

# Green Deal or Green Wash: A case study analysis of the Coalition's flagship energy efficiency policy

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# Topics

- 🏠 Why is it needed?
- 🏠 What is the Green Deal?
  - 🏠 What will it cover?
- 🏠 How should it work?
- 🏠 Will it work?

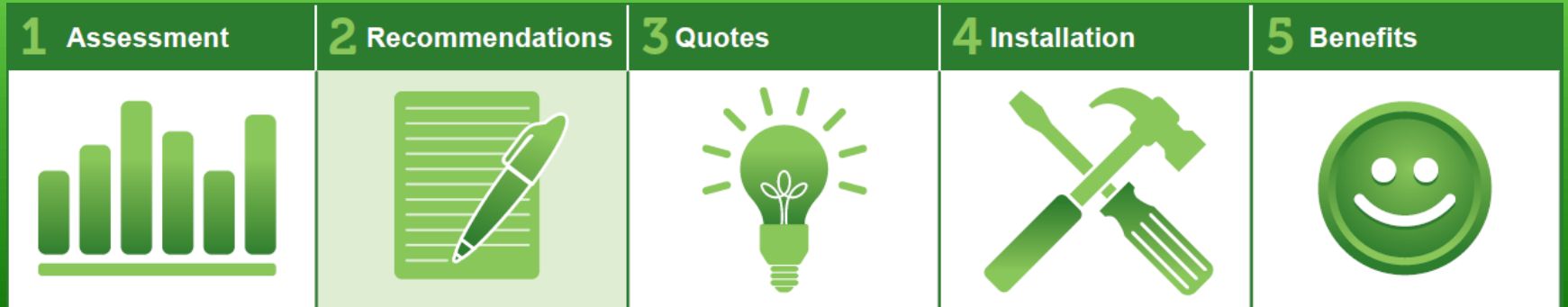
# Why is it needed?

- 🏠 24% of the UK's emissions are from the residential sector Office for National Statistics, 2010
- 🏠 Fuel poverty - 19% across the UK - 2010 DECC, 2012
- 🏠 EU Renewable Energy Directive (2009/28/EC) requires 15% energy from renewables by 2020, a third of which from renewable heat, 7 TW from the domestic RHI scheme

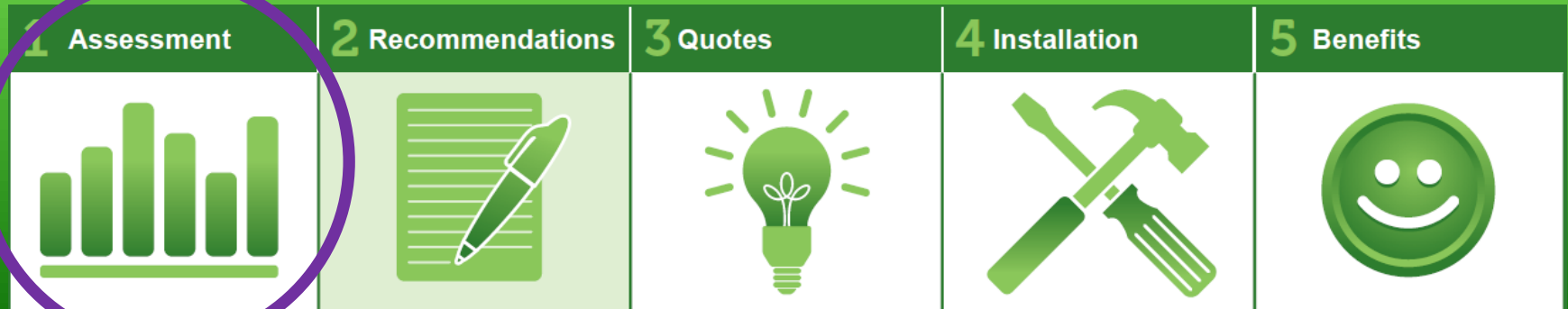
# What is the Green Deal?

- 🏠 Government initiative to “reduce carbon emissions cost-effectively by transforming the energy efficiency of British properties” DECC, 2012
- 🏠 Help with the upfront cost of improving your home
- 🏠 Encourage uptake of renewable energy
- 🏠 Loan stays with the house, not the occupant
- 🏠 You reduce your bills, so can afford to repay the loan

# How it works



# How it works



SAP

- Steady-state, monthly energy assessment
- Compliance tool

RdSAP

- SAP for existing buildings
- Improvements for GD: locational and level of assessor input

