SQA Approved Centre

GMC

CPD The CPD Certification Service

ECT

ACCREDITED MASTER IN RENEWABLE ENERGY AWARD

REI

Renewable Energy Institute

Professional Body for Education in Renewable Energy

https://www.renewableinstitute.org/

CASE STUDY

The skills and knowledge obtained through attending the courses offered by the REI are crucial for my current role and future career.”

Nar Bahadur Khatiwora

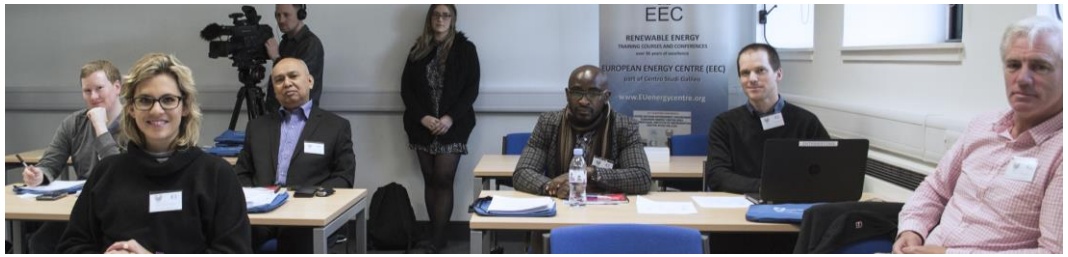
United Nations UNDP

1. Why did you choose to attend a course at the Renewable Energy Institute?

In addition to my qualifications, experience and background in **leading successful projects for top clients at the United Nations Development Programme**, I am also passionate about learning new things and continuously increasing my knowledge. I see training courses as an opportunity to continue to develop both professionally and personally. I am driven to deliver high-quality work and therefore, **internationally recognised courses are appropriate and helpful for me to keep abreast of new innovations and adapt to the changing dynamics** and new developments in the areas of Climate Change, Renewable Energy and Energy Efficiency, the core area of my work. **The courses offered by the Renewable Energy Institute at world-class Universities in the United Kingdom are appropriately delivered with practical case studies to demonstrate the latest developments** in the growing field of climate change, renewable energy and energy efficiency.

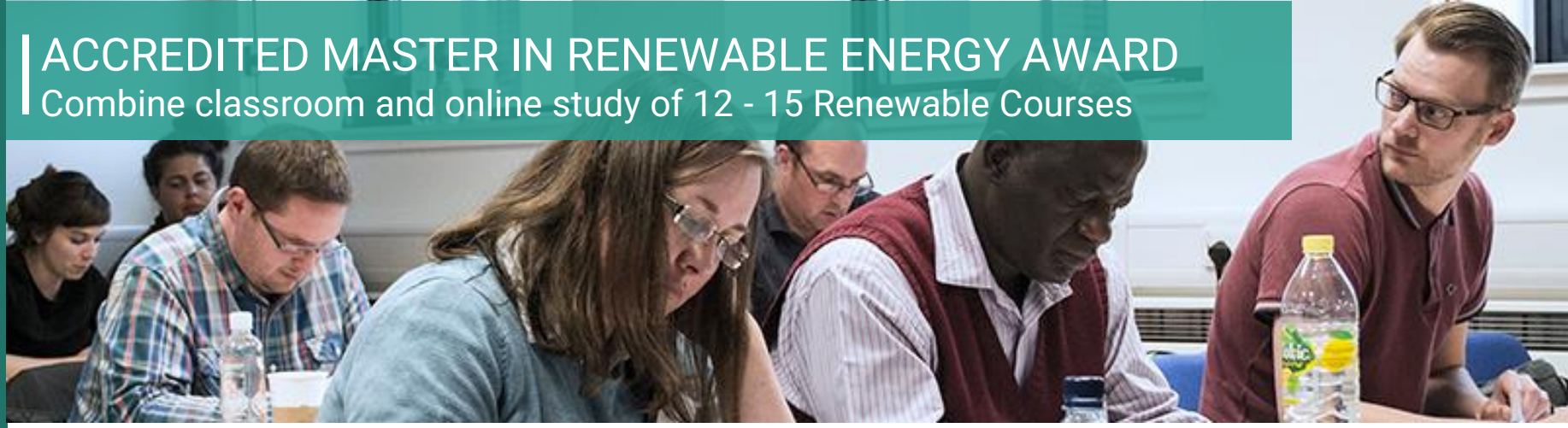
I can hardly describe the rewarding feeling that one gets when obtaining the **internationally recognised Galileo Master Certificate (GMC)**, which takes the level of your competency to a greater height and gives you more confidence to work much harder independently, in improving the health of our planet and the livelihood of the world’s population.

