

NATIONAL
ENERGY
FOUNDATION

*Improving the use of
energy in buildings*

Innovation to improve asset performance and property management

Luke Smith, National Energy Foundation

KTN, November 2016

The National Energy Foundation

- **Not-for-profit independent** organisation working to promote the better use and supply of energy in buildings
- **Improving the use of energy in buildings**
- Provide services for **public** and **private** sector businesses to help reduce energy use and reduce carbon emissions
- Focus on **energy efficiency** and **sustainable energy**
- Support for **domestic** and **non-domestic** buildings

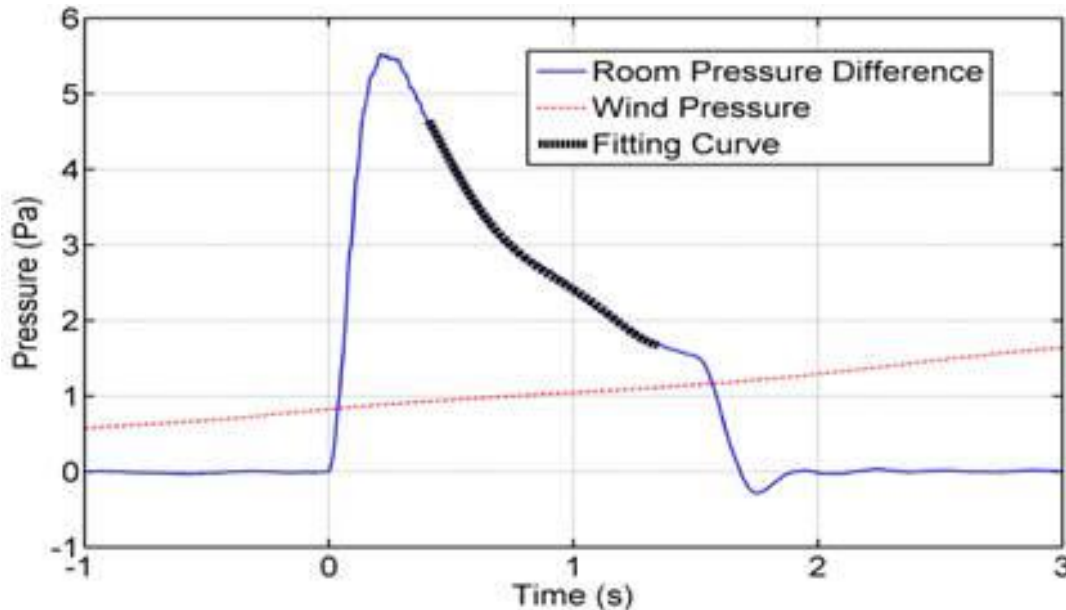


Innovation Hothouse

Innovate UK

PULSE air leakage testing

- Low pressure envelope integrity test – rapid, low skill, low disruption, digital
- Fit out/construction phase QA and compliance
- Operational phase assessment of enclosure integrity – energy or contaminant losses, ventilation needs or potential to serve as an ‘airtightness sensor’

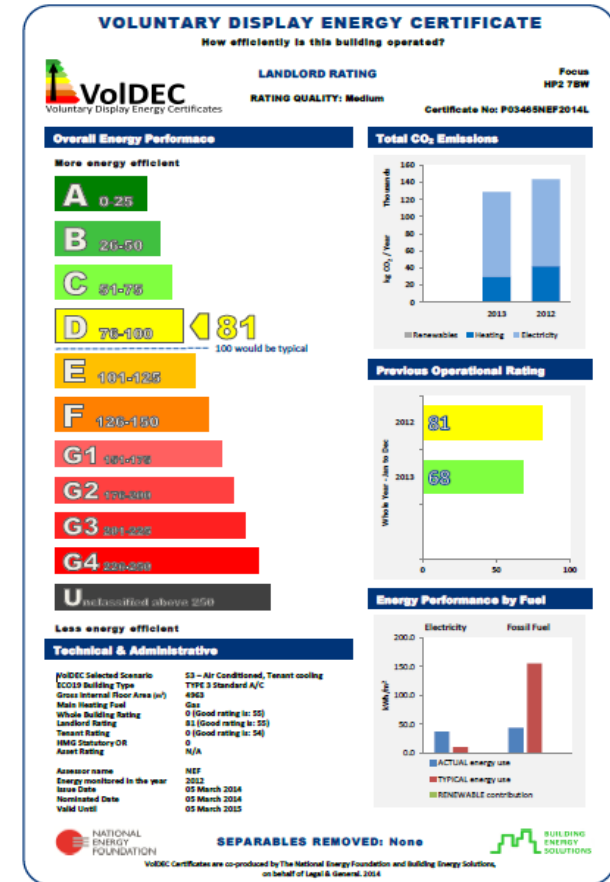


VoIDEC



- Voluntary scheme without government constraints
- Not for profit, for benefit of the industry, backed by the industry
- To develop authoritative sector specific benchmarks
- To highlight performance and encourage action
- Soft start the commercial sector into measuring performance

- ✓ Easy access, quick, low cost
- ✓ No lodgement, no site visit, no advisory report
- ✓ Use the existing DEC methodology as the basis
- ✓ Use a 'similar' (improved) DEC certificate layout



VOLUNTARY DISPLAY ENERGY CERTIFICATE

How efficiently is this building operated?



