



1. Background - SETechTra continues to make progress

In commitment with the delivery of its aim and objectives, SETechTra has continued to make progress. This issue will present advances from issue No. 1. Discussing progress made in the intellectual Outputs (IOs) by the partners, it will highlight key deliverables achieved as well as present other SETechTra activities carried out. Preparations made for first Transnational Project Meeting (TPM) and Multiplier Events (ME) in Finland will be shared.

2. Curriculum related update

Update on this is discussed in two sections:

Module Structure and contents

The University of Wolverhampton (UoW) has successfully led the delivery of SETechTra Module Structure and Contents with inputs from other partners. In a 7-page document titled *Annex 5 – Module Structure and Contents*, the details of the curriculum being designed are discussed. The document has five main sections. The introduction presents reviews of HEQF/PSRB requirements for partner countries as well as HEQF and Scoping of modules topics. Inputs from the industry/stakeholders on graduate attributes and skills completes the section.



Fig 1: Sample of SETechTra learning materials.

2. Contd... Curriculum rel. update

The sections 2 and 3 presents the module aim as well as objectives and learning outcomes, respectively. The module structure and indicative contents are described in detail in section 4. The delivery of the curriculum is designed to be done in four sub-modules of three weeks per activity. Concluding in section 5, the adequacy of the module in equipping students with the set of knowledge and skills that are fully aligned with the solar energy sector needs was re-iterated.

Learning materials

SAMK and Teesside University (TU) continue to develop and produce more learning materials which have great technical contents. Fig 1 shows an education kit used in the design of the learning material. The learning materials for Weeks 1 to 3, titled *“Introduction to solar energy systems”*, has been produced by SAMK and uploaded in the E-delivery platform. The structure – including the folders – for weeks 4 to 12 has been prepared. More learning materials are being developed and will be uploaded in the E-delivery platform soon. The learning activities for weeks 4 to 6 is titled *“Design of solar energy systems”*; while that of weeks 7 to 9 is named *“Application Examples”*. The weeks 10 to 12 materials are known as *“Entrepreneurial skills training”*.

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3. More wins on Deliverables

Intellectual output 1 (Io1)

RECK has completed the intellectual output 1 (Io1), named *Framework for STEM UG Entrepreneurship Training*, with inputs from other partners. In a task summary presented on completion, three key competence areas are identified. These are Ideas and opportunities, resources and into action. The document described how the competences can be achieved through several designed activities incorporated in the curriculum being developed. These are covered in weeks 10 to 12 of the module delivery.

National Report on solar energy and renewable energy skills gap

In addition to the RECK Io1 summary, more wins are recorded. SAMK delivers a National Report on solar energy and renewable energy skills gap in Finland as part of Io1 outputs. The report presents Fig 2 which shows the amount of grid connected systems from year 2015 to 2021. The Figure shows that approximately 400 MW was connected in 2021 and the growth over the last three years is circa 100 MW per year. Similarly, Table 1 presents estimated PV-related full-time labour market in Finland. The table shows that circa 600 opportunities exist. (... continued in page 2)



Schools and colleges outreach

A key deliverable of SETechTra project is schools and colleges outreach. Teesside University (TU) has been leading on this objective. Dr Emeka Amalu and Prof Michael Short delivered a two-hour session to year 9 pupils at the Laurence Jackson School, Guisborough, UK on Wednesday 15th June 2022.

Fig 3 depicts the intense pupils' engagement during the lecture session while Fig. 4 shows Prof Michael Short assisting the pupils in the practical session designed for them to develop critical research, practical and professional competencies.

The pupils and school are happy with the session. Thrilled with the feedback from the students, the school released the statement shown in Fig 4 in their Facebook page which can be accessed via: <https://en-gb.facebook.com/LaurenceJacksonSchool>

4. Other partner Activity

SETechTra partners have engaged further in several activities contributing to the delivery of the project's key objectives. These are on: (a) Increasing STEM UGs awareness on the trends and developments in the solar energy (SE) sector and specialist skills essential for securing employment in the Solar Energy (SE) Sector; (b) Tackling skills gaps and mismatches in SE sector leading to STEM UGs acquiring specialist SE entrepreneurship/life-long-skills for employability and career progression; (c) Supporting actualisation of EU climate change goals in the long run.