To read the full article with Nar visit: https://www.renewableinstitute.org/news/eec-alumnus-spotlight-united-nations-undp-nar-bahadur-khatiwora/



ACCREDITED MASTER IN RENEWABLE ENERGY AWARD

Combine classroom and online study of 12 - 15 Renewable Courses



12 - 15 COURSE MASTER PATHWAY

- Renewable Energy Management & Finance
- Solar Photovoltaic
- Carbon Finance
- Renewable Energy Solutions
- Hydrogen Energy
- Wind Power
- Energy Efficiency in Buildings
- Electrics for Renewables
- Biomass
- Wave & Hydro Power
- Solar Water Heating
- Combined Heat & Power
- Energy Storage
- Electric Vehicles
- Heat Pumps

> **"I compared a few training courses and the ECT's courses seemed to provide more quality and offer more flexibility with the Master Award."** – *Jose Jiménez-Garcia,* ***Kier***

HOW IT WORKS

Master in Renewable Energy Award: to become a Master in Renewable Energy, candidates must achieve a minimum of **12 Galileo Master Certificates (GMCs) within an 18-month period.**

Up to 3 of these courses can be taken in the virtual classroom, subject to REI Approval.

INTERNATIONAL CERTIFICATE

The REI is proud to award a range of international Certificates and Qualifications for our courses.

GMC REI SQA Approved Centre CPD CERTIFIED The CPD Certification Service

To enquire or book on this course please email:

training@RenewableInstitute.org

or call +44 (0) 131 623 1938

RENEWABLE ENERGY MANAGEMENT & FINANCE

Online Learning with the Renewable Energy Institute

COURSE CONTENT

- Introduction to Renewable Energy Finance and Sustainable Design
- Methods of Financing: FiT / RHI / ROCs / CfD / PPA / ESCO / EPC
- Project Risk and Financial Management
- Basic Project Finance & Technical calculations – e.g. energy, economics, emissions, NPV, IRR
- Life Cycle Assessment (LCA) and approach
- Incentives and barriers to Investment
- Government Policy and Support Schemes – UN, EU, UK
- Project Finance examples
- Practical International Case Studies

WHO IS IT FOR

Individuals considering a consultancy job and/or those who have to evaluate the benefits of adopting renewable energy technology. Managers and directors intending to invest in the renewable energy sector.

