

Introduction to Panel 5

Business models and finance in the age of digitalisation

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Introduction

Financing energy efficiency in industry has become more and more important. Europe is embarking on many challenges to decarbonise its economy in order to meet long-term climate objectives, including meeting the Paris climate obligations. While most efforts to ensure there is adequate financing has been directed to the buildings sector, this is changing as there is increasing awareness that the industrial sector has its own financing concerns. And as Europe takes steps to come out of the Covid-19 crisis, industry has a big role to play.

This panel focuses on the key drivers of industrial/SME related energy efficiency (and decarbonisation) investments from the perspective of the corporate investors, financial institutions as well as institutional investor. There are four main themes that run through the panel: innovative financing, increasing the demand for financial services, synergy through co-operation and providing support for financial services at the European level.

Innovative financing

Innovative financing brings together many aspects of modern technology. Two presented abstracts focus on how blockchain can be used to promote energy efficiency.

Visetti (extended abstract 5-044-20) explains how the technology blockchain will reduce energy consumption to decrease the energy wasted, which is the result of inappropriate habits. Their use of blockchain technology to improve energy efficiency is one of the first attempts globally. The role of the blockchain is paramount, since it guarantees the integrity and uniqueness of the energy saving data obtained. The author describes a development of the technology for recording the savings generated on blockchain in real time. The savings are recorded securely, thus

showing the importance of de-risking. While blockchain have been used for renewable energy projects, this is probably the first to be used for investment in energy efficiency.

Panvini et al (extended abstract 5-059-20) explain the critical success factors to de-risk energy efficiency improvement projects. They describe the important role of standards and discuss the energy management standards in revision or in development by the European Committee for Standardisation (CEN) to ensure that standards are blockchain ready.

Miethke Morais et al (extended abstract 5-069-20) discuss the ESI model, which comprises financial and non-financial mechanisms designed to work together to overcome the barriers, create trust and credibility among key actors, and reduce the perceived risk of stakeholders. The ESI model comprises a standardised contract, energy saving insurance, technical validation and green financing. One of its outcomes is a blockchain-based platform.

Braumann & Erwin (peer-reviewed paper 5-012-20) discuss the Horizon 2020-financed project TRUSTEE that developed a numerical simulation model ("PHESIMA") to assess the financial viability of investments of three renewable technologies used to generate process heat for industrial production: biogas, biomass, and solar thermal systems. The authors find that the use of long-term public guarantees will be necessary to support small and medium sized companies' (SMEs) access to bank loans. Further, such guarantees render renewable technologies with high initial investment requirements financially viable by reducing risk premiums and thus financing cost. In conclusion, the authors suggest linking support for decarbonisation initiatives to the amount of CO₂ reduced or substituted (the concept of "climate guarantees").

Providing support for financial institutions at the European level

Glenting (extended abstract 5-100-20) provides an overview of recent and ongoing work of the Energy Efficiency Financial Institutions Group (EEFIG) within a broad range of subjects with a focus on contributions of the new working group on industrial energy efficiency. Other EEFIG work includes, inter alia, the emerging EU sustainable finance taxonomy and tagging of energy efficiency loans, and improvement of the De-risking Energy Efficiency Platform (DEEP).

Dorendorf explains the recent activity on “green taxonomy” through the European Commission (peer-reviewed paper 5-106-20). Part of the EU Action Plan on Financing Sustainable Growth will be a regulation on the establishment of a framework to facilitate sustainable investments. It is the basis for a taxonomy (classification system) on sustainable economic activities and determines the criteria under which an economic activity can be considered “green” in the sense of ecological sustainability. The paper analyses the taxonomy regulation and the impact on corporate and industrial energy efficiency investments.

Abazit & Delpont (extended abstract 5-042-20) discuss the capacity building programme INVEEST designed to specifically target investment decision-makers in industrial companies (CFOs, industrial directors, etc.) and their financial stakeholders (bank advisors, accounting experts, etc.). INVEEST is carried out by GreenFlex, in collaboration with the French Environment and Energy Agency and under the supervision of the French Ministry of Ecological and Inclusive Transition. It is co-funded by the French White Certificates scheme and the European Commission through the LIFE programme.

Synergy through co-operation

While elements of TrustEE have been seen already, Fluch et al (extended abstract 5-032-20) describe the key features of the platform that includes: streamlined and standardised technical and economic assessment; risk and credit assessment procedures coupled with insurance offerings complying with standard banking practice; multi-year repayment plans for industrial end-users; and standardised preparation of the project portfolio for securitisation (at a later phase).

Sourisseau et al (extended abstract 5-143-20) discuss an industrial production model that is designed to assist climate finance front-runners in the transition risk assessment of their portfolios. Model description (assumptions and limits) and the consequences of the French Low Carbon Strategy on the French industry production as well as policy impacts are also discussed.

Pousette et al (extended abstract 5-159-20) try to answer an important question: How can we best create a synergy between existing electricity-intensive industry, existing materials and energy systems and future establishments?

Kirkil (extended abstract 5-158-20) describes results from an on-going Horizon 2020 project S-PARCS where they performed a survey for existing energy services in four biggest industrial parks in Turkey. The project proposes a new energy management model for industrial parks to better manage energy price fluctuations and tariffs.

Increasing demand for financial services

Creating a demand for financial services is fundamental to achieve the impact that is needed in the industry sector. Aden (extended abstract 5-062-20) describes how the chemicals sector plays a central but complex role in the transition to a low-carbon economy, not least because of the current ubiquity and increased demand for chemicals in low-carbon and energy-saving technologies. The presentation describes the science-based targets initiative in the US. Science based targets (SBTs) are a keystone metric for companies to integrate energy efficiency and other GHG mitigation options into aggregated public targets for low-carbon transformation. As of December 2019, seventeen chemicals companies have committed to setting SBTs via the Science Based Targets initiative, and seven of these companies have publicly-approved SBTs.

Chony (extended abstract 5-142-20) discusses how excess heat recovery represents a huge potential of reducing energy consumption as well as boosting competitiveness of the EU industry. But there are several barriers affecting impact. In order to tackle those barriers, the French energy agency, ADEME, conducted a study in order to obtain a comprehensive overview of standard risks that are encountered throughout the lifecycle of a heat recovery project. The objective was to define a list of standard risks, possible causes, existing mitigation measures and to propose new mitigation measures.

Cooling is vitally important and Motmans et al (extended abstract 5-146-20) discuss an initiative to mainstream the adoption of the innovative business model Cooling as a Service (CaaS). The model overcomes key barriers through a “servitization” strategy, where instead of investing in the equipment, the building owner only pays the cooling service for every unit of cooling consumed.

Teubler & Kuhlert (peer-reviewed paper 5-127-20) discuss methodological opportunities and challenges for measuring carbon footprints of financial institutions. Based on scientific case studies undertaken with German banks, the authors introduce an innovative method for quantifying greenhouse gas emissions from a bank's asset with a focus on loans.