(...continued in page 3)

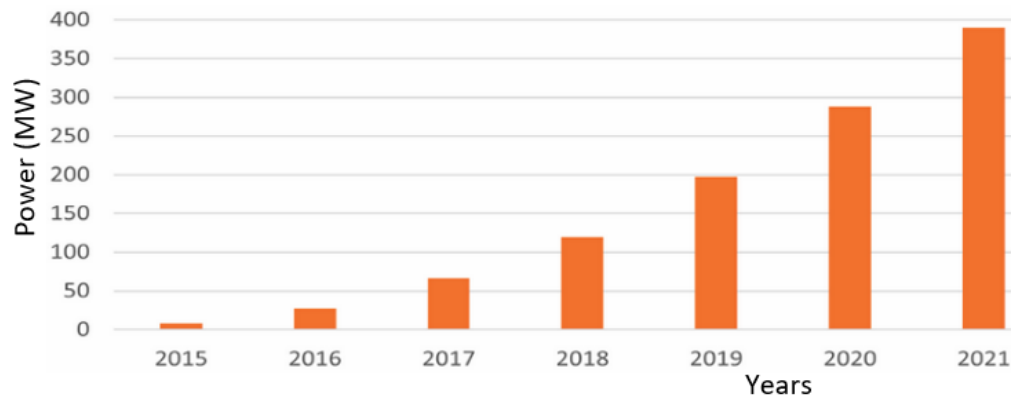


Fig 2: Grid connected small scale (<1 GW) PV systems in Finland at 2021

Table 1: Estimated PV-related full-time labour market in Finland in 2019.

Market category	Number of full-time labour places
Research and development (not including companies)	100
Manufacturing of products throughout the PV value chain from feedstock to systems, including company R&D	150
Distributors of PV products	50
System and installation companies	200
Electricity utility businesses and government	50
Other	50
Manufacturing of products throughout the PV value chain from feedstock to systems, including company R&D	50
Total	600

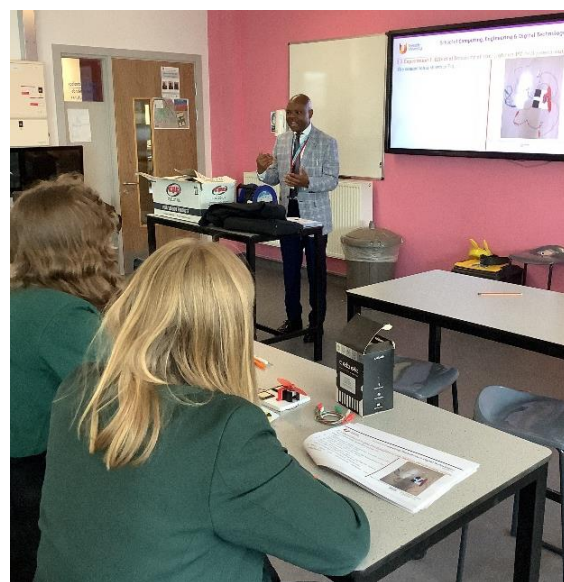


Fig 3: Dr Emeka Amalu delivering SETechTra lecture session at Laurence Jackson School, Guisborough, UK during outreach on 15/06/2022.

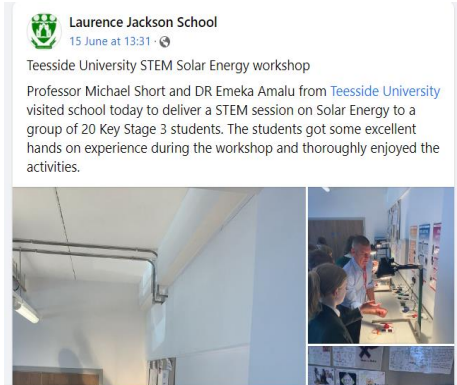


Fig 4: Laurence Jackson School, Guisborough, UK releases statement on her Facebook page to give positive feedback on SETechTra School Outreach session. Prof Michael Short seen supporting pupils during practical session.

4. Other partner Activity contd...

Diversifying the dissemination strategy, a sub-committee for women in Science and Engineering has been created. Fig. 5 shows happy members of the committee during its inaugural meeting. They are excited and eager to mentor young women in the field of solar energy technology. In support of the awareness creation and dissemination agenda, SETechTra project page has been created in Instagram ready for population with materials. The page is shown in Fig 6. Additionally, the University of Wolverhampton (UoW) has taken lead on activity fostering mentor and Mentee for women in Engineering. Flyer, titled “Be a role model for the new generation of solar energy/renewable energy women engineers/specialist”, has been produced and is in circulation. A copy is shown in Fig 7.