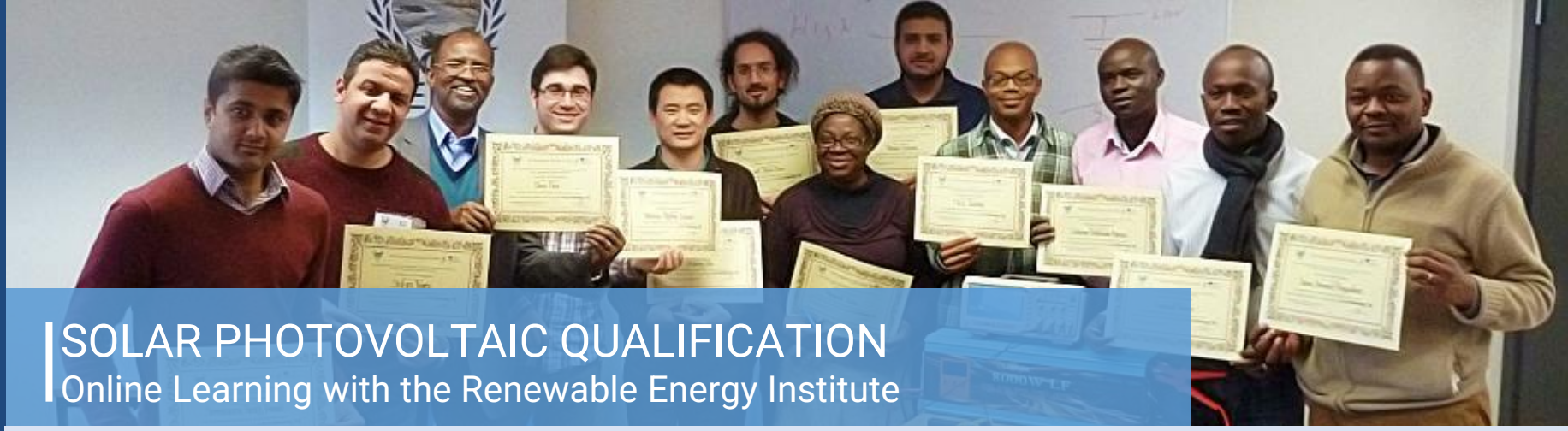
GMC

REI

SQA Approved Centre

CPD CERTIFIED The CPD Certification Service

> **"The lecturer was very knowledgeable and provided real-life examples"**
>
> *– Jack McKellar, Aecom*



SOLAR PHOTOVOLTAIC QUALIFICATION

Online Learning with the Renewable Energy Institute

COURSE CONTENT

- Composition of light
- Photovoltaic effect
- Photovoltaic cells
- Materials
- Daily/annual energy
- Positioning of the modules
- Photovoltaic energy
- Photovoltaic illumination
- Planning and designing a photovoltaic installation
- The electric load
- Costs and evaluation of the economical solutions
- Maintenance and reliability
- Practical solutions
- Typologies and modality of installation
- Integration of the photovoltaic modules in the building structure
- Payback time
- Economical perspectives

WHO IS IT FOR

Technicians and individuals intending to learn how to install, maintain and repair Solar Photovoltaic equipment.

Design engineers.

GMC

REI

SQA Approved Centre

CPD CERTIFIED The CPD Certification Service

"After being on numerous PV courses with a number of companies, I found this course to be the most professional, in every way - tutor, exams, information given & explained" *– Geoffrey Otto, Recent Participant*

CARBON FINANCE

Online Learning with the Renewable Energy Institute

COURSE CONTENT

- Corporate emissions and decarbonisation strategies.
- Introduction to greenhouse gases (GHG) and climate change.
- ESG corporate principles and reporting.
- Corporate carbon emissions accounting.
- Types of emission-reduction commitments.
- Designing a corporate decarbonisation strategy.
- Carbon markets in Europe.
- Compliance carbon markets:
- Voluntary carbon markets:
- Opportunities in carbon trading and management strategies

WHO IS IT FOR

The Carbon Finance course is aimed at managers and directors intending to reduce their organisation's carbon footprint and needing to find out more about carbon trading, or anyone interested in the benefits of carbon management and trading strategies for carbon reduction commitments in small, medium and large organisations

GMC

REI

SQA Approved Centre

CPD CERTIFIED
The CPD Certification Service

> **"The lecturer was very knowledgeable and provided real-life examples"**
>
> *– Jack McKellar, Aecom*

RENEWABLE ENERGY SOLUTIONS

Online Learning with the Renewable Energy Institute

COURSE CONTENT

- Introduction of the module and overview of the different renewable technologies
- Government incentive, climate change, energy, assessment (LEED, BREEAM, EPC)
- Choosing the best renewable energy options
- Benefits, applications and case studies for each technology:
- Solar Water Heating
- Fuel Cell, Earth duct: Canadian/Provencal Wheel, Light pipe
- Review of each technology
- Payback time considerations
- Combining renewable energy technologies
- Software available
- Conclusion

WHO IS IT FOR

Individuals intending to learn how to manage projects effectively.

Professionals looking to advance within their sector.

