

Luxembourg - Technician's programme: "Smart Building and Energy"

Title of inspiring practice	Technician's programme: "Smart Buildings and Energy" (Atert Lycée Redange)
Geographical area	Luxembourg, Redange. The programme is implemented at national level as it is part of the IVET, which is centrally organised.
Period of implementation	The project started in September 2019 (school year 2019/20) and it is sustainably implemented. Since the programme is part of the national VET system, no end date is foreseen.
Rationale	The programme "Smart Buildings and Energy" further develops IVET programmes for heating technicians and provides learners with the technical skills in demand on the labour market, following the new energy-efficiency standards that must be adopted by new constructions and building extensions. Attractiveness of the profession are raised to tackle skilled workforce shortages. Trainees will get technical skills by learning how to install electrical, heating, air-conditioning and ventilation systems, and will become familiar with building technology and renewable energy, and will practice as an energy consultant. "Smart Buildings and Energy" is a good example to others on how to integrate solution-oriented learning programmes into the schooling system, which are tackling the challenges of our times. They show how to best prepare the upcoming generations, and support students in more sustainable future career choices.
Scope of the practice	Vocational Education and Training
Educational level	The admission criteria for entering the programme is an accomplished "5G" (lower secondary education). Upon successful completion, the students reach an EQF 4 level.
Introduction and context	The key stakeholders involved in the initiative are the VET department "Service de la formation professionnelle" of the Ministry of Education, Children and Youth (government ministry). Curricula are developed in partnership with stakeholders, i.e. the Luxembourgish Chamber of Skilled Crafts and Trades (national agency /social partners) and the Employees' Chamber. The provider of the programme is a secondary VET school, the Atert Lycée Redange (school). The programme is supported by the Luxembourgish Craft ("Handwierk"), under auspices of the Chamber of Skilled Crafts and Trades. With time change and the climate crisis, the market has naturally evolved, with a growing demand and need in the field of sustainable energy engineering. This demand and need were the main drivers behind this initiative, which foresaw the opportunity of raising and training new professionals in the designated fields. The objectives of this initiative are the training of vocational trainees in the areas of application of commissioning, maintenance, repair and optimisation of electrical, heating, air-conditioning and ventilation systems, as well as energy consulting. Furthermore, the programme is also preparing to face future challenges resulting from the sensible use of the available technologies in old and new buildings, the increasing energy efficiency of existing systems, the promotion and use of renewable energy and the compliance with the thermal insulation ordinance.

	<p>This initiative targets individuals who have achieved an educational level comparable to a “5G” (lower secondary education) and who enjoy solution-oriented thinking and controlled execution, troubleshooting and discovering technical possibilities. The initiative is part of the national education and is funded by the Service de la formation professionnelle (SFP) of the Ministry of Education, Children and Youth.</p>
Key activities and outcomes	<p>The main learning programme includes a training on the techniques of electrical installations, heating, air-conditioning and ventilation, and an understanding of the issues and opportunities related to the topics of home automation, renewable energy and energy advice.</p> <p>The course follows a modular structure and aims at integrating theory and practice by proposing a three or four weeks’ internship each during the programme.</p> <p>The programme offers modern special training workshops and infrastructures, a solar laboratory for renewable energy, as well as a boarding attached to the school.</p> <p>Students are divided into small classes with a maximum of 16 participants for the and for a duration of 4 years.</p> <p>Since its implementation in 2019, 41 learners are enrolled in the program. As the 4-year programme is still ongoing, a first cohort of graduates is forthcoming.</p> <p>The programme was introduced to reform the existing IVET programme for heating installation, and there were no particular obstacles to the reform.</p> <p>During the programme, the students gain skills in the installation of electrical, heating, air-conditioning and ventilation systems, and will become familiar with building technology and renewable energy, and will practice as an energy consultant.</p> <p>Once students successfully complete the training, they are awarded a Technician's diploma.</p> <p>Participants can decide to continue their higher education if the preparatory modules are completed with success, and are well prepared to work as future energy consultants.</p> <p>The modular structure of the programme, together with the modern training workshops and infrastructures, are key factors behind the success of the initiative.</p>
Other information	<p>The Technician’s diploma qualification belongs to comprehensive vocational trainings allowing students to enter the profession directly or to continue their studies at a technical university, in the field of study corresponding to their degree. However, it is a condition that the student had successfully completed the preparatory modules for higher education studies. The technician, in contrast to the CCP and DAP graduate, has more profound and varied knowledge as well as better general knowledge.</p> <p>In principle, the training lasts four years. Most of it takes place in the form of internships (with an internship contract for a total of at least twelve weeks).</p>
Contacts and sources	<p>Atert Lycée Réiden https://men.public.lu/dam-assets/catalogue-publications/formation-professionnelle/offres/smartbuildings.pdf</p> <p>https://www.alr.lu/alr/118-departements/autres/technicien-energetique/566-technicien-en-equipement-energetique-et-technique-des-batiments</p> <p>https://www.alr.lu/images/Artikelbiller/Abteilungen/Autres/Energietechniker/2015-2016/14.01.24_Flyer_Energietechniker.pdf</p> <p>https://www.alr.lu/alr/321-communaute/autres/technicien-energetique/informations/1227-2021-06-09-07-32-51</p>
Date of update	26 August 2022