

IRENA INNOVATION WEEK 2020

SUMMARY OF KEY INSIGHTS FROM THE SESSION 7: IRENA YOUTH TALK – ENTREPRENEURSHIP AND INNOVATION FOR THE GREEN ENERGY AGENDA

Session co-organised by Initiate, SDG 7 Youth Constituency and IRENA



**SDG 7 YOUTH
CONSTITUENCY**
YOUTH IN SUSTAINABLE ENERGY



IRENA
International Renewable Energy Agency

SESSION OVERVIEW

The 3rd Innovation week took place online between 5-8 October 2020 under the theme 'Renewable solutions for transport and industry'. *Session 7 - IRENA Youth Talk: Entrepreneurship and Innovation for the Green Energy Agenda* took place on the 8th of October 2020. It was organised in partnership with Initiate and SDG 7 Youth Constituency.

The IRENA Youth Talk brought together young entrepreneurs and innovators in the renewable energy sector, to share their ideas and to discuss the role of their solutions in the energy transition including the challenges they are facing and how to overcome them. The session was divided between renewable solutions for the transport sector and renewable solutions for industry and buildings sectors.

2 Panels

20 Expert speakers

301 Participants

SUMMARY OF KEY INSIGHTS

- **Youth can play an important role in transforming the energy sector** including when it comes to transport, industry and buildings. Driven by the decreasing costs of renewable energy technologies, many start-ups, business models and innovative ideas emerge to decarbonise parts of the economy.
- **Transport electrification makes a very good case for investment** as the capital required is relatively low, whereas the utilization is very high.
- **There are unique opportunities for e-mobility innovation in low- and middle-income countries, where the transport sector is the main polluting and the fastest growing sector.** Connecting microfinance with shared mobility, mobile payments, rural electrification, together with the decreasing costs of solar panels create unique opportunities for transforming the transport sector entirely.
- **It is important to think and innovate around making products that are accessible to everyone.**
- **Young entrepreneurs can face many challenges** in making their ideas a reality particularly a lack of access to financing. But at the same time, they possess many important assets that set them



apart including the potential for creativity and going beyond existing paradigms, excellent digital know-how and large global networks.

- **The experts shared some important advice for young innovators** including the need to build their skills, to think big while also making the business case, to be innovative not just in terms of technology but also financing, to collaborate and support one another, not be afraid to fail, and never to give up.

Panel I: Renewable Solutions for Transport

The panel provided a platform for entrepreneurs to showcase their innovation, which was then followed by a discussion on the role of youth in the transition and the challenges and opportunities to decarbonise the transport sector.

Setting the scene

Arina Anisie, Associate Programme Officer at IRENA, introduced agency's work on innovation, emphasizing the need for a systemic innovation, meaning innovations in technologies, combined with innovations in business models, market design and system operation are needed. IRENA mapped emerging innovations for wind and solar power integration in its [Innovation landscape report for a renewable powered future](#), and the [Innovation Toolbox](#), launched this week.

As the cost of renewables-based electricity generation is falling, electrification is emerging as a key solution to decarbonize end-use energy sectors, including industries, buildings and transport. In our analysis, we expect that the share of electricity in the transport sector would increase from just 1% at present to more than 40% in 2050. However, smart charging strategies are key for a successful electrification of transport sector.

Innovation showcase

Five innovation pitches were presented:

- » **Jedlix (Netherlands):** Jorg van Heebeen, CBO of Jedlix, presented the company which develops and operates a Vehicle-to-Grid ("VGI") platform to optimize the charging and discharging of electric vehicles and facilitate their insertion into the power grid at scale.
- » **ECOBODAA (Kenya):** Kimosop Chepkoi founded ECOBODAA in order to build zero-emissions, connected, reliable, and efficient last-mile transport experience in Africa's urban cities. Ecobodaa designs and assembles electric motorcycle taxis (commonly known as bodabodas in East Africa) which are then leased out to riders.
- » **Electric Tuk Tuk (Sri Lanka):** Sasiranga De Silva introduced his electric Tuk Tuks that can reduce the CO2 emissions by 65% per unit comparing to a combustion fuelled Tuk Tuk. The electric Tuk Tuks have a 100 km range.
- » **Trekk Scooters (Nigeria):** Isaac Oyedokun, CEO & Co-Founder and Esther Ehindero, COO, introduced Trekk Scooters, a pioneer of e-scooters sharing service in Nigeria, paving the way for micro-mobility in Africa. This eco-friendly technology redefines the traditional and arduous means of people's movement within closed communities, i.e. university campuses and residential estates.

- » **eDRV (Netherlands):** Bhaskar Deol, CEO & Co-Founder, introduced eDRV, a company that provides software that makes it easy to manage EV charging as a commercial, residential or fleet business. Founded in 2019, eDRV is part of the Rockstart Technology Startup Accelerator.