GMC

REI

SQA Approved Centre

CPD CERTIFIED The CPD Certification Service

"I gained a good background to all renewable technologies, and there were good real world examples included in the course." – *Andrew McMullen, LEGO*

HYDROGEN ENERGY

Online Learning with the Renewable Energy Institute

COURSE CONTENT

- Environmentally Sustainable Hydrogen
- Hydrogen as Part of a Climate Neutral Strategy.
- Hydrogen Production and Conversion
- Fuel Cells
- Hydrogen for Mobility Applications & Vehicles
- Hydrogen Technologies
- Modelling and Simulation
- Hydrogen Economy & Financial Market Opportunities
- Storage & Carbon Capture
- LCSA, Recycling and Eco-design
- Distribution & Grid Infrastructure
- Government Legislation & Policies – UK, EU (including European Green Deal), Worldwide
- Case Studies

WHO IS IT FOR

This course is aimed at personnel and consultants who are interested learning more about the advantages and uses of different Hydrogen technologies.
This course will also suit anyone wanting to implement hydrogen in their projects

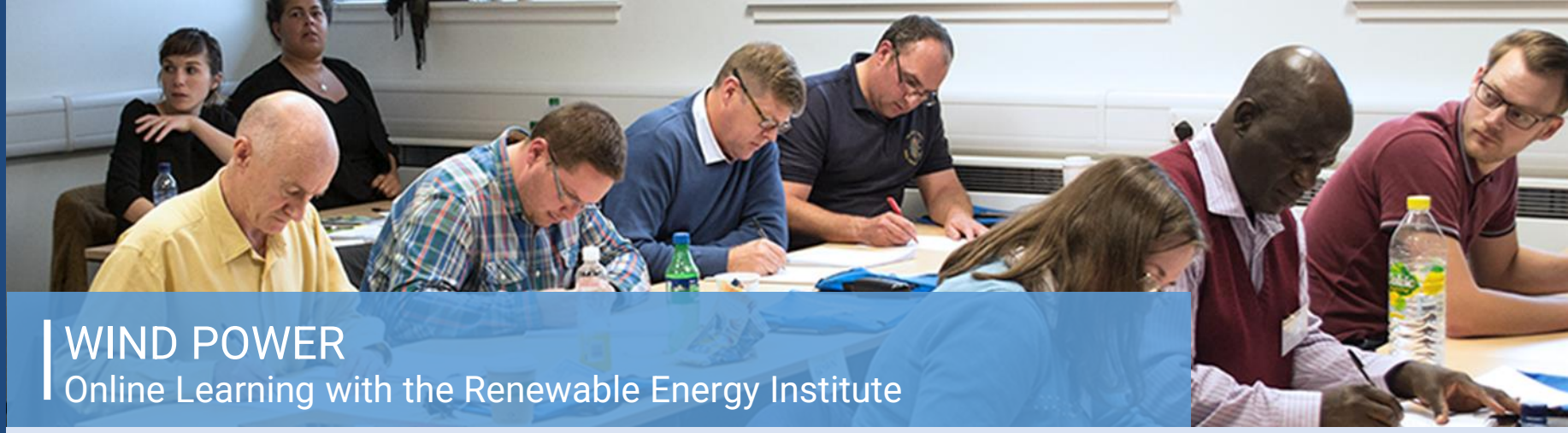
GMC

REI

SQA Approved Centre

CPD CERTIFIED The CPD Certification Service

"I chose the REI based on a colleague's recommendation and was impressed by what the curriculum offered." – *Kyle Coulam, The Clinton Foundation*



WIND POWER

Online Learning with the Renewable Energy Institute

COURSE CONTENT

- Small and micro wind power plants
- Scenery adaptation
- The environmental impact
- Hybrid systems
- Incentives for wind power adoption
- Economical aspects
- Policies and procedures
- Running and maintenance of plants
- Design criteria
- Tuning the plants
- Technologies of machines
- The wind market
- Classification and types of plants
- Concepts of aerodynamics and aeraulic machines
- How wind power works

WHO IS IT FOR

Individuals intending to learn how to install, maintain and repair wind turbines.

Technicians. Design engineers. Architects.

