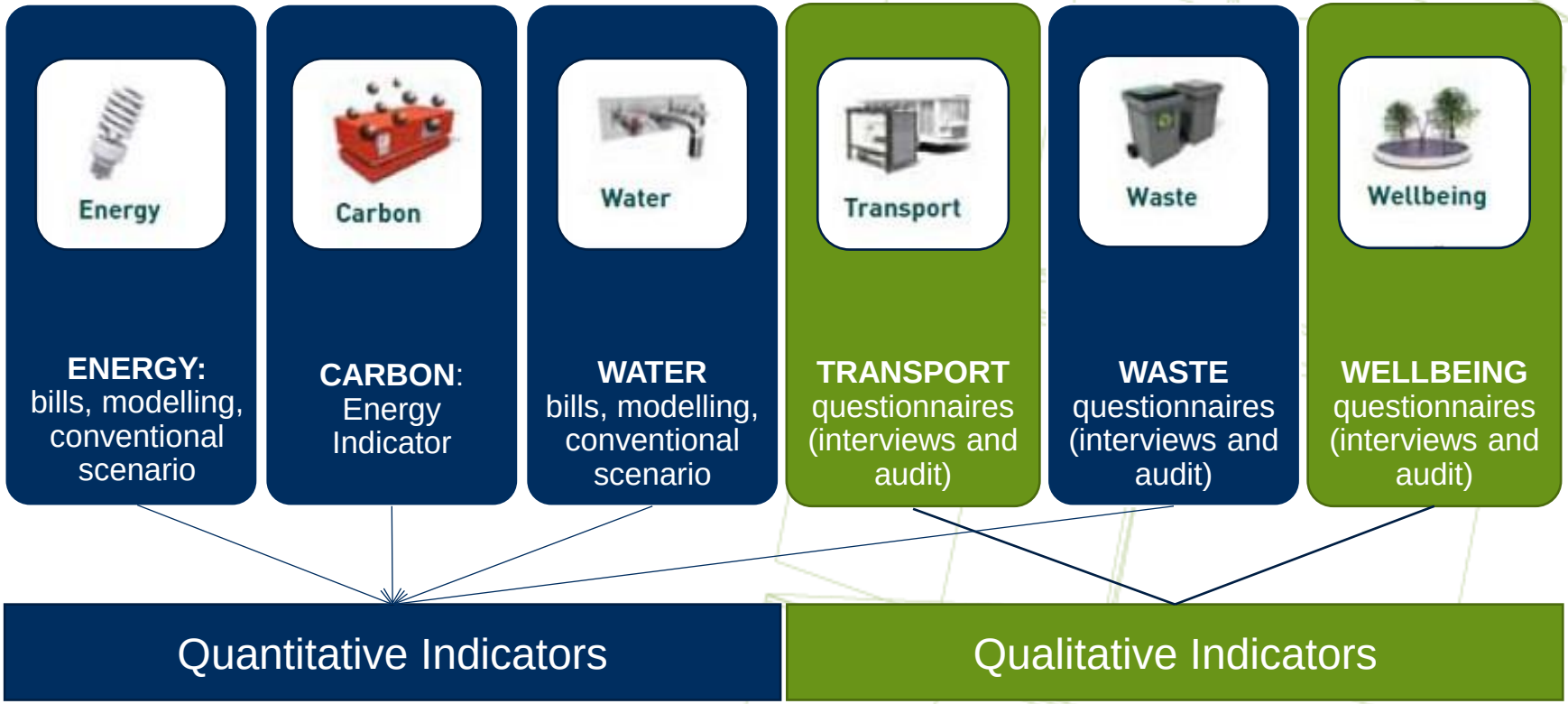
KEY INDICATORS



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THE APPROACH

Identification of standardised energy efficiency measures scenarios

Building and Equipment Technical Models

Consumption and Costs Data

Financial data

GreenRating™
Sustainable value for your assets

Financial Assessment

Feasibility assessment
Profitability projection
Risk assessment

Independent EPC Assessment and Verification

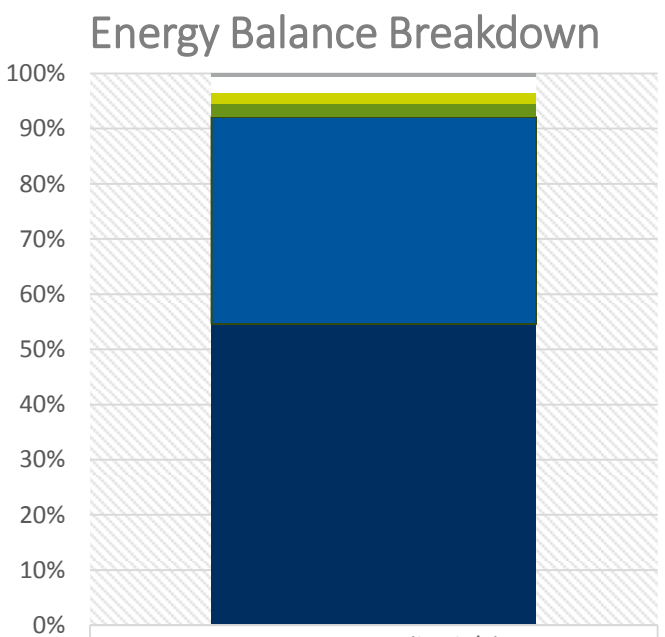
Certified by

BUREAU VERITAS

GREPCon TOOL

ENERGY BALANCE

- The overall annual energy consumption is **8.426.237 kWh/year**
- The corresponding annual energy costs of the building account for **1.020.198 €/year**
- The emissions associated are of **2.978.097 kgCO2eq/year**
- Air conditioning is the highest energy consumption



	Consumption (kWh/y)
Heating (Gas)	49.860
