

Energy - Projects

An overview of the funded projects from the Targeted Programme Energy.

Driving uptake of hydrogen vehicles (16ENG01)

New measurements will enable fair pricing and quality assurance for greener hydrogen vehicles

A lack of measurement methods currently prevents the hydrogen industry from satisfying requirements set by international standards. This project will develop the methods, standards and calibration facilities needed to ensure accuracy, fair pricing, and quality control, thereby enabling the industry to overcome these challenges. The results will support the uptake of low-emission hydrogen vehicles and the growth of Europe's hydrogen economy by increasing confidence among manufacturers and consumers.



Rapid commercialisation of emerging solar technologies (16ENG02)

New energy rating metrics will provide better, fairer testing of emerging photovoltaic technologies

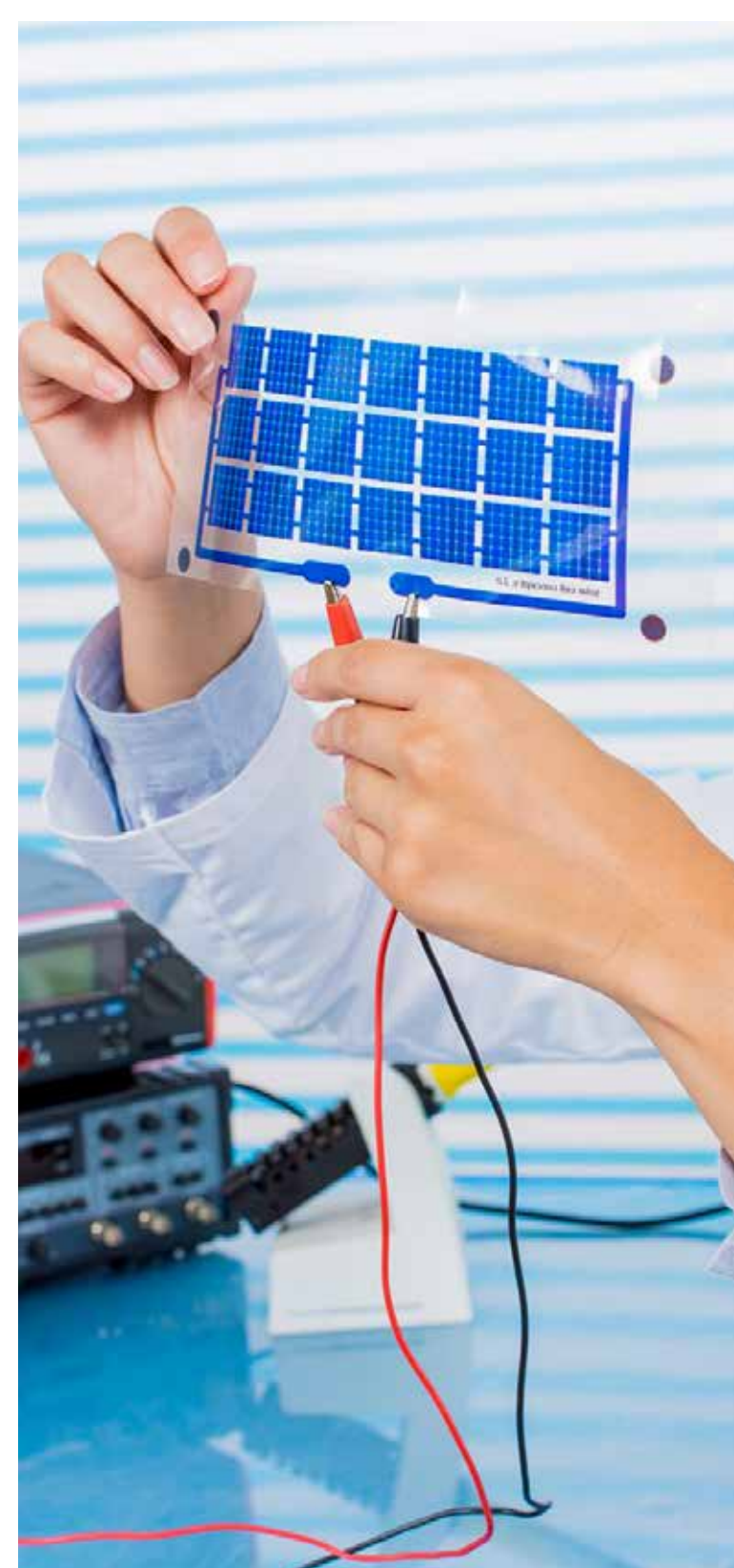
Currently, photovoltaic (PV) modules are optimised and selected under standard test conditions rather than operating conditions. Following ENG55 PhotoClass, this project will improve energy rating standards, measurement equipment and methodologies to enable precise measurements that allow for real world factors. This will increase the uptake of emerging PV technologies and accelerate their time-to-market, significantly reducing the cost of solar energy.