GMC REI SQA Approved Centre CPD CERTIFIED The CPD Certification Service

> **"I gained a good understanding of wind energy generation and related topics."**
>
> *– Lin Gao – E.On*

ENERGY EFFICIENCY IN BUILDINGS

Online Learning with the Renewable Energy Institute

COURSE CONTENT

- Energy context
- Physical principles
- Building envelope
- Building services
- Energy Performance Certificate
- Simulation tools – Energy modelling software
- Building design best practice

WHO IS IT FOR

Architects, engineers and building engineers.

Individuals considering a consultancy job in the energy saving field.

GMC

REI

SQA Approved Centre

CPD CERTIFIED The CPD Certification Service

> **"Excellent course material and knowledgeable tutor."**
>
> *– Lawrence Avery, Department of Energy and Climate Change*

ELECTRICS FOR RENEWABLES

Online Learning with the Renewable Energy Institute

COURSE CONTENT

- Review of electrical fundamentals including:
- Voltage, current and how they are measured,
- AC and DC,
- Resistance
- Inductance and Capacitance in AC and DC circuits
- Impact and calculation of Voltage drops
- DC-based Renewable Systems (off-grid):
- Earthing and over current protection
- Grid-connected systems:
- Safety considerations
- The impact of power factor
- PV installation guidelines and installation standards
- Connection and Wiring standards
- AC safety:
- Earthing arrangements and their implications

WHO IS IT FOR

Technicians and individuals with a strong interest in the electrical systems side of renewable systems.

GMC

REI

SQA Approved Centre

CPD CERTIFIED The CPD Certification Service

"I would like to underline the instructors' high level of preparation, alongside their good spirit of collaboration, dedication, flexibility and professionalism" *– Mrs. Lorenza Vecchio, NATO*

CASE STUDY

The course provided me with information that I'll be able to apply to the decisions I make with regard to the procurement of renewable energy"

Nancy Jones

BNY Mellon | Sustainability Research Analyst

1. What is your current expertise and how does this relate to the renewable energy field?

I work as the Sustainability Research Analyst at BNY Mellon, a global investment company, where I manage the sustainable operations of the firm with the goal of reducing the company's impact on the environment in terms of its real estate, supply chain, and services provided to employees. This directly relates to renewable energy as the sustainable management of our energy portfolio is critical to our success in this space. As a carbon neutral company, BNY Mellon procures renewable energy credits and carbon offset projects for its energy portfolio.

2. Why did you choose to train with the Renewable Energy Institute at The George Washington University in order to take the exam for the internationally recognised Galileo Master Certificate?

I chose this course in order to augment my understanding of the dynamic and fluctuating energy markets. I wanted to gain a more thorough understanding of the factors that impact energy prices so that I can make more informed decisions. Furthermore, I signed up for this course with the intent to meet and network with other professionals in the field.

To read more from Nancy, visit: https://www.Renewableinstitute.org/news/eec-alumnus-spotlight-bny-mellon-nancy-jones/

BIOMASS
Online Learning with the Renewable Energy Institute

COURSE CONTENT

- What is biomass?
- Market, resources and targets overview
- The physics principles
- How biomass works (energy content, types of technologies, PCI, humidity content)
- Design guidance (sizing, selecting, autonomy, storage, manufacturers)
- Types of technologies: anaerobic digestion (bio-methane), gasification
- Environmental impact and analysis
- Finance, regulation and incentives (RHI, MCS, ROCs, DECC)
- Case studies, best practice analysis, manufacturers
- Simulation tools
- Standards
- References and further reading
- Trade bodies and support

WHO IS IT FOR

Individuals intending to learn how to install, maintain and repair biomass equipment.

Technicians. Design engineers. Architects.

GMC

REI

SQA Approved Centre

CPD CERTIFIED The CPD Certification Service

"It was a great cover of all products and I will use my knowledge to apply to projects I am working on" – *Melanie Horbury, Pleydell Smithyman Ltd*

SOLAR WATER HEATING
Online Learning with the Renewable Energy Institute

COURSE CONTENT

- Climatic data capture
- Types of solar systems. Storage of energy
- Calculation of the thermal requirements, occupancy, sanitary hot water
- Passive components
- Calculation of the designing surface required for the system
- Calculation of volume of accumulation (ground storing)
- Budgets
- Regulations
- Data and costs of installations
- Savings achieved
- Installation of the system, the tank, solar regulating switchboards, hydronic circuit of solar