Others	246.598
Lifts	160.457
Ventilation	201.611
Lighting	3.144.867
Air conditioning (Electricity)	4.571.285

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ENERGY SAVING MEASURES

ESM Recommendation	Savings [kWh/year]	Savings [€/year]	Investment [€]	Payback [years]
Substitution of conventional lamps	928.357	111.403	420.380	3,8
Occupancy and presence sensors	88.702	10.644	30.000	2,8
Photocell to dim luminous flux based on natural light	369.079	44.289	135.000	3,0
Variable frequency drives for pumps	29.079	3.489	9.700	2,8
Building Energy Management System	559.225	67.107	236.540	3,5
Solar thermal plant	339.056	40.687	442.000	10,9
Substitution of hydraulic motors with electric motors in elevators	65.850	7.902	59.000	7,5
TOTAL	**2.379.348**	**285.522**	**1.332.620**	

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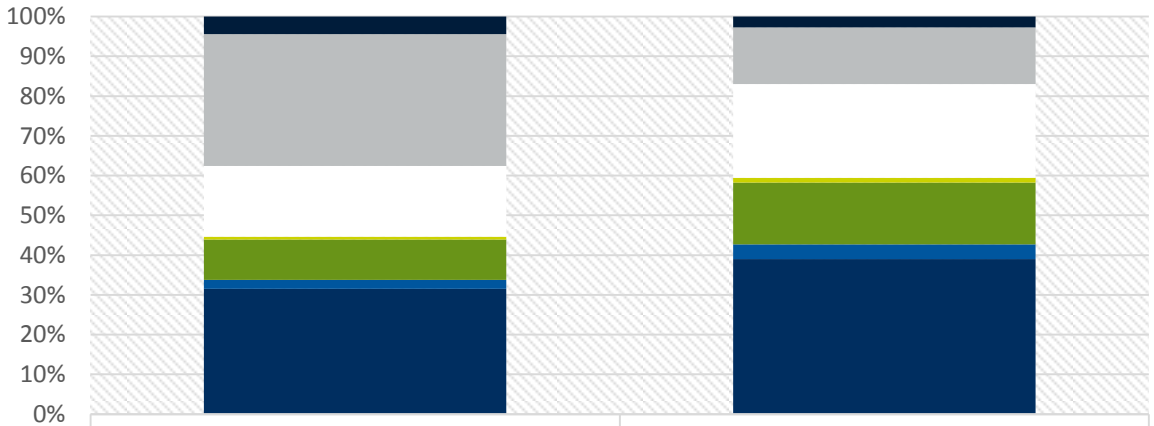
ENERGY BALANCE

