

Sustainability design orienting scenario (SDOS) for sustainable product service system (S. PSS) applied to distributed renewable energy (DRE) in low and middle

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Titolo della tesi [Sustainability design orienting scenario \(SDOS\) for sustainable product service system \(S.PSS\) applied to distributed renewable energy \(DRE\) in low and middle-income \(all\) contexts](#)

Abstract in italiano *La tesi si sviluppa entro il progetto LeNSes (the Learning Network for Sustainable energy systems, finanziato EU, programma Edulink II, 2013-2016, www.lenses.polimi.it), dedicato allo sviluppo e diffusione della nuova disciplina System Design for Sustainable Energy for All, basata su modelli promettenti di Sistemi Prodotto-Servizio Sostenibili (S.PSS) ed Energie Rinnovabili Distribuite (DRE). Obiettivo della tesi è la progettazione di uno 'Scenario di Orientamento alla Sostenibilità', per aprire nuove visioni per i designer sul tema dell'accesso alle energie sostenibili per tutti; da contesti a basso/medio reddito, a tutti i contesti. Il percorso di ricerca e progettazione ha adottato il metodo MSDS (Methodology for System Design for Sustainability). Prima fase del processo è stata l'Analisi Strategica (SA) con raccolta ed elaborazione di informazioni a partire da promettenti S.PSS applicati alle DRE; sono state analizzate diverse best practices e nello specifico la loro sostenibilità ambientale, socio-etica ed economica (è stato sviluppato un form); con attenzione alle loro caratteristiche energetiche. Seconda fase è stata Exploring Opportunities, con la realizzazione di un workshop dedicato allo sviluppo di S.PSS applicati alle DRE; con successiva classificazione dei risultati in quattro visioni, entro due assi di polarità: tipologia di utenti (B2C-B2B) e configurazione del sistema energetico (micro generator-energy using product-micro generator). Le quattro visioni progettate nella tesi sono 1. Energy for all in daily life, 2. "Energize" your business without investment cost, 3. "PAYxUSE" your access to daily life products and energy, e 4. Start-up your business paying x period equipment and energy. Ogni visione rappresenta una configurazione win-win di sostenibilità; combinando fattori socio-culturali, organizzativi e tecnologici; promuovendo soluzioni competitive e sostenibili attraverso modelli di offerta. Ogni visione è rappresentata da una descrizione testuale e un set di video, realizzati in collaborazione con la Professoressa Francesca Piredda (IMAGIS). Ogni visione è descritta anche da un set di S.PSS e DRE classificate, nonché un set di best practices.*

Abstract in
inglese

The thesis is framed within the LeNSes project (the Learning Network for Sustainable energy systems, EU funded, Edulink II programme, 2013-2016, www.lenses.polimi.it), aimed at building and diffusing the new discipline of System Design for Sustainable Energy for All, based on promising models of Sustainable Product-Service System (S.PSS) and Distributed Renewable Energy (DRE). The purpose of the thesis is to design a Sustainability Design-Orienting Scenario to open new visions to PSS designers to develop access to Sustainable Energy for All systems in low and middle-income (all) contexts. The research and design path have adopted the MSDS method (Methodology for System Design for Sustainability). First phase of the process was the Strategic Analysis (SA) to collect information about promising S.PSS applied to DRE; through the analysis of a number of best practices in terms of environmental, social-ethical and economic sustainability (a format was developed), with specific attention to Energy for All characteristics. Second phase was the Exploring Opportunity, carried out through a workshop, to develop promising S.PSS ideas and clusters, starting the design of SDOS resulting in four main visions, within a two polarities axes diagram: category of customer (B2C-B2B) and configuration of distributed renewable energy (micro generator-energy using product-micro generator). The four visions designed within the thesis are 1. Energy for all in daily life, 2. "Energize" your business without investment cost, 3. "PAYxUSE" your access to daily life products and energy, and 4. Start-up your business paying x period equipment and energy. Each vision represents a Sustainable win-win configuration; combining socio-cultural, organisational and technological factors; fostering solutions with a low environmental impact, a high socio-ethical quality and a high economic and competitive value throughout Energy for All offer models. The four visions are represented by a textual description and a set of movies, designed in collaboration with prof. Francesca Piredda (IMAGIS). Each vision is described as well by a set of S.PSS and DRE clusters of ideas and single ideas as well as by a set of best practices.

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critical thinking in renewable and sustainable energy in order to bring together the research community, the private sector and policy and decision makers. The aim of the journal is to share problems, solutions, novel ideas and technologies to support the transition to a low carbon future and achieve our global emissions targets as established by the United Nations Framework Convention on Climate Change. Sustainability - the United Nations Sustainability Development Goals (SDGs). AUDIENCE. Stochastic Optimisation in Energy Systems Antonino Marvuglia, Luxembourg Institute of Science and Technology, Esch-Sur-Alzette, Luxembourg. Sustainable Product-Service System (S.PSS) applied to Distributed Renewable Energy (DRE) in low and middle income (all) contexts: a Scenario tool for designers. Uploaded by. lenses conference. Bacchetti E., Vezzoli C., Vanitkoopalangkul K. (Italy), Sustainable Energy for All Design Scenario: Inspiring design students towards sustainable energy for All solutions. Copyright. © © All Rights Reserved. Sustainable products are those products that provide environmental, social and economic benefits while protecting public health and environment over their whole life cycle, from the extraction of raw materials until the final disposal. According to Belz, Frank-Martin., the definition of sustainable product has six characteristics: Customer satisfaction: any products or services that do not meet customer needs will not survive in the market in a long

term. This book addresses the issue of diffusing sustainable energy access in low- and middle-income contexts. Access to energy is one of the greatest challenges for many people living in low- income and developing contexts, as around 1.4 billion people lack access to electricity. Distributed Renewable Energy systems (DRE) are considered a promising approach to address this challenge and provide energy access to all. However, even if promising, the implementation of DRE systems is not always straightforward. The book analyses, discusses and classifies the promising Sustainable Product-Service System (S.PSS) business models to deliver Distributed Renewable Energy systems in an effective, efficient and sustainable way. @inproceedings{Vezzoli2018SustainablePS, title={Sustainable Product-Service System (S.PSS)}, author={C. Vezzoli and F. Ceschin and L. Osanjo and M. M'Rithaa and R. Moalosi and Venny Nakazibwe and J. Diehl}, year={2018} }. C. Vezzoli, F. Ceschin, +4 authors J. Diehl. Published 2018. Business. A key contemporary query is the following: within the current social, environmental and economic crisis, which are the opportunities for innovate towards sustainability? Do we know any offer/business model capable of creating (new) value, decoupling it from material and energy consumption? Designing product-service systems applied to distributed renewable energy in low-income and developing contexts : a strategic design toolkit. S. Emili. Business. 2017.