WHO IS IT FOR

This course is suitable for a wide range of audiences, including engineers, design engineers and architects.
Individuals and professionals intending to learn how to install, maintain and repair Solar Thermal equipment

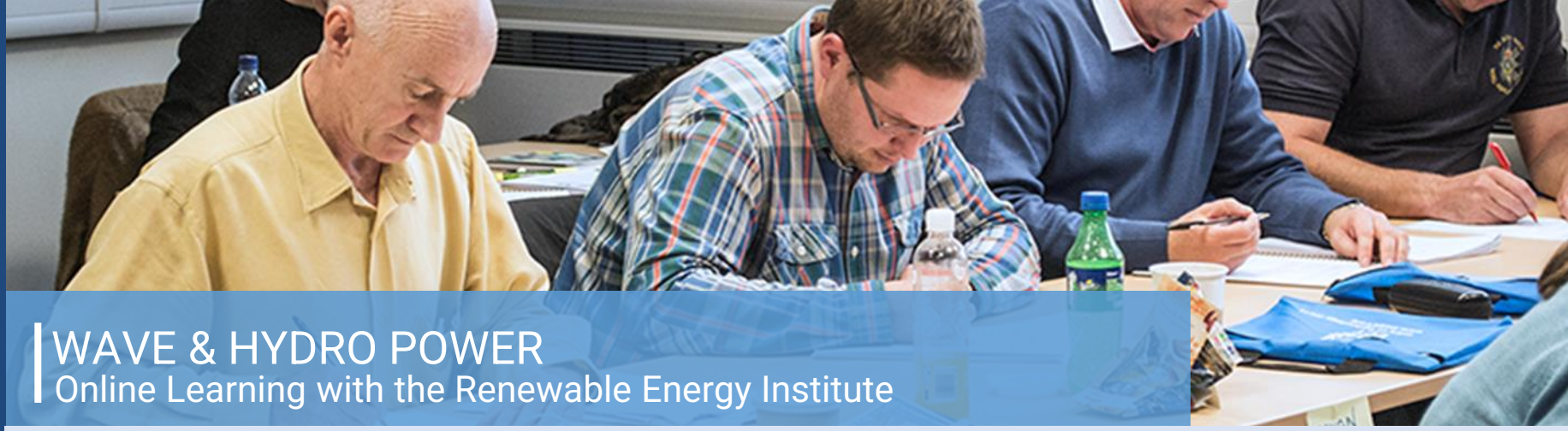
GMC

REI

SQA Approved Centre

CPD CERTIFIED
The CPD Certification Service

> **"I won a project with the United Nations Industrial Development Organization with the help of the courses I took ."** *Alhaji Cham – National Water and Electricity Company Ltd*



WAVE & HYDRO POWER

Online Learning with the Renewable Energy Institute

COURSE CONTENT

- What is Wave / Tidal Power
- What is Hydro Power
- Market, resources and targets overview
- The physics principles (energy content, types of technologies)
- Design guidance (types, sizing, selecting, manufacturers)
- Environmental impact and analysis
- Finance, regulation and incentives (MCS, RHI, CCL, ECA)
- Case studies, best practice analysis
- Simulation tools
- Standards, References and further reading

WHO IS IT FOR

Individuals intending to learn how marine and hydro power works, how to install, maintain and repair the systems.

Engineers. Design engineers. Architects.

GMC

REI

SQA Approved Centre

CPD CERTIFIED The CPD Certification Service

> **"The course was very well presented and it was clear that the instructor had a great deal of experience and knowledge."**
>
> *– Phil Coulston , Environment Agency*

COMBINED HEAT & POWER
Online Learning with the Renewable Energy Institute

COURSE CONTENT

- What is CHP?
- Market, resources and targets overview
- The physics principles (energy content, types of technologies)
- Design guidance (types, sizing, selecting, manufacturers)
- Environmental impact and analysis
- Finance, regulation and incentives (MCS, RHI, CCL, ECA)
- Case studies, best practice analysis
- Simulation tools
- Standards, References and further reading

WHO IS IT FOR

Engineers, architects, professional installers.