Investment and Savings



	% investment	% savings
Substitution of hydraulic motors with electric motors in elevators	4%	3%
Solar thermal plant	33%	14%
Building Energy Management System	18%	24%
Variable frequency drives for pumps	1%	1%
Photocell to dim luminous flux based on natural light	10%	16%
Occupancy and presence sensors	2%	4%
Substitution of conventional lamps	32%	39%

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FINANCIAL ASSUMPTIONS

PROJECT GENERAL DATA

Project indexes	
Energy inflation rate	**2,0%**
General inflation rate	**1,0%**
Euribor (select)	**2,0%**
Spread	**2,0%**
Interest rate	**4,0%**
Loan formalisation fee	**0,5%**
EBT tax rate	**25%**

Project financial data	
Project direct investment (k€)	**1332,6**
% of aditional expenses	**5%**
Total investment amount (k€)	**1399,3**
% debt	**70%**
% equity	**30%**
Debt	**979,5**
Equity (k€)	**419,8**
K asset (required return)	**8%**
K equity (required return)	**9%**
Client shared savings (%):	**0%**

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PROJECT RATING

PROJECT SPECIFIC DATA

RESULTS (k€)	
Income (Sales)	**285,5**
Energy savings	**285,5**
Energy production	**0,0**
Water savings	**0,0**
Carbon credits trading	**0,0**
Expenses	**0,0**
Energy supply	**0,0**
O&M	**0,0**
Overhead	**5,0%**
% Of the investment subject to depreciation	**100%**
Investment subject to depreciation	**1.399,3**
Depreciation period (years)	**6**
BALANCE (k€)	
Working capital requirements (% of income)	**0,0%**
EPC Project duration (years)	**8**

PROJECT RATING 1

Energy Performance Contract Potential

Financial savings:	**285.522**	**€**
Energy savings:	**2.379.348**	**kWh/year**
Carbon savings:	**849.427**	**kgCO_2/year**
Investment:	**1.332.620**	**€**
IRR:	**26,7%**	**%**
NPV:	**299**	**€**
Discounted payback:	**4,0**	**years**

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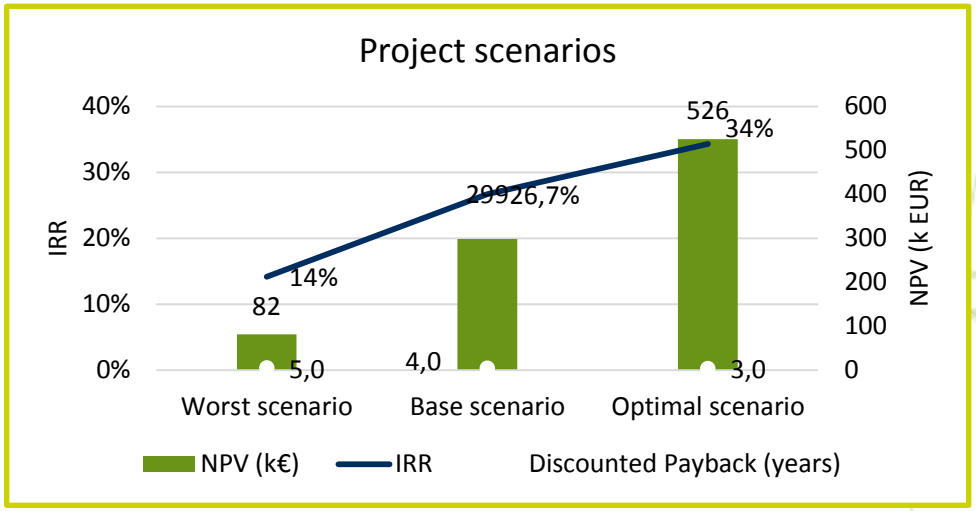
PROJECT RATING