GDOA

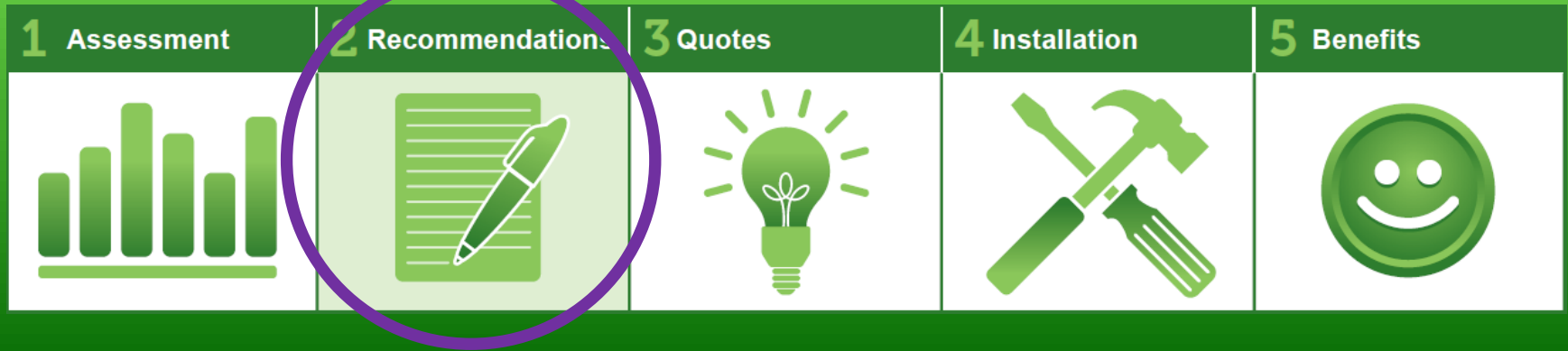
- Compares your house with 'typical' house
- Suggests savings

## Current energy bill for your household in £/year



What makes you different?	Typical household	Your household
Number of occupants	3	Higher
Average hours of heating	9	Higher
Thermostat setting	21°C	Higher
Number of rooms not heated	0	Higher

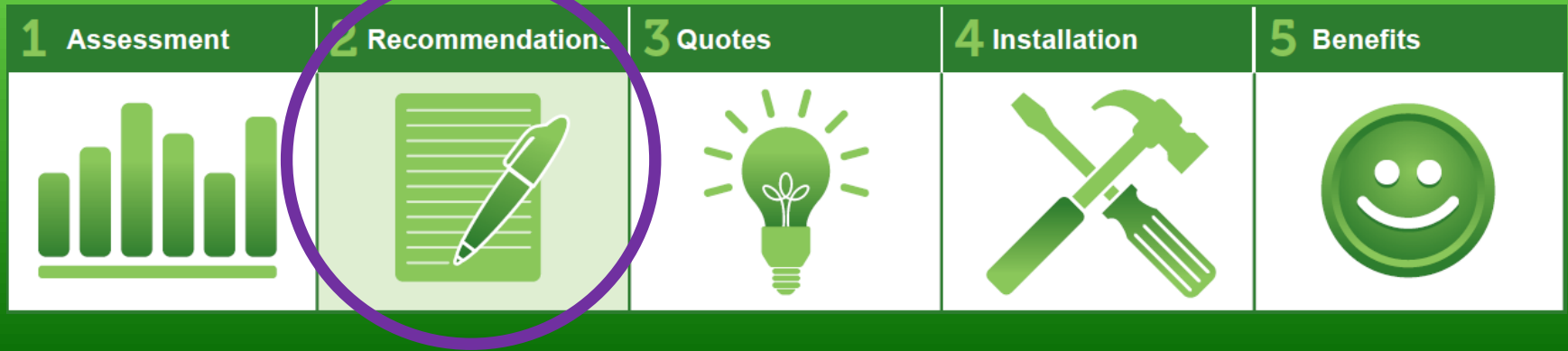
# How it works



Fabric measures	Heating measures	Other measures
Cavity wall insulation	New condensing boilers	Lighting fittings/controls
Loft/roof insulation	Heating controls	Water efficient taps/showers
Internal/external insulation	Underfloor heating	Solar thermal
Draught-proofing	Heat-recovery systems	Flue gas recovery devices
Floor insulation	GSHP/ASHP	Solar PV
Efficient glazing & doors	Biomass boilers	Insulation of cylinder/pipes



