



▶ The Renewable Event

Energy cost control and storage are some of the greatest problems facing all educational institutions. It is vital that universities and colleges are able to transition to a low carbon, sustainable economy through the use of renewables and new technology.

Jan/ 28/ 16 Chimneys Hotel and Conference Centre



Smartpower Ltd

Why are we here?

SUSTAINABLE
INNOVATION
FORUM 2015



UNEP

CLIMATEACTION



Our first event to offer a chance to discuss and digest the outcomes of COP21 and its implications for the sector. Potential to meet with and discuss the impacts on local councils and their development of climate and energy initiatives.

Leaked letter: UK to miss renewables target

Energy secretary **Amber Rudd** is facing damaging accusations that she misled the public, following a letter leaked to The Ecologist predicting the UK's impending failure to meet legally-binding renewable targets

The letter, penned by Ms Rudd and sent to the treasury chief secretary and foreign and transport secretaries on October 29, sensationally reveals an alarming disparity between DECC's internal forecasting and its public statements.

DECC's own calculations predict a shortfall of 20 TWh (3.5 percent of total UK energy production) against the UK's target to generate 15 percent of its energy from green sources by 2020. The letter concedes that, in public, DECC maintains the contrary view that the UK is very much on track to reach required levels of renewable generation by the end of the decade.

The UK runs the risk of facing legal action from both home and abroad, plus large fines imposed by The European Court of Justice, should the target it is legally mandated to meet not be achieved.

The energy secretary has attracted additional criticism for the letter's suggestion that renewable energy generated by other EU countries operating in excess of their targets could be purchased by the UK in order to overcome the production gap.

"There's no indication that all this would be cheaper than supporting renewables in the UK, which has Europe's best and most economic wind resource" said Dale Vinco, Ecotricity founder.

This letter shows us the dark side of the government's incoherent energy policy in full technicolour

"Given the reason for Rudd's cuts to renewable energy support was cost, you'd think that ought to be a prominent feature of any discussion. Not only would paying other countries to build renewables for us cost more, but we'd also be exporting jobs and industry.

"It rather looks like DECC are panicking, faced with the inevitable consequences of the ideologically driven renewables cull – their plan A. Plan B appears to be either to pay the fines or to pay another country to do the job for us. Both options are short sighted and economically illiterate."

Greenpeace head of energy, Daisy Sands, added: "This letter shows us the dark side of the government's incoherent energy policy in full technicolour. This is hugely shocking. But more deplorably, it is wilfully hiding this from public scrutiny.

"Perversely, we see that the government believes investing in renewable energy projects involving buying power from abroad is more desirable than supporting home grown industries."

The Solar Trade Association is calling for strong action on renewable heat, which provides a particularly low proportion of the UK's total energy needs and makes one of the lowest contributions in



Spot the difference: The energy secretary's revelation that the UK is to miss legally-binding renewable targets is at odds with her department's public pronouncements

Europe. This must be made an urgent priority, it adds, given the need to avoid a breach of legally-binding targets in just four years' time.

"There is plenty of scope to strongly ramp up renewable heat while providing a sensible framework to safeguard public investment in the British solar industry," said Leonie Greene, head of external affairs.

The plan appears to be either to pay the fines or to pay another country to do the job for us

"We are not on track to meet 2020 targets, investor confidence has been severely damaged by recent policy chaos, the world is half way to dangerous climate change – the UK does not have a minute to waste."

"The secretary of state herself said she would rather meet the target at home so why is she decimating our industry and looking for electricity from overseas?"

The Challenge...