	IRR	NPV (k€)	Discounted Payback (years)
Worst scenario	14%	82	5,0
Base scenario	26,7%	299	4,0
Optimal scenario	34%	526	3,0

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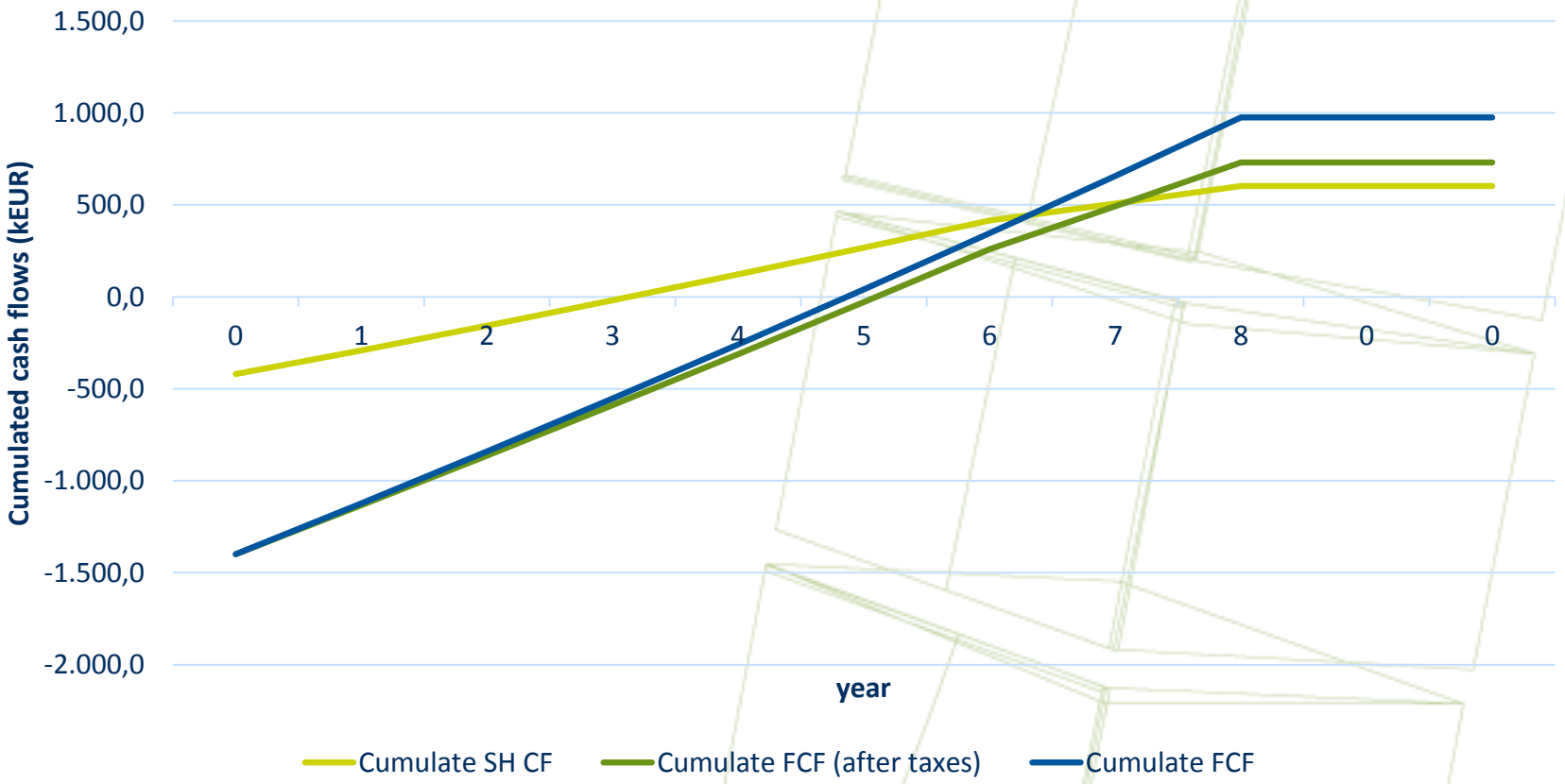
FINANCIAL INDICATORS

