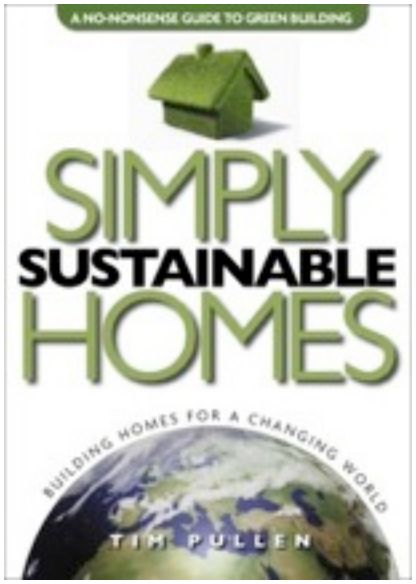
HOMEBUILDING & RENOVATING

The UK's no 1 Selling Self-Build & Renovation Magazine

How To Make Money From Renewable Energy



Tim Pullen

H&R Magazine Eco-Expert
Author – Simply Sustainable Homes
Sustainable Building Consultant

WHAT WE WILL BE LOOKING AT

HOMEBUILDING & RENOVATING
The UK's no 1 Selling Self-Build & Renovation Magazine

Making Money From Renewable Energy

1. Feed-in Tariffs
2. Renewable Heat Incentive
3. What you can get
4. How to get it?

Feed-in Tariffs

HOMEBUILDING & RENOVATING
The UK's no 1 Selling Self-Build & Renovation Magazine

Legislation that came into force April 2010.

1. Generation Tariff – a guaranteed sum paid for each kWh of electricity generated by renewable means

2. Export Tariff – a guaranteed sum (3p/kWh) paid for each kWh export to the grid – Can opt out each year

3. **Renewable Heat Incentive** – Autumn 2012. Annual payment for heat from renewable sources – includes Heat Pumps, Biomass & Solar Panels

Rates of Payment

HOMEBUILDING & RENOVATING
The UK's no 1 Selling Self-Build & Renovation Magazine

FiT Generation Rates :

Wind	1.5kW to 15kW	- 28.0p / kWh	- 20 years
PV	Up to 4kW (new build)	- 37.8p / kWh	- 25 years
	Up to 4kW (retrofit)	- 43.3p / kWh	- 25 years
Hydro	Up to 15kW	- 20.9p / kWh	- 20 years

People joining the scheme after 2013 get reduced rates

RHI Rates – Not Yet Confirmed

Solar	- 8.5p / kWh
Biomass	- 9p / kWh
GSHP	- 7p / kWh
ASHP	- 7.5p / kWh

Worked Example - PV

HOMEBUILDING & RENOVATING
The UK's no 1 Selling Self-Build & Renovation Magazine

3kWp solar PV array produces 2,400kWh p.a. for 25 years plus

Capital cost - £10,000 to £12,000
Assume 50% of production is used in the house.

Returns on Investment

2,400kWh x 37.8p generation tariff	= £907.20
1,200kWh x 3p export tariff	= £ 36.00
Electricity used in home at 12.5p/kWh	= £150.00
Total	**= £1093.20 p.a. or £91.10 p.m**

Simple payback = 10.25 years – or 9.1% ROI

Worked Example - Wind

HOMEBUILDING & RENOVATING
The UK's no 1 Selling Self-Build & Renovation Magazine

2kW wind turbine with suitable wind produces C.4,000kWh per year

Capital cost - £9,000 to £10,000
Assume 50% of production is used in the house.

Returns on Investment

4,000kWh x 28.0p generation tariff	= £1,120.00
2,000kWh x 3p export tariff	= £ 60.00
Electricity used in home at 12.5p/kWh	= £ 250.00
Total	**= £1430 p.a. or £119.17 p.m**