\$53 trillion of city level investment in energy and efficiency is needed by **2035** to remain on track towards a 2 degree world

Cities are responsible for consuming **78%** of all energy globally



Average global flood losses could increase to **\$52 billion** by 2050



Cities produce more than **60%** of all carbon emissions

By **2025** cities will create enough solid waste to fill a line of rubbish trucks **5000 km** long each day

The World Bank estimates that only **4%** of the **500 largest cities** in developing countries are deemed creditworthy in international financial markets



Mobility

London

plans to install 6,000 charging points and 3,000 battery-powered cars by 2018



Beijing

Public Transportation Group utilises 1272 electric buses



BMW's i3

electric vehicle consumes 124 miles per gallon gasoline equivalent, making it the most efficient vehicle available in the US



Houten

In Germany is home to 80 miles of cycle lanes, with an estimated 66% of all trips made by foot or bicycle



In Paris

car sharing is used by 220,000 drivers, taking approximately 31,000 cars off the road

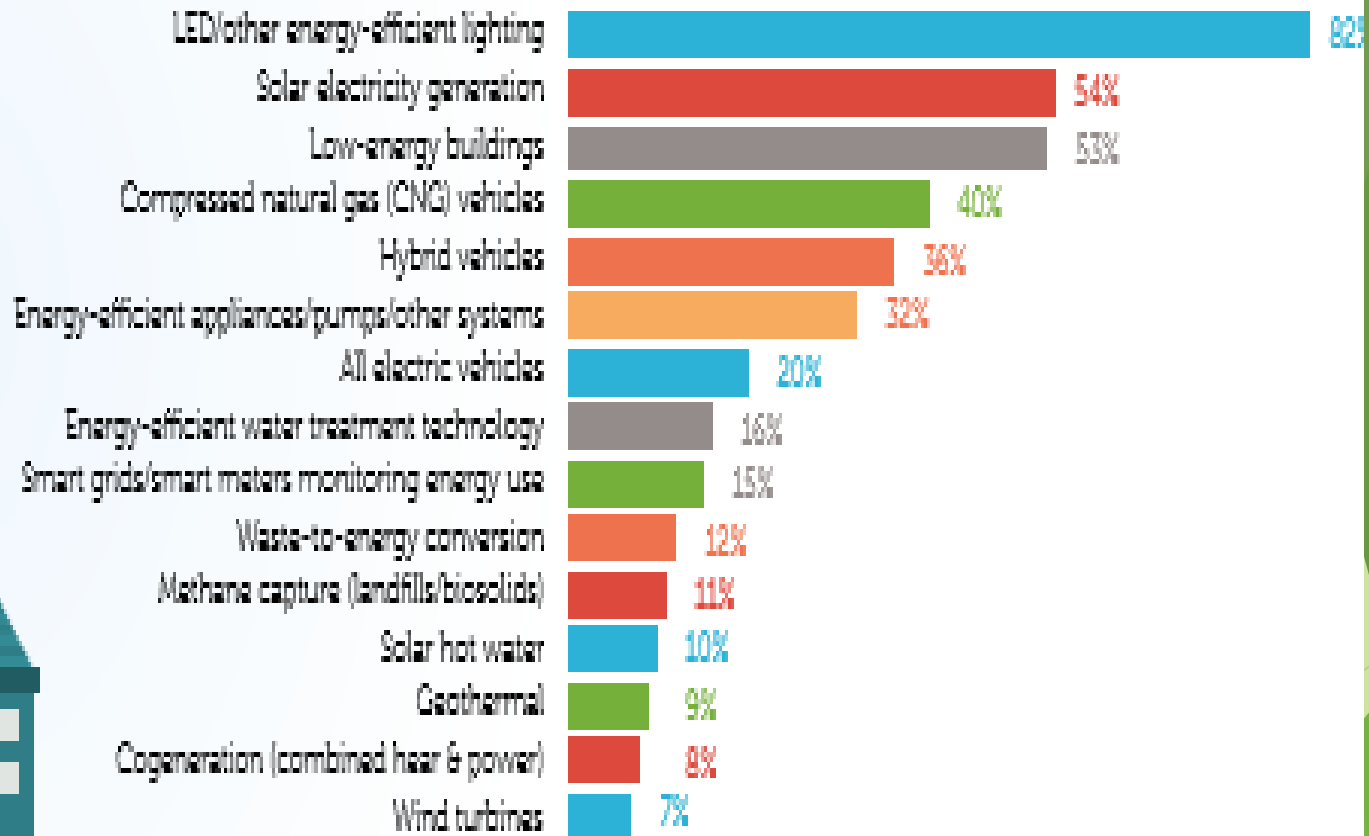


In New York

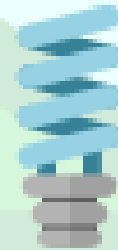
82% of employed Manhattanites travel to work by public transport, bicycle, or on foot- 10 times the rate for Americans in general



The most promising opportunities for reducing carbon emissions according to 282 US Mayors ...

