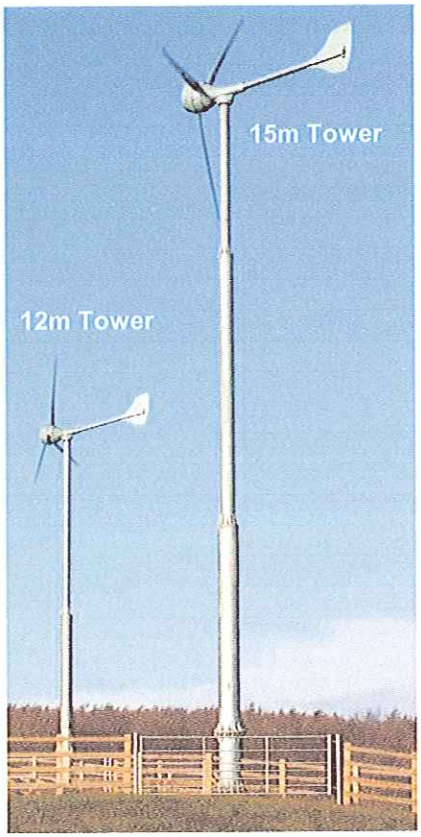
APP/B3438/C/16/3149744

Changing From a 15m Tower to a 12m Tower

The photograph to the right is from the Apedale Energy Center, funded by Staffordshire County Council where they have two of the R9000 turbines, one on a 15m tower and one on a 12m tower.

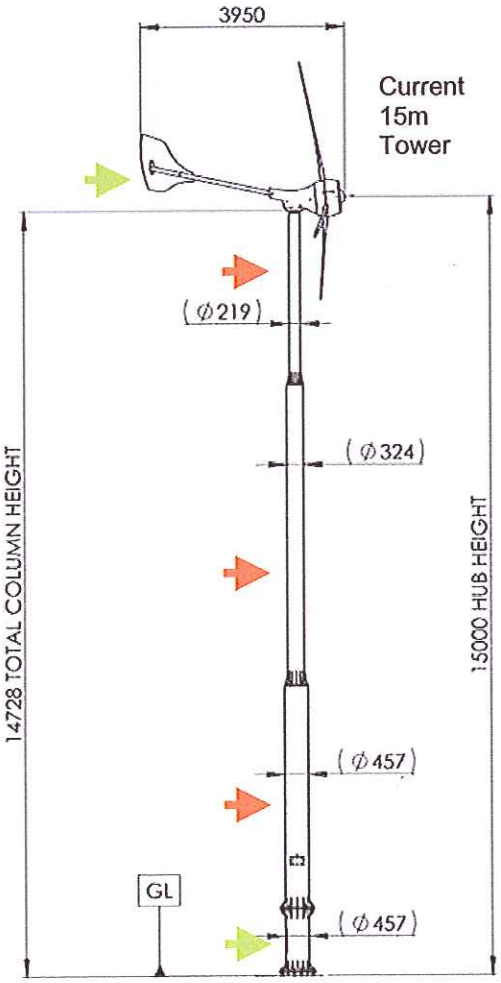


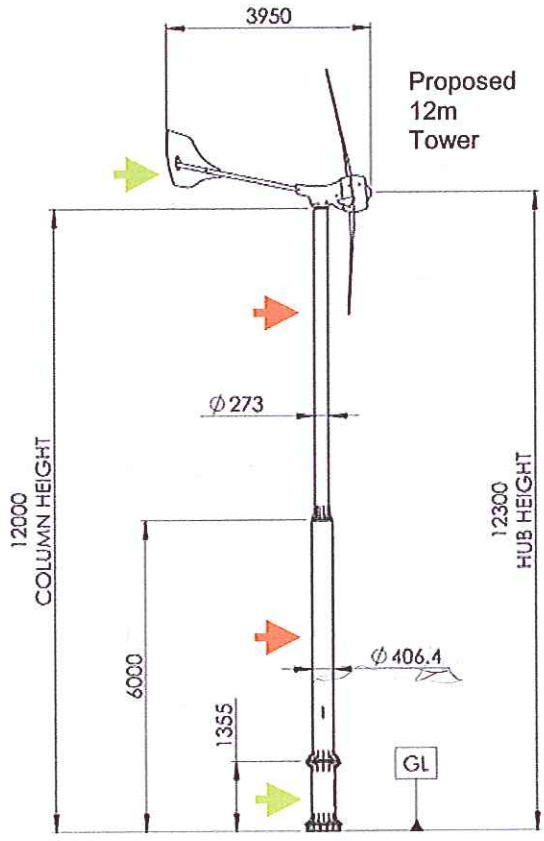
Materials/Appearance

The tower materials used for both the current 15m tower and proposed 12m tower are galvanised steel, produced by the same manufacturer with the same materials/appearance.