Managers and Directors intending to invest in this technology or who wish to find out how CHP works, and those who have to evaluate the benefits of adopting CHP technology.

GMC

REI

SQA Approved Centre

CPD CERTIFIED The CPD Certification Service

"This course has given me experience and knowledge which I'll pass onto communities throughout Scotland" – *Tom Young, Community Energy Scotland*

ENERGY STORAGE

Online Learning with the Renewable Energy Institute

COURSE CONTENT

- Types of electrical energy storage and key characteristics
- Parameters for electrical energy storage
- Operational characteristics of electrical storage
- Costs and pricing
- Integration of energy storage into electrical grids
- Off-grid systems, architecture and sizing
- Small scale battery storage systems
- Types and applications of thermal energy storage
- Future developments in energy storage

WHO IS IT FOR

This course is aimed at personnel and consultants who are interested in implementing energy storage systems in their projects.

Professionals looking to advance within their sector.

GMC

REI

SQA Approved Centre

CPD CERTIFIED The CPD Certification Service

> **"The course has given me a wider knowledge and skill set of the wide choices of energy"** – *Jonathan Bell, Linskeldfield Bio Energy*

ELECTRIC VEHICLES
Online Learning with the Renewable Energy Institute

COURSE CONTENT

- EVs – cars, trucks, vans, scooters, bicycles
- EV technology
- Battery technology
- Battery recharging
- Renewable electricity recharging of EV batteries
- Recharging infrastructure
- Tailgate emissions
- Well to wheel LCA calculations
- EV financing and development

WHO IS IT FOR

Individuals who would like to learn about Electric Vehicles and how they work; professionals in the sustainability sector who require strong knowledge and experience of Electric Vehicles in order to take advantage of the latest government legislation.

GMC

REI

SQA Approved Centre

CPD CERTIFIED The CPD Certification Service

> **"The topics covered met my professional needs and provided a detailed course on Electric Vehicles"**
>
> *– The NHS - Sathish Sethuraman*

HEAT PUMPS
Online Learning with the Renewable Energy Institute

COURSE CONTENT

- What is heat
- Market, resources and targets overview
- The physics principles (components, types of technologies)
- Design guidance (sizing, selecting, autonomy, storage, manufacturers)
- Other types: Underground Thermal Energy Storage (UTES), Earth Ducts, Solar Assisted Ground Source heat pump
- Environmental impact and analysis
- Finance, regulation and incentives (MCS, RHI)
- Case studies, best practice analysis
- Simulation tools
- Standards
- References and further reading
- Trade bodies and support

WHO IS IT FOR

The Heat Pumps course is aimed at individuals (professionals and students), technicians and professionals intending to learn how heat pump technology works, as well as the savings and benefits that can be achieved. The course is suitable for a wide range of audiences, including engineers, design engineers and architects.

GMC

REI

SQA Approved Centre

CPD CERTIFIED The CPD Certification Service

> **"The topics covered met my professional needs and provided a detailed course on Electric Vehicles"**
>
> *– The NHS - Sathish Sethuraman*

CASE STUDY

The knowledge I have gained from this course will help identify opportunities for my company to engage our clients on new points in project life cycles."

Marc David

The MET Office | Energy Account Manager

1. What is your current expertise at the MET Office and how does this relate to the renewable energy field?

My work currently involves managing a cross Energy portfolio of accounts who utilise **Met Office's commercial products** and data sets. This typically will includes companies focused on larger generation type construction projects or O&M activities in the UK and Internationally. Specifically for Renewables, **the Met Office** looks to maximise the use of our world leading weather forecasting and climate science to better manage resource, mitigate health and safety risk and maximise economic recovery.

2. Why did you choose to train with the Renewable Energy Institute in order to take the exam for the internationally recognised Galileo Master Certificate?

Having the course delivered by industry professionals with a record of accomplishment in the renewable and low-carbon industries was something that was particularly important for me. Allowing the opportunity to question the course contents and get anecdotal evidence from those working directly in the industry was beneficial.

Read the full article from Marc here: https://www.renewableinstitute.org/news/eec-alumnus-spotlight-the-met-office-marc-david/