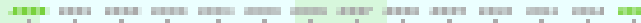


Finance



Gothenburg and Johannesburg have issued \$489 million worth of green bonds

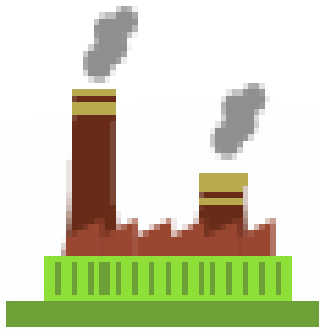
The €265 million European Energy Efficiency Fund (EEEF) supports public authorities in improving energy efficiency



40% of the £28 billion investment made by development banks in 2014 was in infrastructure, energy and the built environment

Between 2000 and 2013, the EU invested €10.7 billion in public urban transport projects

Systemic Efficiency



London plans to switch 25% of its power generation to more efficient, local sources by 2017



\$1 trillion could be added to the global economy by 2025 if cities switched to a circular economy model

Putting Solutions into Practice...

Renewable Energy



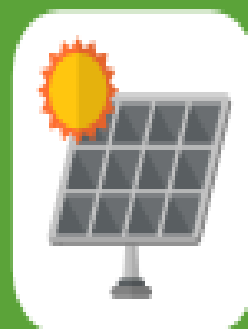
Vancouver City

plans to utilise **100%** renewable energy sources by **2050**



Fechenheim

power station in Frankfurt is powered by waste biomass, delivering electricity to **20,000** households



Seoul

has invested **\$43 million** dollars in installing solar PV panels on **285** public buildings



Goteborg

aims to develop **1TWh** of sustainable biogas to supply **100,000** automobiles by **2020**