Changing from a 15m Tower to a 12m Tower

Not all of the structure would be dismantled and many of the components would remain. Within a day the turbine tower could be changed. Three sections of the 15m tower would be replaced with two different sections for a 12m tower height. The steel/concrete foundations, lower tower section and control box remain. The green arrows on the diagram indicate which components are maintained, and the red arrows indicate which components are changed.





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Energy Generation on a 12m Tower

I consulted the wind turbine manufacturers Britwind for a new output figure for the turbine on a 12m tower for the existing location (Appendix A).

Using two different assessment methods the annual energy output is between 12,760 kWh and 13,210 kWh.

Therefore on a 12m tower the annual energy generation of the turbine is considerably more than our existing 4kW solar array at 3,440 kWh per annum.

The wind turbine generates most of its energy during the winter months when our energy demands are at their highest. The solar array contributes very little during the winter months.

The attached Appendix B shows that our existing solar array in the winter months between 21/12/2013 and 17/03/2014 produced only 512kWh.

By comparison the attached Appendix C shows that the turbine currently on its 15m tower over a similar 3 month winter period from 09/12/2014 to 06/03/2015 produced 3,610kWh. In fact over this 3 month period our existing wind turbine produced more than our existing 4kWh solar array over the whole 12 months (3,440kWh).

While the wind turbine on a lower 12m tower will likely produce less energy annually than on the current 15m tower it would still produce significantly more power than our existing solar array and another hypothetical 4kW solar array combined. This is particularly true as shown in the winter months when our energy demands are at their highest.

Chris Scott
Agent

Britwind

Christopher Scott
Lask Edge Farm
Lask Edge Road, Lask Edge
Leek
STAFFORDSHIRE
ST13 8QS

8th July 2016

Dear Chris,

RE: Britwind R9000 turbine

We understand that you would like to assess the impact on annual energy production should you reduce the tower height from 15m to 12m for your R9000 installation.

The following is based on data obtained from the NOABL wind database for your postcode and analysis carried out in accordance with the Microgeneration Installation Standard (MCS) MIS 3003 Issue 3.4 and BS EN 1991-1-4:2005.

Standard Annual Energy Production Assessment (MIS 3003)	**Value**
Average annual wind speed from the NOABL wind database at your Post Code at height of 10m	6.6m/s
Hub height of the turbine (m)	12m
Terrain Category Factor	CAT 3
Allowance for significant obstacles	NIL
Estimated hub height annual mean wind speed (using MIS 3003)	5.9m/s
Annual Energy Production based on MCS AEP Curve* (kWh)	13,210
Alternative Annual Energy Production Assessment	
Average annual wind speed from the NOABL wind database at your Post Code at height of 45m	7.5m/s
Roughness Factor (terrain factor) according to BS EN 1991-1-4:2005 And rationale: Area with regular cover of vegetation, buildings and/or trees	0.7
Estimated hub height annual mean wind speed (using wind shear calculation)	5.8m/s
Annual Energy Production based on MCS AEP Curve* (kWh)	12,760

* The energy performance estimate is based upon a standardised method using publicly available information. It is given as guidance only and should not be considered to be a guarantee. The energy performance of wind turbine systems is impossible to predict with a high degree of certainty due to the variability in the wind from location to location and from year to year.

For a greater level of certainty, it is recommended that on-site wind speed monitoring is undertaken ideally for at least a year. Note: it may be useful to monitor for shorter periods, especially if the acquired data is then correlated with other sources in order to estimate an annual mean wind speed.

Mr Robert Scott
Lask Edge Farms
Lask Edge
Leek
Staffs
ST13 8QS

Our Letter Code: FITDS

18 March 2014

Dear Mr Scott

Your Feed-In Tariff (FIT) Payment

Thank you for giving us your generation meter reading. Your Feed-In Tariff payment will be paid into your account (Account number ending 049).

Here's how we worked out your generation and export payments.

Generation Payment (21/12/2013 - 17/03/2014)

Your opening meter read	7724.90
Your closing meter read	8236.90
So during the period you generated	512 kWh

If you have any questions, please call the FIT Team on 0800 048 0520 or email microgeneration@npower.com - we're here to help you 8am to 6pm Monday to Friday.

Yours sincerely

Nina McDouall
FIT Team

FIT Team
Acorn House
Bridgwater Road
Worcester
WR4 9FP

Landline Freephone
0800 048 0520
Mobiles Freephone
0330 100 7567

ecotricity

Microtricity Statement

Mr Robert Scott
Lask Edge Farm
Lask Edge Road
Lask Edge
Staffordshire
ST13 8QS

This is your Microtricity (FiT) statement for the period from 09 December 2014 to 06 March 2015

Ecotricity Account Number:

Date of Statement: 27 April 2015
Payment Method: BACs

How we calculated your payment:

Your meter readings:

	Start Reading (09 December 2014)	End Reading (06 March 2015)	Total Units
Generation	0	3610	3610.0
Export			1805.0

Subject to us receiving funds from Ofgem, your payment will be made by 31st May 2015.

If you have any queries regarding this, please contact the Microtricity team on 0345 555 7 600 or microtricity@ecotricity.co.uk.