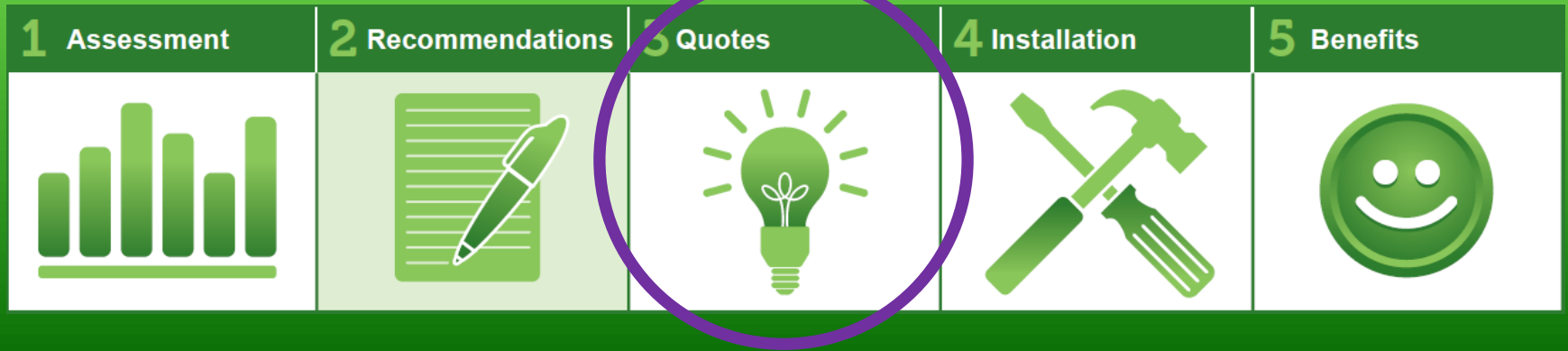
# How it works



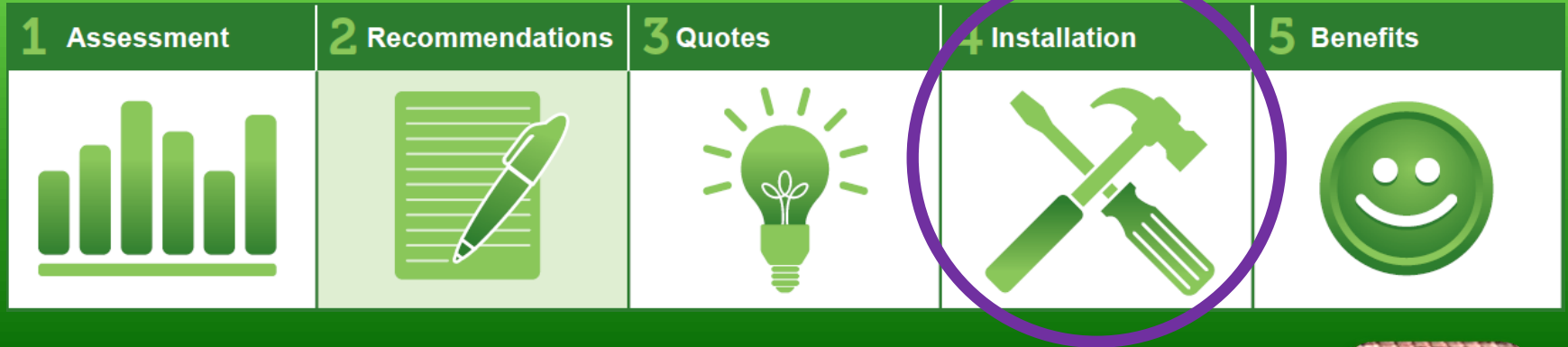
Recommended measures	Indicative cost	Typical savings per year	Rating after improvement	Green Deal finance
Cavity wall insulation	£500 - £1,500	£35	E43	✓
Heating controls (room thermostat)	£350 - £450	£69	E46	✓
Replace boiler with new condensing boiler	£2,200 - £3,000	£191	E52	✓
Replace single glazed windows with low-E double glazing	£3,300 - £6,500	£103	D55	✓
Wind turbine	£1,500 - £4,000	£78	D57	✓