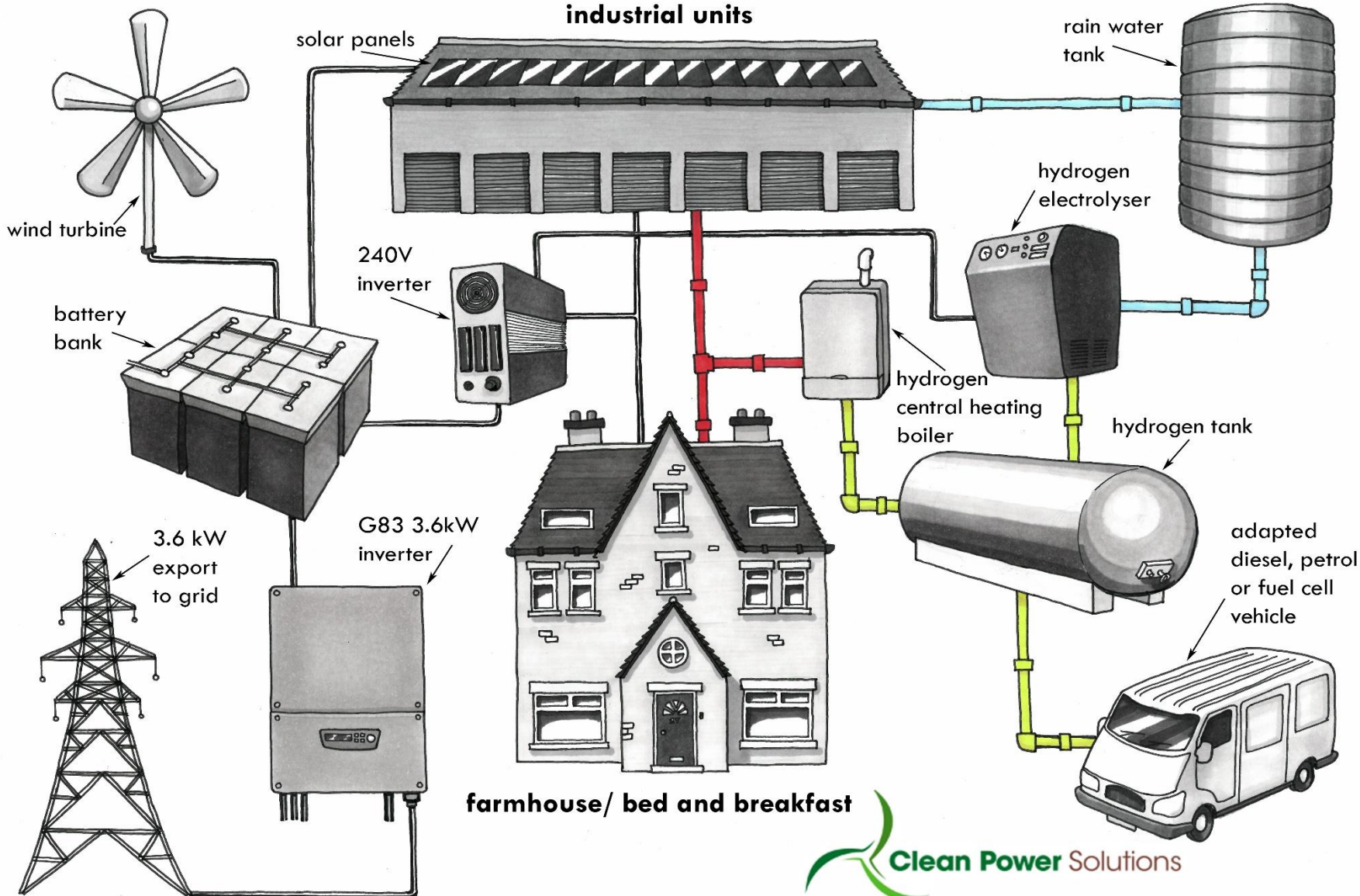


Clean Power Solutions



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industrial units



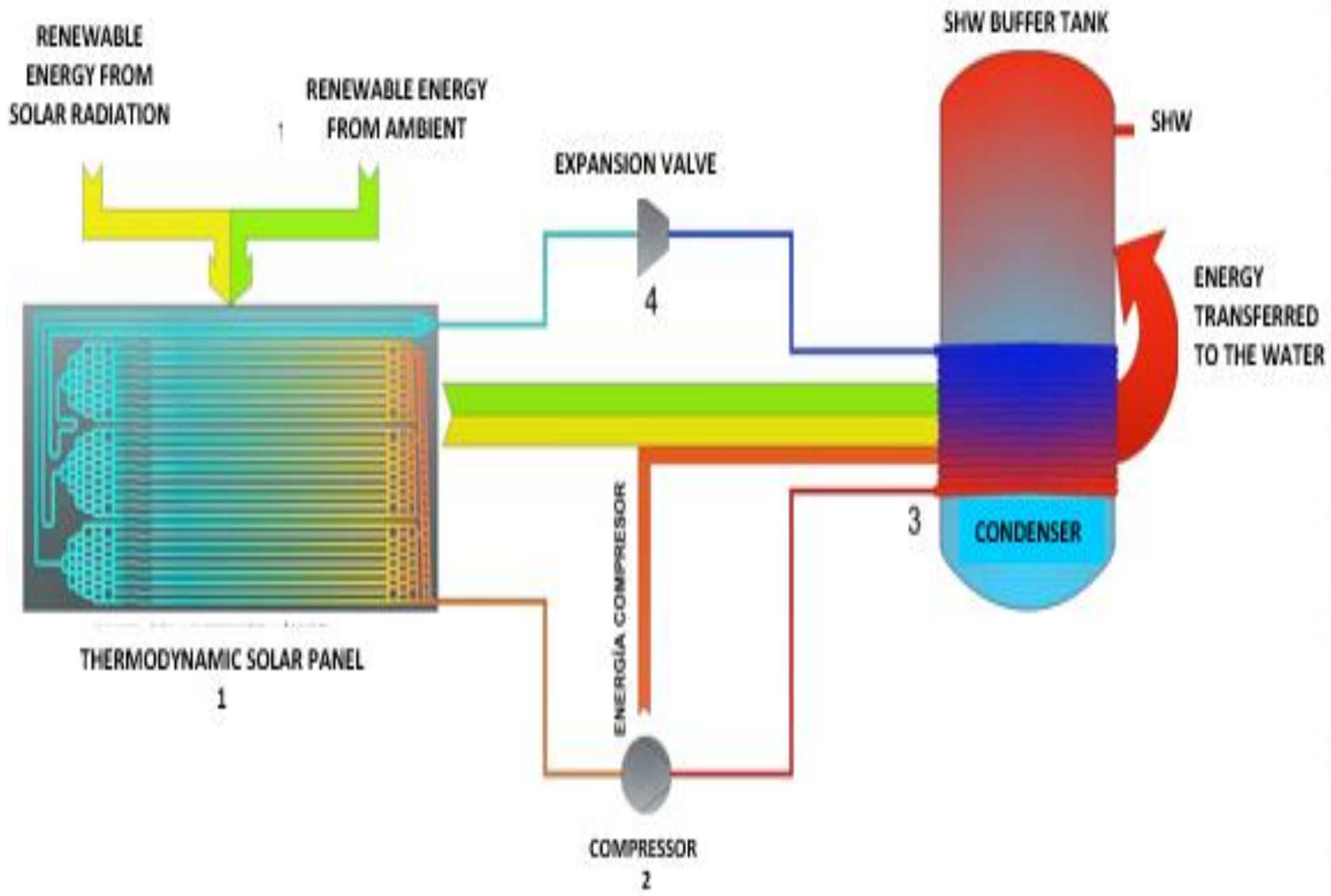
farmhouse/ bed and breakfast





"The Vedolux 650 resembles an exclusive retro-style fridge painted matt black. This colour should, by definition, be the optimum colour for a wood-fired boiler"

WS-Forum no. 4 2011



G587 | 1200×90mm Panel Light

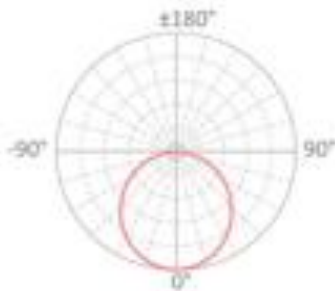


