BERLIN
GERMANY

# SOLAR TECHNOLOGY FOR REENGAGING DISADVANTAGED YOUTH

**BERLIN HAS DEVELOPED A PROGRAMME TO ENCOURAGE YOUNG PEOPLE TO ENTER VOCATIONAL TRAINING IN GREEN AND SUSTAINABLE TECHNOLOGIES. THE MAIN TARGET GROUPS FOR THE PROGRAMME ARE THOSE WHO ARE DISENGAGING FROM THE EDUCATIONAL SYSTEM OR LACK DIRECTION ABOUT THEIR FUTURE. BY USING AN INNOVATIVE METHOD TO REENGAGE THEM, THE PROJECT HELPS BUILD CONFIDENCE, MOTIVATION AND EDUCATIONAL COMPETENCES, AND PROVIDES A ROUTE INTO THE GROWING GREEN ENERGY SECTOR.**

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**EDUARDO CABRERA**
e.cabrera@fls-international.de

http://eqf.taire.eu/
www.photovoltaire.de

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## CONTEXT

A high number of young people in Berlin fall out of the education system: around 8% from high school and 30% from vocational training. A lack of goals and a sense of having no future can have serious social consequences for young people including violence or criminal behaviour. In the case of poorly integrated youth with a migrant background it may even lead to radicalisation.

Preventing school dropout is very important in securing the future of young people and preventing problems within wider society. It can be very difficult to reintegrate these young people back into the education system since many of them live in disadvantaged neighbourhoods and experience various problems, for example drug and alcohol abuse, social difficulties, low confidence, low personal management skills or poor parenting at home.

## SOLUTION

The Adapting and Installing Vocational Training for Renewal Energy (AIRE) network provides 15 year old secondary school pupils in deprived city districts an opportunity to build a small remote controlled solar car model. This requires acquiring and developing a range of technical skills. A hands on, innovative and fun approach is taken to train, inspire and interest these young people, who have disengaged from the traditional education system.

The project design also helps them develop personal and social skills such as time keeping, perseverance, public speaking and team work. To keep them motivated to complete the work and to give them a sense of achievement, finished models are showcased at local and international parades and participants deliver presentations on how they were created. The presentations are in English and are filmed and uploaded to YouTube.

The project is for young people who have dropped out of school or are at risk of dropping out, pupils with behavioural difficulties and young people with sensory disabilities.

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Participating in the AIRE project also counts as part of a prevocational qualification, which is required to enter vocational courses in Germany. A dedicated handbook[7] for teachers provides ideas and helps prepare classes, but also allows teachers to adapt the activities to ensure students reach specific learning outcomes, such as:

- ability to understand health and safety issues and prevent accidents,
- communication skills and social competences (group learning and problem solving, self-responsibility),
- technical knowledge on renewable energy, electricity, gearing, motors, batteries, radio frequency and remote control, and
- technical skills (e.g. correct use of terminology, using tools, making electrical connections, taking measurements, analysing data and making adjustments based on results).

At the end of the project, participants obtain an internationally recognised European Qualification Framework[8] (EQF) level 2 certificate.

## IMPACT

To date six schools in Berlin have participated in the AIRE project. Their experience shows that the project has helped reduce school drop outs and reintegrate young people into society and the education system. It also enhances their awareness of environmental issues and of what are the vocational training and job opportunities in the growing field of renewable energies.

The playful and innovative approach has been met with great enthusiasm among both pupils and teachers, and the learning outcomes surpassed expectations. The young people become more confident, motivated and ready to start further vocational training in green technologies. They increase their ability to concentrate on short to mid-term projects and planning, reflect on their own work, and function as part of a team.

The AIRE project started as a local initiative in 2001. Some of the early beneficiaries went on to complete an officially recognised three year vocational training. Some have gone on to a university of applied sciences, while others have already graduated with a Master of Science degree and work in positions of responsibility in solar or wind energy companies. In this way they have broken out of a cycle of intergenerational poverty.


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## CHALLENGES

The main challenge for this project was financing. This included financing for the materials for the solar cars, participants' travel expenses and, in case of the minors with disabilities, for their carers. These challenges were partly overcome by obtaining EU funding.

The project coordinators are now looking into new sources of finance to allow more young people to participate and have begun a campaign to involve companies and industries in the field of e-mobility and renewal energy to raise funds.


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## EU WIDE PARTNERSHIP

The initiative is part of a European 'AIRE EQF2 for ALL' project, which takes place in a number of European countries. The concept is adapted in each country, for example in France the method is used for adults from a migrant background to increase language competences and they built a full sized car. In Bulgaria and Denmark, the project is used for vocational orientation in secondary schools rather than for school dropouts. In Italy, the main target groups are children with Down's syndrome and pupils in disadvantaged neighbourhoods.

## FUNDING

The current edition of the transnational 'AIRE EQF2 for ALL' receives a total of €110,000 in funding from the EU. The city of Berlin receives €18,000 for this two-year project through the Leonardo da Vinci programme.

To support the teachers who wish to be involved in the project, the city reduces their ordinary teaching hours at school.

[7] http://www.taire.eu/aireeqf2/documents/handbook.pdf
[8] http://ec.europa.eu/ploteus/en/content/descriptors-page