

Sustainable Innovation and Entrepreneurship

2012 Global Citizenship Celebration of the Melton Foundation

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Agenda

-  Introduction
-  Sustainable Innovation
-  Sustainable Entrepreneurship
-  Example: „Sunfried“
-  Discussion

Introduction

Global society faces a number of challenges simultaneously:

- These relate to the triple-bottom-line for sustainable development
- Actors such as private sector (companies, banks, investors), policy makers and the civil society need a systemic perspective
- address the challenges by a mixture of technological and behavioural measures
- Implications for industrialized countries: Transition
- Implications for developing countries: Leapfrogging



Tools for transition and leapfrogging: Innovative technologies and firms

* Sandler, T., 1997. Global challenges: an approach to environmental, political, and economic problems, Cambridge University Press

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- 5 Discussion

Sustainable Innovation – what are we talking about?

Adoption and diffusion of a new idea, practice or product aiming at market success. A successful sustainable innovation is accomplished when (entrepreneurial) actors achieve competitive advantages, i.e. economic success by applying innovative environmental and/or social practices.

Innovation in the field of sustainability is subject to severe market and system failures

Contribution of actors:

Private sector	Policy makers	Civil society
CSR / Compliance	Regulatory framework conditions	Increase awareness / Lobbying / local participation
New products, processes and firms/business models	Intervention into the market	Entrepreneurship

Sustainability as a driver for innovation.

* Gerlach, A., 2003. Sustainable entrepreneurship and innovation. In *Centre for Sustainability Management, University of Lueneburg, Conference Proceeding of Conference Corporate Social Responsibility and Environmental Management, Leeds.*

Transformation (Industrialized countries)

Decoupling economic activities and growth/welfare from the use of natural resources and the overexploitation of human resources.

Contribution of actors:

- Private sector
 - Invest in new products and processes (consistency and efficiency) as a function of lower cost or increased profits and reduced risk (value chain perspective)
 - Engage in Public-Private-Partnerships (e.g. for infrastructure)
- Policy makers
 - mitigate and to escape environmentally harmful lock-in by modulating the dynamics of variation and selection
 - Increase funding for the research and development of cleaner technologies
 - Facilitate investment activities
 - Make innovative products and services available for poorer parts of the society
- Civil society
 - Demand for social innovation (e.g. carsharing)
 - Changes in behaviour and demand (e.g. for mobility)
 - Sufficiency

The success of a transition towards sustainable technologies depends on a policy framework with goals that are agreed upon by different actors to harness the power of the market.

* Nill, J. & Kemp, R., 2009. Evolutionary approaches for sustainable innovation policies: From niche to paradigm? *Research Policy*, 38(4), pp.668–680.

** Sinn, H.W., 2008. Public policies against global warming: a supply side approach. *International Tax and Public Finance*, 15(4), pp.360–394.

Some examples



Leapfrogging (Developing countries)

Bypassing some of the processes of accumulation of human capabilities and fixed investment in order to narrow the gaps in productivity and output that separate industrialized and developing countries.

Contribution of actors:

Private sector	Policy makers	Civil society
Engage in project with development agencies and banks	Institution building	Raise awareness to corruption and hindering factors
Local manufacturing / local content	Implementation of regulation	Education and training about innovative technologies
Engage in dialogue with local policy makers	Facilitate investments	...

Market orientation: Institution building and entrepreneurship with focus on environmental and social performance.

* Steinmueller, W.E., 2001. ICTs and the possibilities for leapfrogging by developing countries. *International Labour Review*, 140(2), pp.193–210.

** Soete, L., 1985. International Diffusion of Technology, Industrial Development and Technological Leapfrogging. *World Development*, 13(3), pp.409–422.

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Sustainable Entrepreneurship – what are we talking about?

Sustainable entrepreneurship is focused on the preservation of nature, life support, and community in the pursuit of perceived opportunities to bring into existence future products, processes, and services for gain, where gain is broadly construed to include economic and non-economic gains to individuals, the economy, and society.

Private sector	Policy makers	Civil society
Provide opportunities for intrapreneurship	Support self-employment (Make the founding of a firm as easy as possible)	Entrepreneurship Education
Spin-Off creation (to pursue more sustainable strategies)	Level playing field (e.g. withdraw fossil fuel subsidies)	Recognize opportunities for sustainable entrepreneurship
Supply venture-capital	Engage in PPP to take risks from private investors	Cooperatives

Value of new firms to perform radical innovations and escape from Lock-In and path-dependencies.

* Shepherd, D.A. & Patzelt, H., 2011. The New Field of Sustainable Entrepreneurship: Studying Entrepreneurial Action Linking “What Is to Be Sustained” With “What Is to Be Developed.” *Entrepreneurship Theory and Practice*, 35(1), pp.137–163.

** Hockerts, K. & Wüstenhagen, R., 2010. Greening Goliaths versus emerging Davids - Theorizing about the role of incumbents and new entrants in sustainable entrepreneurship. *Journal of Business Venturing*, 25(5), pp.481–492.

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Sunfried – a local (socially) innovative venture



Sunfried is a local charitable association founded by students and employees of the University of Jena

Main activities

- Building, operation and scientific use of collectively financed photovoltaic power plants
- Support of other local initiatives with the generated profits
- Education in schools on the topics of renewable energies and energy efficiency
- Consulting for institutes at the university regarding energy efficiency measures
- Construction of a small scale wind turbine for use in an urban environment
- Network with other local and regional initiatives to handle larger projects

Example of interaction: policy makers, civil society and the private sector (Feed-In tariff, micro-finance, innovative technology, additionally supported by federal funds)

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Discussion

Possible Questions:

- Problems you are facing?
- Initiatives in your country?
- Best practices?

Learn from one another, adopt strategies to the local context.

Thank you very much!

Dwindling natural resources, along with energy limitations, have placed more pressure on us to compete in order to survive. Ironically, the key to our collective survival will be the survival of our compassion for one another. A civil society is key.

"Getpeace" on the Huffington Post (January 2012)



Source: http://www.senseandsustainability.net/wp-content/uploads/2011/12/Cleantech_Illustration1.jpg