Simple payback = 7 years or 14% ROI

Worked Example – Whole House

HOMEBUILDING & RENOVATING
The UK's no 1 Selling Self-Build & Renovation Magazine

A well designed and run house of 200m^2 floor area will need :-

Space heating	- 8,000kWh
Hot water for 4 people	- 3,000kWh
Power	- 6,000kWh

We will Install :-

1. Ground source heat pump
2. Solar thermal panels
3. 5kW wind turbine

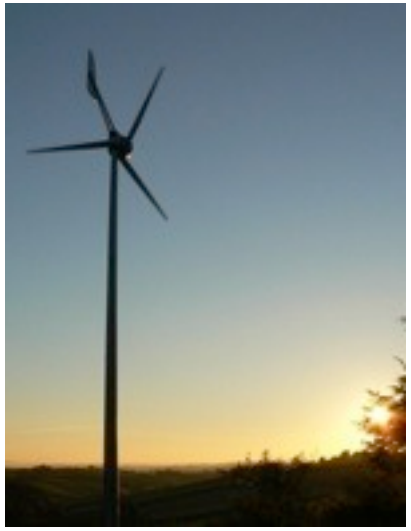
Worked Example – Whole House

HOMEBUILDING & RENOVATING
The UK's no 1 Selling Self-Build & Renovation Magazine

Total Energy Demand –

Space heating (assume COP 4) 2,000kWh	=
Hot water (assume 2,000kWh from solar)	= 1,000kWh
Power	= 6,000kWh
Total	**= 9,000kWh**

5kW wind turbine produces (approx) 9,000kWh with 5m/s wind speed

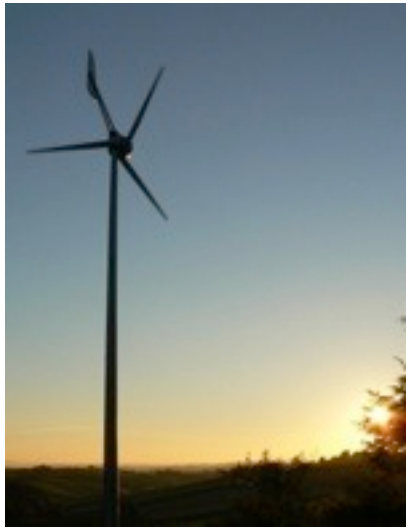


Cost Benefit Analysis

HOMEBUILDING & RENOVATING
The UK's no 1 Selling Self-Build & Renovation Magazine

Capital cost

Heat pump	= £8,000
Solar panels	= £6,000
5kW wind turbine	= £22,000
Total	**= £36,000**



Cost Benefit Analysis

HOMEBUILDING & RENOVATING
The UK's no 1 Selling Self-Build & Renovation Magazine

Returns - Assume 50% of electricity used on site

FiT payments for wind turbine:

9,000kWh @ 28.0p = £2,520 p.a.

4,500kWh @ 3p = £ 135 p.a.

RHI payments

Heat pump = 6,000kWh @ 7p = £420 p.a.

Solar panels = 2,000kWh @ 8.5p = £170 p.a.

Gross Income = £3,245 p.a.

Less electricity purchased – 4,500kWh @ 12.5p = £562.50 p.a

NET RETURN = £2,682.50p.a. Or £223.54 per month – tax free

How to Get The Money

- FiTS – Use one of the big 6 energy companies. Inform them that you want to be on the FiT Scheme.

- RHI – Details available soon – likely to be through Ofgem

Conclusion

To Make Money from Renewable Energy you need :-

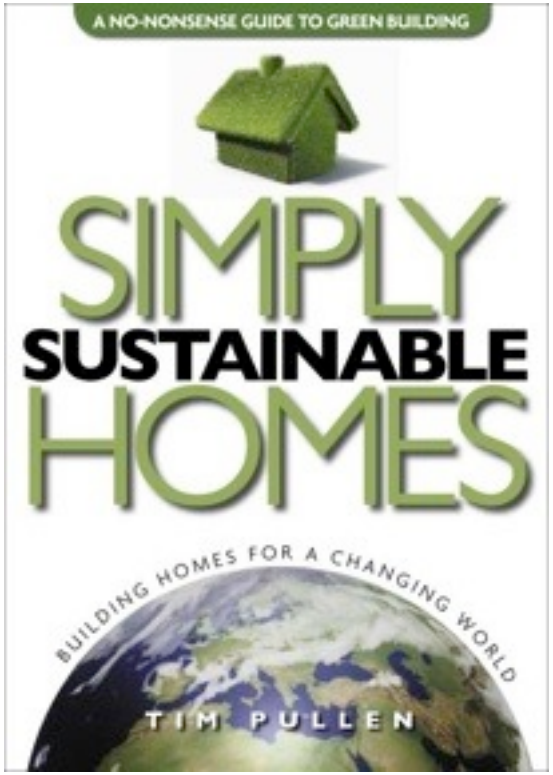
1. **The right plot**
2. **A well designed house**
3. **MCS approved installer & equipment**
4. **Some money – or join the PAYS scheme (small number of local authorities including Birmingham)**

More Information

HOMEBUILDING & RENOVATING
The UK's no 1 Selling Self-Build & Renovation Magazine

The Association of Environment Conscious Building – www.aecb.net

The Energy Saving Trust – www.energysavingtrust.org.uk



Simply Sustainable Homes - Tim Pullen, Ovolo Books,