

Global Challenge Overview

This overview which was developed by the NICE project will provide you with guidance on the Global Challenge options that you are interested in studying and creating a business idea as part of the INCiTE Summer School. Below, you can see the Societal Challenge, the Sustainable Development Goals that relate to the Societal Challenge, some ideas as to how you could engage with this Global Challenge, some case studies to provide you with examples as to how others have done this work and some questions to get you thinking!

Societal Challenges: ec.europa.eu/programmes/horizon2020/en/h2020-section/societal-challenges

17 Sustainable Development Goals: www.un.org/sustainabledevelopment/sustainable-development-goals

<p>Societal challenge</p>	<p>Societal challenge 3: Secure, clean and efficient energy</p> <p>To make the transition to a competitive energy system, the world needs to overcome a number of challenges such as increasingly scarce resources, growing energy needs, and the effects of climate change. The objectives include reducing our energy consumption and carbon footprint, encouraging low-cost and low-carbon energy supplies such as alternative fuels and mobile energy sources, as well as developing new technological and social innovations.</p>
<p>UN Sustainable Development Goals that fit into the societal challenge</p>	<p>SDG 03 – Good Health and Wellbeing SDG 07 – Affordable and Clean Energy SDG 11 – Sustainable Cities and Communities SDG 12 – Responsible Consumption and Production</p>

Ideas

Cleaner and more secure energy sources can positively impact the health and wellbeing of the world's population. For instance, reducing pollution in energy production would result in cleaner air, especially in cities and around production sites currently affected by diseases and other problems related to pollution.

Efficient and clean energy would also be more affordable from a global point of view. For instance, producing energy from waste has the double effect of using a source which is available for free or for a very low cost, and of reducing waste production and landfill, and therefore pollution.

Energy is a core issue in sustainability, both because it is strongly linked to pollution (which is not sustainable at the current rate) and because many energy sources used today are not renewable. It is crucial to develop more sustainable energy sources, but also cleaner and safer alternations to nuclear energy, which could be unsafe in the case of an accident or attack. Conversely, energy from natural renewable sources has a smaller risk of damage. Energy is used in every aspect of daily life in our cities and communities, so sustainable energy sources support the creation of sustainable cities and communities.

Secure, clean and efficient energy is not only about energy sources but also about production processes and consumption habits. Businesses that tackle this challenge invest in innovation aimed at developing less energy-intensive, less polluting, and less waste-generating production; or in the production of less energy-intensive, less polluting, less waste-generating and therefore more efficient consumer goods.

Consumers themselves may be encouraged to become proactive, aware, and willing to buy innovative products even if they are more expensive or more difficult to find on the market, as they will result in lower costs in the long term from the economic and environmental points of view. Social enterprises could focus on raising consumer awareness of these issues and aim at changing their behaviour.

Case studies

Tasio

<http://www.tasio-h2020.eu/>

Recovering the waste heat produced in energetic intensive processes of industrial sectors and transform it into useful energy.

Refgas

https://www.cordis.europa.eu/project/rcn/198565_it.html

Advanced gasification system that uses bio-waste to produce clean and high quality synthetic gas that can be used for power generation for electricity and heat.

ChArGED

<http://www.charged-project.eu/>

Addressing the energy consumption in public buildings and proposes a framework that aims to facilitate achieving greater energy efficiency and reductions of wasted energy in public buildings.

Questions

1. How can clean energy can be made safer and more efficient?
2. How can new and sustainable energy types can be provided?
3. What can we do to be more active in using/creating secure, clean and efficient energy?