Fixture Height vs Avg Illumination

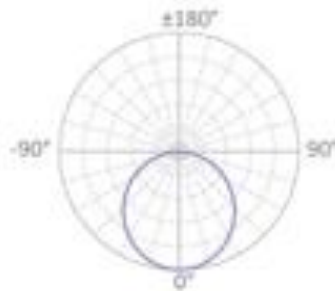
1	540	620	2.95
2	135	155	5.89
3	60	69	8.84
4	34	39	11.79
5	22	25	14.74
(m)	(lux)	(lux)	(cm)

36W
42W

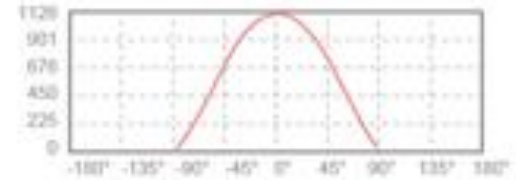
polar graph C0 / 180



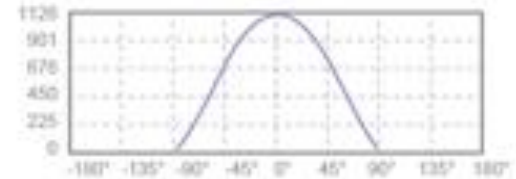
polar graph C90 / 270



rectangular coordinates graph C0 / 180



rectangular coordinates graph C90 / 270



GENERAL SPECIFICATIONS

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