Cumulated project cash flows



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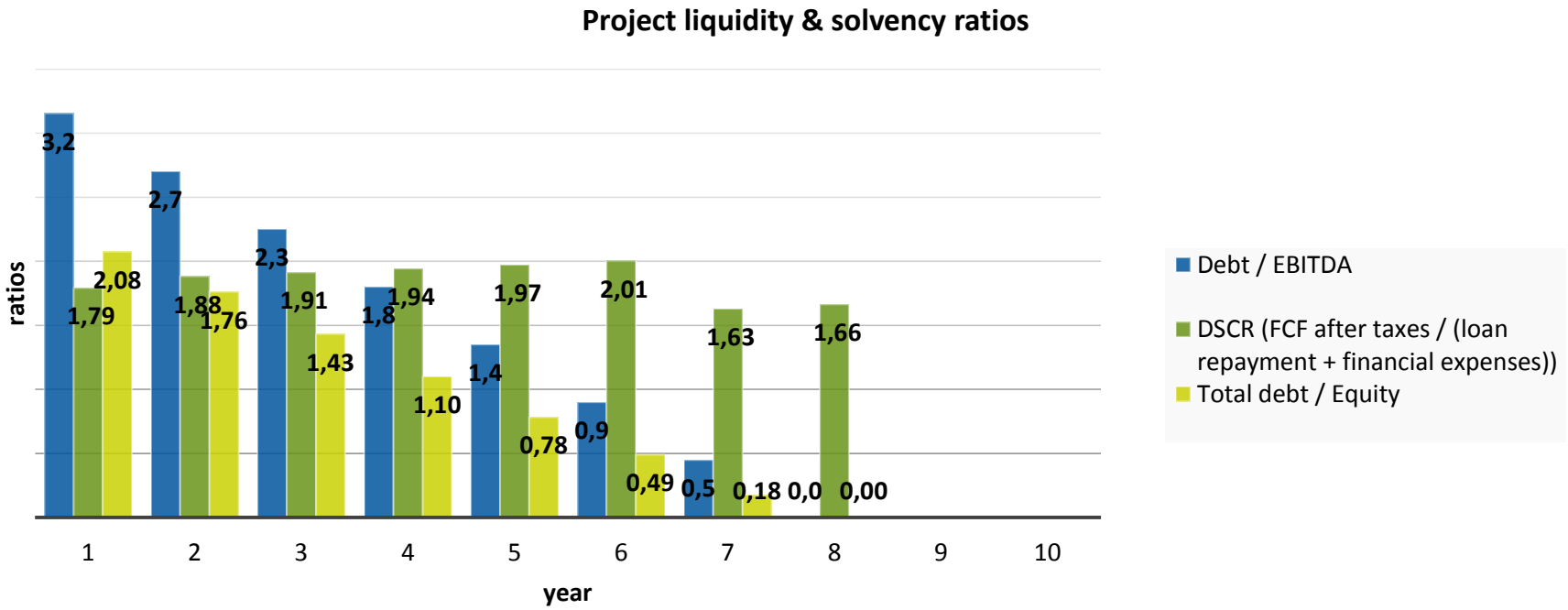
FINANCIAL INDICATORS



TRUST EPC SOUTH

OVERVIEW OF THE PROJECT

The Project started in 2015 within the European Commission's Horizon 2020 programme – *Finance for Sustainable Energy*

10 European Partners from 6 southern European countries

3 years of duration, until February 2018, with a budget of nearly 2M Euros

INVESTOR DAYS - MADRID 2017

CaixaForum Madrid - Paseo del Prado 36

Monday 10 July 2017, 10:00 AM - 17:00 PM

REGISTER

This event is organized in collaboration with the Investor Confidence Project and the eQuad platform

Con la colaboración de:

