



## who has got energy for life?

### name

**Professor Muneer**

### occupation

**Professor of Energy Engineering  
and Director of Energy Research**

### organisation

**Napier University**

[www.napier.ac.uk](http://www.napier.ac.uk)

### introducing Professor Muneer

Professor Muneer joined the School of Engineering 18 years ago and has been leading the University's Research and Teaching effort in Renewable Energy ever since.

"I don't see any other viable alternative to Renewable Energy"

The University was the first in the UK to specifically develop expertise in Renewable Energy 34 years ago, a lead that several universities have followed decades later. The school has a very strong academic track record in Renewable Energy and amongst its ranks includes; Banister, a pioneer in wind turbine blade technology and McGregor, a leader in solar technology amongst its staff.

Professor Muneer and his department take every opportunity to share their experience at every level. The department "run a number of programmes for primary and secondary schools and they are regular contributors to the annual Edinburgh Science Festival."

In 2005 the University commissioned the largest Solar Photovoltaic system in Scotland. "My colleagues supported the project wholeheartedly; the Principal, the Dean, at all levels **they feel proud of the landmark installation.** We had to put a substantial sum of money up for the project but there was no bother because everyone was convinced. **We are producing power and energy which we are using** in the University and monitoring on a very detailed basis. We are finding that the performance efficiencies are very good."

Professor Muneer is in no doubt of the potential of Solar Energy, at Napier University "we have been measuring solar irradiation and wind speeds at 1 minute intervals since 1990, so we have a lot of detailed information available on wind and solar resources. After some research **we have calculated the solar resource in Scotland is 240 times that of Wind** resource. **That looks unbelievable but that is truth.** It means that even a small area of Scotland could provide the power for the whole of Scotland, so there is a great potential for solar."

During his career Professor Muneer has seen perceptions change markedly towards Renewable Energy, particularly in recent years. "People in the UK, Europe and the World at large are responding to Climate Change and **now the man on the street has made the link between Energy and Climate Change.**"

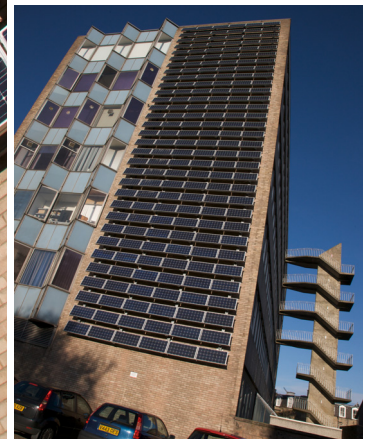
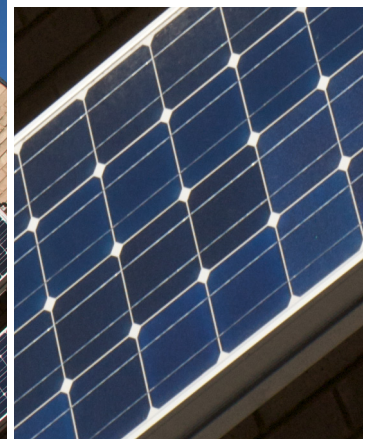
"**I truly and sincerely believe that the widespread implementation of Renewable Energy will happen,** the thing that has driven change to date is not the shortage of oil, or oil prices going through the roof, it is Climate Change. I don't see any other viable alternative to Renewable Energy bar Nuclear Fusion, which is always just 38 years away."

"I would say by **2020 we will see the take-up of Renewable Technologies in a very significant way.** **All the technologies are there now** it is just a matter of cost in some cases."

"I truly and sincerely believe that the widespread implementation of Renewable Energy will happen"

## Napier University

The solar photovoltaic system is the largest in Scotland and has been designed and fitted as a screen up the 6 storey brick façade, it had to be designed to achieve an optimum performance from the panels whilst meeting the stringent requirements of the planners. The final solution achieves this very successfully with a striking louver type arrangement, providing the building with green electricity, a valuable research tool and an impressive entrance to the University.



### solar photovoltaic solutions

Screen

### area (sqm)

136

### size (kW)

17

### project details

Customer

Napier University

Type of building

University

Date completed

2005

Location

Edinburgh

### carbon saved / energy generated

Annual carbon saving

4.8 tonnes

Lifetime carbon saving

168.6 tonnes

Annual energy generated

11200 kWh

For further information on other innovative ways of incorporating renewable energy in your building see our Solution Sheets.