From an English EPC for a large detached inefficient house

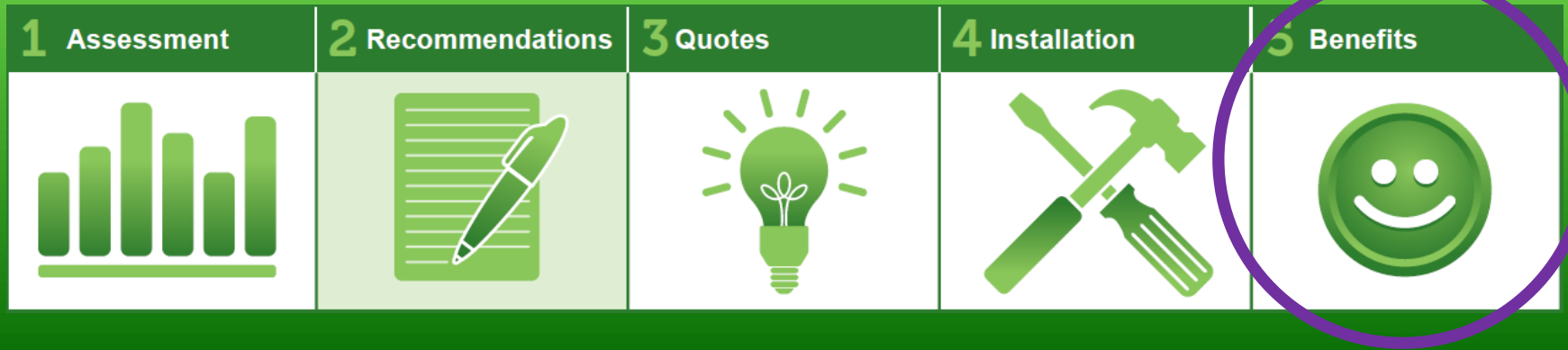
# How it works



# How it works



# How it works



# Methodology

## RdSMART

### RdSAP Methodology And Research Tool

v5  
June 2011

Based on the Standard Assessment Procedure v9.90, as published by the BRE, on behalf of DECC.

To be used in conjunction with the Technical Guide

This programme was created for **research purposes**, and therefore does not include some variables (for example, the ability to assess conservatories or LZC technologies), and is **not accredited** to be used for the production of Energy Performance Certificates

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# Case Study 8

- 🏠 Traditional English thatched cottage, Grade II
- 🏠 Area of Outstanding Natural Beauty
- 🏠 Off mains gas grid
- 🏠 Range cooker for hot water
- 🏠 191m<sup>2</sup>



# Case Study 8

Recommended measures	Indicative cost	Typical savings per year	Rating after improvement	Green Deal finance
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EPC ref ID: 8962-6024-9150-4843-8926, May 2012



# Case Study 8

Recommended measures	Indicative cost	Typical savings per year	Rating after improvement	Green Deal finance
Cavity wall insulation	£500 - £1,500	£35	E43	✓

Estimated cost of measure (loan amount) = £500

RdSAP calculated saving = £50

Saving (with in-use factor) = £32.60

Annual repayment = £49

Meets Golden Rule?

✘

Additional funding would be needed.





# Case Study 8

Recommended measures	Indicative cost	Typical savings per year	Rating after improvement	Green Deal finance
Heating controls (room thermostat)	£350 - £450	£69	E46	✓

Estimated cost of measure (loan amount) = £350

RdSAP calculated saving = £228

Saving (with in-use factor) = £114

Annual repayment = £34

Meets Golden Rule?



# Case Study 8

Recommended measures	Indicative cost	Typical savings per year	Rating after improvement	Green Deal finance
Replace boiler with new condensing boiler	£2,200 - £3,000	£191	E52	✓

Estimated cost of measure (loan amount) = £2,200

RdSAP calculated saving = £403

Saving (with in-use factor) = £303

Annual repayment = £216

Meets Golden Rule?



# Case Study 8

Recommended measures	Indicative cost	Typical savings per year	Rating after improvement	Green Deal finance
Replace single glazed windows with low-E double glazing	£3,300 - £6,500	£103	D55	✓

Estimated cost of measure (loan amount) = £2700

RdSAP calculated saving = £39

Saving (with in-use factor) = £33

Annual repayment = £265

JUST THE EXTENSION

Meets Golden Rule?

x

Additional funding would be needed.



# Case Study 8

Recommended measures	Indicative cost	Typical savings per year	Rating after improvement	Green Deal finance
Replace single glazed windows with low-E double glazing	£3,300 - £6,500	£103	D55	✓

Estimated cost of measure (loan amount) = £9,900

RdSAP calculated saving = £131

Saving (with in-use factor) = £112

Annual repayment = £971

WHOLE HOUSE

Meets Golden Rule?

x

Additional funding would be needed.



# Case Study 8

- ⊞ Upgrading the heating controls (from TRVs to zonal control) could save £114/year
- ⊞ A new boiler (71% to 91%) could save £303/year
- ⊞ Both could be financed through the Green Deal
- ⊞ Upgrading both boiler & heating controls could save £438/year

BUT

Total cost of measures                      £2,650

Total repayment                                £5,200



# Is it Green Wash?

- 🏠 No 'one size fits all' measure
- 🏠 Significance of type of improvement depends on
  - Size of dwelling
  - How bad it is to begin with
- 🏠 Caution should be taken – have the assessor & RdSAP calculated the starting point correctly?
- 🏠 What impact will there be on sale of homes with an outstanding loan?
- 🏠 How will it interact with the RHI
- 🏠 It does work in *some* cases

Many thanks



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