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## ***The Postgraduate Course Energy Efficiency Services: A tool to emphasis on cohesion and the dissemination of knowledge of sustainable energy consumption.***

**Dirk V. Franco**<sup>1,2</sup>, **Hilde Ruttens**<sup>3</sup>, **Gert Lismont**<sup>4</sup>, **Jan de Schepper**<sup>4</sup> **Luc Helsen**<sup>4</sup> and **Evelien Cruyplandt**<sup>6</sup>

<sup>1</sup> *U Hasselt, Faculty of Science, [dirk.franco@uhasselt.be](mailto:dirk.franco@uhasselt.be)*

<sup>2</sup> *PXL, Central Administration, Building [dirk.franco@pxl.be](mailto:dirk.franco@pxl.be)*

<sup>3</sup> *Greenline Hilde Ruttens [hilderuttens@icloud.com](mailto:hilderuttens@icloud.com)*

<sup>4</sup> *Eco-invest [g.lismont@gmail.com](mailto:g.lismont@gmail.com)*

<sup>4</sup> *Eco-invest [jds@deltha.be](mailto:jds@deltha.be)*

<sup>4</sup> *Eco-invest [luc@helsenmc.be](mailto:luc@helsenmc.be)*

<sup>5</sup> *EnergieCoach [evelien.cruyplandt@energiecoachsintmiklaas.be](mailto:evelien.cruyplandt@energiecoachsintmiklaas.be)*

It is clear that through the years there is an increasing involvement of a wide range of actors to incorporate sustainability in their policies. It is clear that this drift towards clean technologies must be accompanied with new business models. However in order to successfully implement and execute a social component is necessary, often based on the quadruple helix model (interaction between industry, government, knowledge centre and society). Although the conditioning of all buildings is a large energy end-user and the linked greenhouse gas emissions are significant (6, 5 % direct and 12 % indirect) worldwide, it soon became apparent that even building professionals often lacked specific knowledge. In addition energy projects will not be a top priority if not accompanied by new business models.

The PXL University College, as higher education institutions (HEI) are often seen as an important player in Sustainable Development (SD), wants to contribute to the above mentioned trends. Moreover, the PXL strives to work in an interdisciplinary way in both teaching and research domains. Consequently, in education the attention is directed towards authenticity (for cases, teachers as well as for students) all in the perspective of Education for Sustainable Development based on Læssøe (2009). Moreover as we move from *problem focused* towards *solution oriented* apply the learned skills and approach must undergo also a transition.

The PXL has taken the initiative to organize a customized postgraduate Energy Efficiency Services. It is developed with dedicated stakeholders according to the quadruple helix. There are three equivalent parts (technology: energy as a service (PSS), new business models (ESCO-concept) and an adapted communication with all stakeholders (quadruple helix)). The PG EES was not only successfully launched but other initiatives which are likely to affect the dissemination of knowledge in view of EE have also been taken. We will discuss the several ways of dissemination by means of lectures, seminars, practical exercises, interaction with all stakeholders, the partners in steering committee, match making event, speed dating, master thesis etc.,..... with a special attention to the results for EE projects.

a) In the public sector, the progress in order to introduce ESCO in an association of schools (>30) will be reported together with the results of the PXL Energy Quickscans.

b) In addition the launch of new SME's will be discussed. Sometimes these SME's are subcontracting to assist the public sector in achieving its climate goals. Other graduates from are pulled together with an established engineering company and an established installer to set up an integrated service covering the full ESCO process starting from screening improvement opportunities in prospective enterprises and advising on the optimal energy solutions, to the full engineering and project management including maintenance, surveillance and warranties of the energy utilities. These solutions also include the full range of financing options allowing the customer to keep own financial resources dedicated to the company's core business. This PG EES is a catalyst for dissemination of EE knowledge and contributes to develop the "ESCO-market" (public and private).

Key words: Energy efficiency services, ESCO, SME's, Education for Sustainable Development, dissemination

