Financing and realising energy efficiency and renewables in industry

A Horizon 2020 project to finance and realise energy efficiency and renewables in industry

2018-11-19 • TrustEE introduction
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Challenges & Opportunities

Context for project
Challenges (1/3)

Process heating accounts for 60% of industrial energy use in EU\(^1\)
- About 1,920 terawatt hours (TWh)
- Equivalent of 18% of total EU energy demand

1,920 TWh is greater than the combined electricity consumption of France, Germany, Spain and the UK!

Approximately 85% of Europe’s industrial process energy is supplied by fossil fuels\(^1\)

Challenges (2/3)

Energy efficiency and renewable energy projects are economical, and could meet the majority of Europe’s industrial process heating demand.

However, even well-designed projects fail to attract viable financing due to:

- Risk mitigation problems with innovative projects
- Transaction costs high relative to capital requirements
- Projects developed by or for small and medium enterprises often lack necessary credit and performance guarantees required by financial institutions
Challenges (3/3)

The current approach for evaluating projects:
• Different and specific for each project
• No standardized procedure (technical and economic)
• Time and resource consuming

Project assessment barriers:
• Lack of (technical) know how among banks/investors
• High technical complexity
• Inappropriate preparation of projects
• No industrial standards (only building area)
Opportunities

60% of industrial process heating demand could be supplied by established energy efficiency and state-of-the-art renewables

Energy efficiency:
• 8–10% average savings with 5-year or less payback across industrial sectors¹

Renewable energy:
• 50% of industrial process heat demand could be met by state-of-the-art solar thermal, biogas and biomass technologies²


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Opportunities (cont.)

Many best practice examples show the technical and economical potential for EE and RE integration across the European industry

- De-risking Energy Efficiency Platform contains 5,000 industrial EE projects
- Mean payback is 2 years! (high economical relevance across sectors)

Learn more: https://www.trust-ee.eu/discovery/process-heating
https://deep.eefig.eu/

Today’s commercialised renewable technologies can meet many industrial heating demands (°C)
TrustEE Scope & Approach

A new model to address project development barriers
In the framework of project development, realization, and financing TrustEE works with three key stakeholder groups:

- Industrial companies
- Technology suppliers
- Financial investors
Project focus & scope

Small to mid-size industrial energy efficiency and renewable energy projects, including:

- Waste heat recovery, solar thermal, biogas, biomass, and heat pumps
- SME-projects sponsored by owners/end-users, engineers and planners, technology suppliers and manufacturers
- Well-developed projects having attractive amortisation times
- State-of-the-art and innovative projects in industrial sectors
- Performance-based project models, such as energy performance contracts or energy sales agreements
Standardised project assessment in three steps

The TrustEE Platform offers a consistent approach to industrial project development

1. Technical and economic evaluation
2. Development:
   - Technical optimization
   - Apply contractual standards
   - Augment risk protection via insurance solutions
3. Offer refinancing after successful commissioning of the plant or measures

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Key elements for EE and RE projects

**Project assessment via energy audit**
- Energy consumption analysis
- Evaluation and assessment of measures
  - process and system optimisation
  - energy savings
  - renewable energies
- Objective: Financing of measures through energy cost savings (monetary)

**Project development implementation of measures**
- Energy supply (e.g. economizer)
- Energy distribution (e.g. heat exchanger and storage)
- Process optimization (e.g. machines with lower demand)
- Use of renewable energy

**Financing from energy cost savings**
- Fast amortisation (2-4 years)
- Contracting financing
- Reduction of energy costs and price fluctuations
Register for TrustEE provider network

Technology providers sign a framework agreement

• **Conditions**
  - Fulfill pre-defined quality requirements for products, components, systems, etc.
  - Provide successful reference projects where energy efficiency and renewable energy systems were installed in industry applications

• **Advantages**
  - “Fast-Lane” in platform rating
  - Registration of own concrete projects
  - Marketing via TrustEE website and other channels
  - Independent quality endorsement and match-making with industrial customer prospects

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Propose projects in three, easy steps (1/3)

**TrustEE Platform**

1. **Automated project check**
   - User provides project info:
     - Technology/measures implemented
     - Savings (energy, €)
     - Technical and economic information about end user
     - Economic information about the technology provider and planner
   
   **Acceptance**
   
   **Rejection**
   
   **Explanation**
   
   Go to Step 2.
Propose projects in three, easy steps (2/3)

TrustEE Platform

2. Automated measures check

Acceptance
Rejection

Explanation

Details provided about type of measures implemented e.g., solar thermal, biomass, biogas, heat pump, energy efficiency/heat recovery

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<thead>
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<th>Project A</th>
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<td>Equipment Supplier</td>
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<td>Technology</td>
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Go to Step 3.
Propose projects in three, easy steps (3/3)

**TrustEE Platform**

**3. Consultation**
TrustEE staff discusses project support and optimisation.

Creates basis for:
- Risk assessment
- Insurance
- Re-financing via Securitisation Vehicle

**Acceptance**

**Re-financing**

**Rejection**

*Explanation*
Financing Model

TrustEE refinancing offers payment flexibility
Financing from energy savings

Advantages for customers
• Technology provider assumes the technical risks
• Protection of the annual investment budget
• Liquidity neutral
• Payments only if savings are made
SMEs cannot afford performance-based contracts

Assumption:
Turnover 20 Mio. €; EBITDA 15%; project processing time 3 months; 1 month payment target; credit line 7.5 Mio. €

The same company is converting to a contracting offer with 24-month contract duration.

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Project financing with project investor not feasible

- Project financing requires own project company: only possible with large projects
- The financial investor bears all risks of the project
- Time-consuming and expensive project financing structure
Refinancing through a securitization vehicle

- Purchase of customer requirements after successful project launch (post commissioning)
Sales financing through TrustEE

- Framework contract
  - Products
  - Contract standards
  - Payment schedule
- Single project template
  - Technical, economic and legal evaluation via platform
- Project realisation and acceptance by end user
  - Installation
  - Successful testing
  - Fixed payment schedule
- Purchase of receivables through TrustEE
The sales financing model

After a successful project start...

The service provider or supplier:
• Receives sum of contracting receivables minus deduction (for return on investment)
• Refinancing offer and rapid return improves creditworthiness

The industrial customer or end user:
• Pays according to fixed payment plan only after successful acceptance
• Technical risks are substantially reduced, guarantees and O&M obligations of the supplier remain
• Has unconditional payment obligation to TrustEE not bounded to energy savings or “baseline”

Note:
• Credit risk of the customer may be secured by credit insurance
• Securitization of purchased receivables by issuing bonds on the capital market “Green Asset backed Securities”
TrustEE Securitization Vehicle

- Subjected to a special capital market regulation
- May only carry out securitizations
- Establishment under the name **Sustainable Future TrustEE** (highest level of investor protection in Europe)
- TrustEE - Platform acts as advisor to the Securitization Vehicle and prepares the purchase of receivables
- Refinancing (securitization) of bond purchases or bonds with institutional investors
- Guarantee of the European Investment Fund (EIF) is sought
Summary
TrustEE Summary & Outlook

Target EE and RE project implementation in Europe

- Process heating in energy intensive industry sectors
- Solar thermal, biomass, biogas, heat pumps, energy efficiency (heat recovery)

All key stakeholders involved

- Industry owners, technology providers, and financial investors

Next steps

- Project acquisition
- Create and market technology providers network
- Integrate interested investors

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Thank you!

www.trust-ee.eu
Contact@trust-ee.eu

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