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement nº 649772

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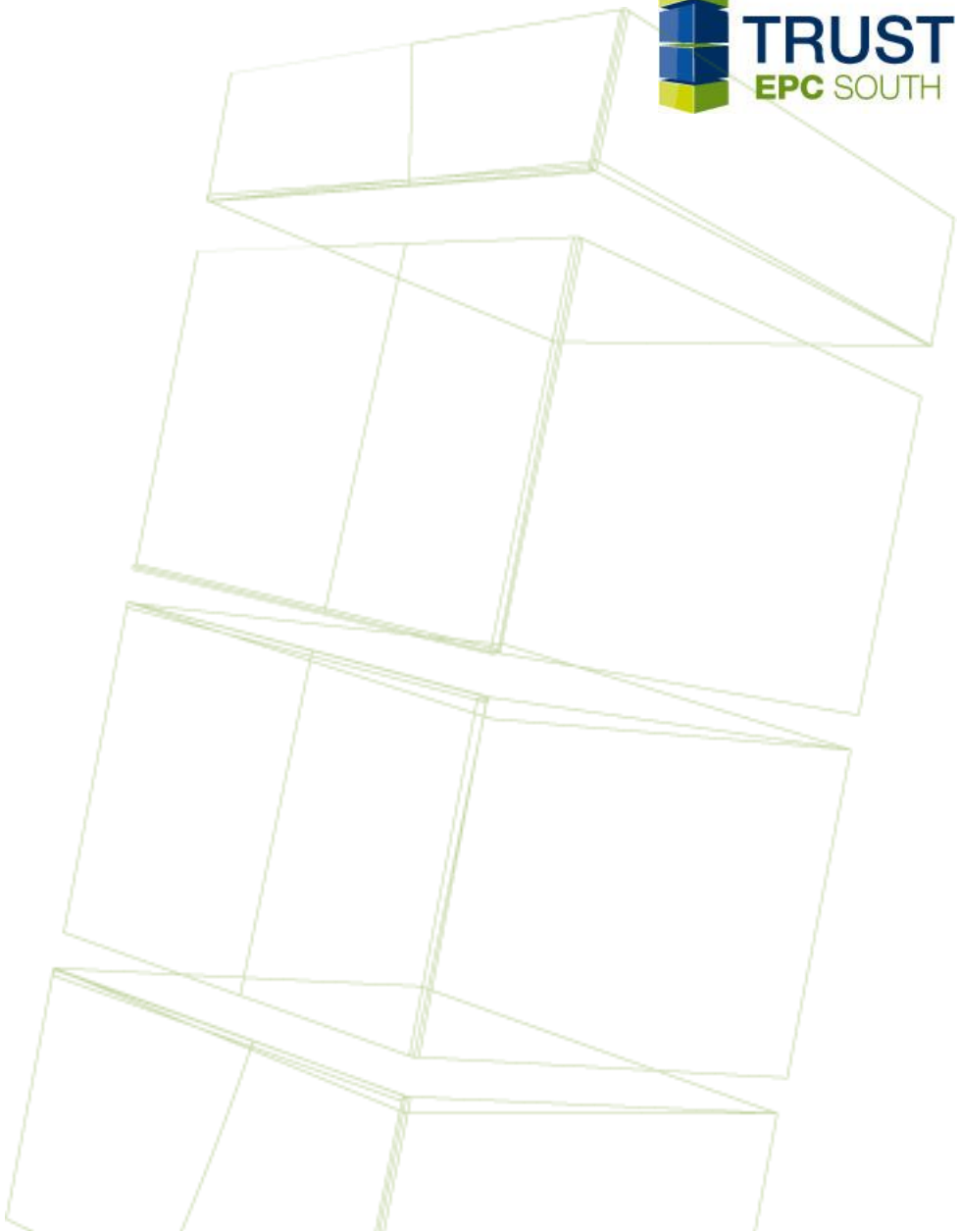
ENERGY EXPERTS

TRUST
EPC SOUTH

THANK YOU FOR YOUR ATTENTION



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