Panel Discussion: Supporting Youth Innovation in Decarbonising Transport

The panel discussion aimed at reflecting on the innovations presented and creating a dialog between the young entrepreneurs and established experts in the sector. The panel was moderated by **Noortje van Heijst**, Investment Associate at the Unknown Group and the following **panellists** joined:

- **Philippe Vangeel**, Secretary General, The European Association for Electromobility (AVERE)
- **Alexander Körner**, Programme Officer, UNEP, Sustainable Mobility Unit, Economic Division
- **Bhaskar Deol**, CEO & Co-Founder, eDRV
- **Sasiranga De Silva**, Founder & Lecturer, electric Tuk Tuk

Highlights from the discussions:

- **Transport electrification makes a very good case for investment** as the capital required is relatively low, whereas the utilization is very high. It is an exciting opportunity for both entrepreneurs and investors.
- **There are unique opportunities for e-mobility innovation in low- and middle-income countries.** Globally, transportation is responsible for around 25% of emissions in contrast to low- and middle-income countries, where it exceeds 30% and 40%. Also, in these countries, it is one of the most fast-growing sectors. Connecting microfinance with shared mobility, mobile payments, rural electrification, together with the decreasing costs of solar panels create unique opportunities for transforming the transport sector entirely.
- However, **transport should not be considered in isolation**, its decarbonisation needs to be approached within the wider energy transition – a truly holistic approach.
- **It is important to think and innovate around making products accessible to everyone.** There is a need for projects that serve the greater share of different populations, that serve all different demands. i.e. diversification of E-mobility services to include shared transport (public transportation) rather than focusing on high performance single-use cars (Tesla).
- **E-Mobility and education:** Entrepreneurs and young people are vital to the world shifting transportation away from fossil fuels and electrification. Therefore, it's important that “e-mobility”, together with other similar topics, are taught in schools and universities.
- In emerging economies, like India, and for last-mile connectivity, the ROI for investors looks positive (low CAPEX, high demand), so represents an attractive **investment market**. However, investors, such as VC and CVCs need to take a longer-term view – by 2024-25, the market will be a very exciting one.

Panel II: Renewable Solutions for Industry and Buildings

The panel provided a platform for entrepreneurs to showcase their innovation, which was then followed by a panel discussion on the role of youth in the transition and the challenges and opportunities to decarbonise industry and buildings sector. Experts also provided valuable advices for young entrepreneurs.

Setting the scene

Elena Ocenic, Associate Programme Officer at IRENA, highlighted that while the electrification of transport is showing early signs of disruptive acceleration, renewables are growing too slowly in major energy-consuming sectors like buildings and industry.

In the building sector, high efficiency and building-integrated renewables thorough retrofiting, refurbishment and renovation of buildings, are key ingredients for the success of the energy transition. At the same time, implementing stricter standards for domestic appliances and emissions from new buildings can reduce CO₂ emissions.

In the industry sector, through direct use of renewable electricity, direct use of renewable heat and biomass, and indirect use of renewable electricity via synthetic fuels and feedstocks, renewables could account for 46% of the economic emission abatement potential in four high CO₂-emitting industry sectors: iron and steel, chemicals and petrochemicals, cement and lime, and aluminium ([Reaching Zero with Renewables](#)).

Innovation showcase

Five innovation pitched were presented:

- » **Enapter (Germany):** Vaitea Cowan, Co-Founder, presented Enapter, a company that manufactures highly efficient, modular hydrogen generators using Anion Exchange Membrane (AEM) electrolysis. The electrolyser is already deployed globally, delivering energy independence to a broad range of sectors. It is used for transport, fuel for heating, energy storage, mobility and power-to-gas. Enapter has offices in Germany, Italy, Russia and Thailand.
- » **Okham (Indonesia):** Dwi Rizky Rachmadhani and Ilham Gucci, Founders, presented Okham, a platform provider for IoT data aggregator that can help to integrate renewable energy resources by providing both demand-and supply-side flexibility services to grids.
- » **Energy 4 Impact (Kenya):** Esther Wanza introduced Energy4Impact, a non-governmental organization that provides energy access through off-grid technologies and business development for women entrepreneurs in sub-Saharan Africa.
- » **Skoon Energy (Netherlands):** Peter Paul van Voorst, Co-Founder, introduced the world's first online battery sharing platform. With the two-sided marketplace, anyone can book clean energy and have it delivered anywhere.
- » **Optim Energy (Rwanda/Sierra Leone):** Jeremiah Thoronka aims at solving energy access and environmental challenges. The Optim Energy prototype is an innovative piezoelectric device that harnesses energy from heat and vibrations, all of which naturally occur in the environment, to create affordable, accessible, and clean power.

Panel Discussion: Supporting Youth Innovation in Decarbonising Industry & Buildings

The panel discussion aimed at reflecting on the innovations presented and creating a dialog between the young entrepreneurs and established experts in the sector. The panel was moderated by **Joyce Mendez**, Co-Founder of the Latin American Observatory of Geopolitics of Energy and the following **panellists** joined:

- **Ernesto Ciorra**, Chief Innovability Officer, Enel
- **Thaddeus Anim-Somuah**, Engineering Manager Projects, Croda
- **Esther Wanza**, Energy Business Mentor, Energy 4 Impact

Highlights from the discussions:

- **Youth can play an important role in transforming the energy sector** including when it comes to industry and buildings. Incentives are needed both on consumer and industry's side (if customers demand sustainable products, then industry will follow and provide). Most importantly, raising awareness is the first step.
- **There is a need for the industry to switch from economic-based values to environmental-based values.**
- **Young entrepreneurs can face many challenges** in making their ideas a reality particularly a lack of access to financing. But at the same time, they possess many important assets that set them apart including the potential for creativity and going beyond existing paradigms, excellent digital know-how and large global networks.
- **The panellists shared some important advice for young innovators** including the need to build their skills, to think big while also making the business case, to be innovative not just in terms of technology but also financing, to collaborate and support one another and most importantly to not be afraid to fail, and never to give up.