In the same dissemination and publicity spirit, SETechTra was presented at the Teesside University Research Away Day in the Middlesbrough campus of the University on 20th June 2022. Project progress and deliverables were well received.



Fig 5: SETechTra women in Science and engineering.

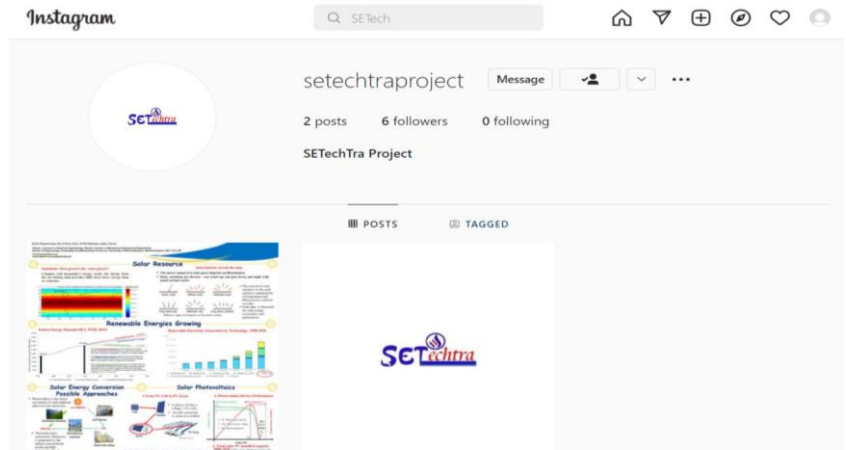


Fig 6: SETechTra Instagram Page



Be a role model for the new generation of solar energy/renewable energy women engineers or specialists

It has been demonstrated that the EU solar energy sector capacity is not globally competitive, which in turn limits job opportunities for EU STEM (Science, Technology, Engineering, and Mathematics) graduates. The skills gap and mismatch between the skills Europe needs and the skills it has was identified as a key challenge facing the EU's HE system. A similar challenge was also reported in IET's (Institution of Engineering and Technology) Annual 2019 Skills

Survey of Engineering Employers in the UK. The number of women in the sector is even lower considering that in the UK, for example, women only make up 24% of the core-STEM workforce.

The SETechTra project “Solar Energy Technology Training (SETechTra) Module for STEM Undergraduates” aims to support the production of industry-ready STEM graduates for the Solar Energy sector needs, growth of EU Photovoltaic (PV) and Renewable Energy (RE) systems, and contribute to achieving the EU climate change goals through the methodology described in Figure 1.

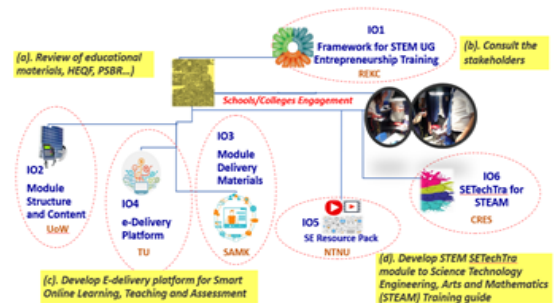


Figure 1. The SETechTra project Intellectual Outputs (IO) with the corresponding lead partner and Methodology.

We are inviting you to join us in our exciting project to raise awareness, inspire and excite young people about Solar Energy (SE) and Renewable Energy (RE). More specifically, **we are looking for Women Mentors to contribute to girls and women's development and awareness of the RE in contributing to the Zero carbon economy and the associated human capacity needs of the sector and support their entering into the SE and RE sectors via different activities such as:**

- ✓ any activities targeting skills development
- ✓ activities to enable women to realise career development plans in solar and any renewable energy sector
- ✓ offer entrepreneurship mini-projects or share case studies or personal experience or journey into the renewable sector

Mentees will be Youths and STEM undergraduates in EU and UK.

If you would like to be involved in our mentoring scheme and agree to provide materials/ information to be used to excite and inspire girls and women into solar and renewable energy sectors, please complete and sign the mentor/mentee information form below:

Please return the completed form as soon as possible to Dr **Fideline Tchuenbou-Magaia**; F.Tchuenbou-Magaia@wlv.ac.uk

Submit your role model poster and video before 31st July 2022

Fig 7: Mentor and Mentee role model activities

5. Coming out very soon:

- SETechTra first Transnational Project (TPM) meeting and multiplier event (ME) in Finland.
- Newsletter No. 3.
- SETechTra review article.