Accelerating development of innovative energy technologies (16ENG03)

New capabilities to assess thin film performance will aid deployment in novel energy applications

The complex nature of thin films means that device performance is affected by a combination of characteristics, and their assessment requires a new analytical approach to combined data analysis characteristics. Following ENG53 ThinErgy, this project will develop a hybrid metrology capability for thin film performance in novel energy applications, from photovoltaics to batteries. The new capabilities will aid the development of new, innovative energy technologies, in turn supporting progress towards improved energy efficiency.



Increasing efficiency across Europe's rail networks (16ENG04)

Improved energy and power quality measurements will enable smart, energy efficient management of railway networks

To meet the EU target of reducing CO2 emissions from rail transport by 50 % by 2030, improved energy management is needed. This project will develop the measurement infrastructure needed for accurate characterisation of power quality and dynamic energy exchange between the train and the railway grid, and enable the transfer of excess energy into a wider smart grid. The results will underpin the energy efficient management of Europe's railway networks.



Diversifying Europe's gas supply (16ENG05)

New test methods will support safe, fair injection of biomethane into Europe's gas networks

With the decline of natural gas resources, and EC biofuel targets for injection into the gas grid and use as a transport fuel by 2020, increased usage of biomethane across Europe is needed. Following ENG01 Gas and ENG54 Biogas, this project will develop standardised test methods for key parameters of biomethane, including impurities, to be monitored. Close liaison with industry will enable SI traceable measurement methods to be implemented.



Energy - Projects

An overview of the funded projects from the Targeted Programme Energy.

Increasing energy efficiency in next-generation networks (16ENG06)

Improved power and material measurements will enable development of optimised, future-proof electronic devices

The roll-out of 5th generation (5G) telecommunications across Europe by 2020, and the demands of the Internet of Things (IoT), will significantly increase energy demand. This project will provide traceable measurements for power, power losses and emerging electronic materials properties, to aid the development of ultra-low power devices. This will enable European industries to optimise more efficient electronic components and systems designed for 5G and IoT applications.



Multiphase flow measurements for oil and gas exploration (16ENG07)

Harmonised multiphase flow measurements will support subsea exploration of new oil and gas reserves

Field measurements for multiphase flows in subsea oil and gas production exhibit high measurement uncertainty, costing the industry billions of euros each year. A reference measurement capability is needed that is consistent and comparable across the different test laboratories. This project will widen the harmonised approach developed in ENG58 MultiFlowMet to lower the uncertainty of multiphase flow measurements and provide greater confidence in the deployment of multiphase metering technology.



Inductive charging for electric vehicles (16ENG08)

New power measurements will support safe and efficient charging of low carbon electric vehicles

Inductive charging is a promising technology that charges electric vehicles whilst in transit, offering high-efficiency power transmission and small batteries, leading to a reduction in CO2 emissions and oil consumption. This project will develop techniques to measure inductive power transfer efficiency, assess safety for human exposure, and advance the measurement tools needed for the development of high-efficiency power couplers. The results will enable the relevant international requirements to be met.



Enabling the roll-out of cleaner transport fuels (16ENG09)

New test capabilities for liquefied natural gas and biogas will enable roll-out of alternative transport fuels

Use of liquefied natural gas and liquefied biogas as transport fuels requires reliable determination of their amount, composition and physical properties. Following ENG03 LNG and ENG60 LNG2, this project will establish test facilities and validation methods, a step towards measurement traceability for custody transfer. The results will feed into written standards to promote the large-scale use of these cleaner transport fuels, and enable European standards to be met.



EMPIR - joint research projects for Europe

EURAMET e.V. -
the European Association of National Metrology Institutes

The European Metrology Programme for Innovation and Research (EMPIR) follows on from the successful European Metrology Research Programme (EMRP), both implemented by EURAMET. The programmes are jointly funded by the participating countries and the European Union and have a joint budget of over 1000 M€ for calls between 2009 and 2020.

EURAMET e.V. is a non-profit organisation under German Law.

EURAMET e.V.
Bundesallee 100
38116 Braunschweig
Germany

Full details can be
found at:
www.euramet.org

Dr Duncan Jarvis
EMRP Programme Manager
E-mail: emrp-pm@euramet.org
Phone: +44 20 8943 6707