LANDLORD RATING

RATING QUALITY: Medium

Focus
HP2 7BW

Certificate No: P03465NEF2014L

Overall Energy Performance

More energy efficient

A 0-25

B 26-50

C 51-75

D 76-100

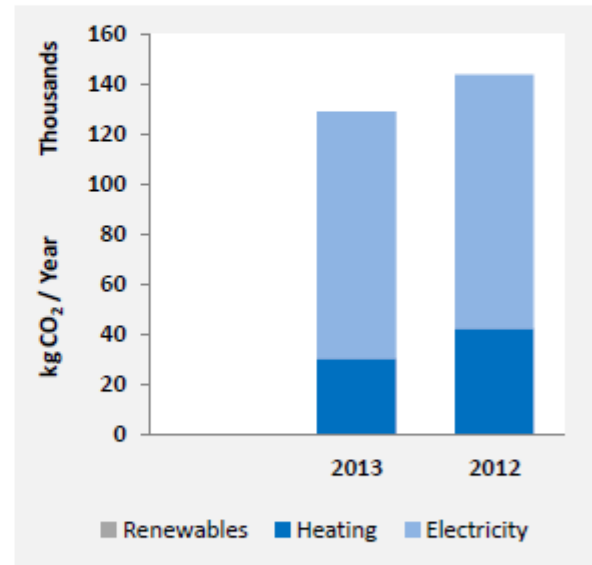
E 101-125

F 126-150

81

100 would be typical

Total CO₂ Emissions



Previous Operational Rating



G1 151-175

G2 176-200

G3 201-225

G4 226-250

U nclassified above 250

Less energy efficient

Technical & Administrative

VoIDEC Selected Scenario	S3 – Air Conditioned, Tenant cooling
ECO19 Building Type	TYPE 3 Standard A/C
Gross Internal Floor Area (m ²)	4963
Main Heating Fuel	Gas
Whole Building Rating	0 (Good rating is: 55)
Landlord Rating	81 (Good rating is: 55)
Tenant Rating	0 (Good rating is: 54)
HMG Statutory OR	0
Asset Rating	N/A

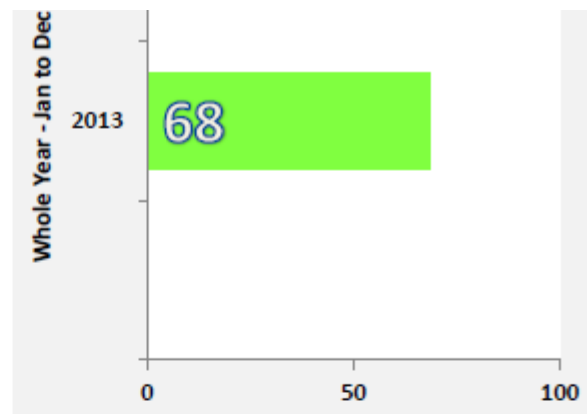
Assessor name	NEF
Energy monitored in the year	2012
Issue Date	05 March 2014
Nominated Date	05 March 2014
Valid Until	05 March 2015



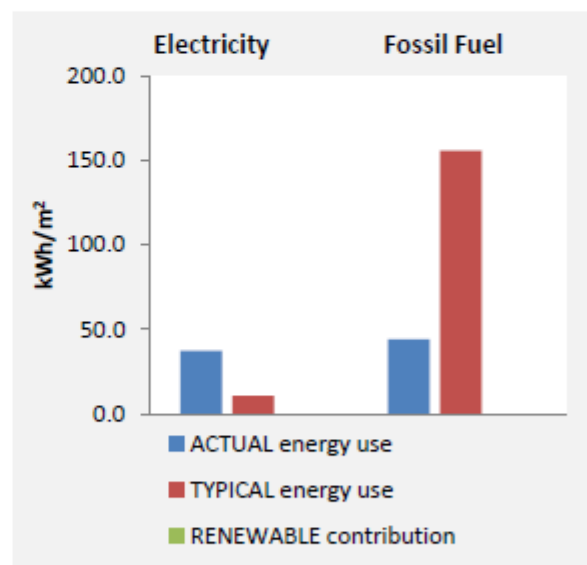
SEPARABLES REMOVED: None



VoIDEC Certificates are co-produced by The National Energy Foundation and Building Energy Solutions, on behalf of Legal & General. 2014

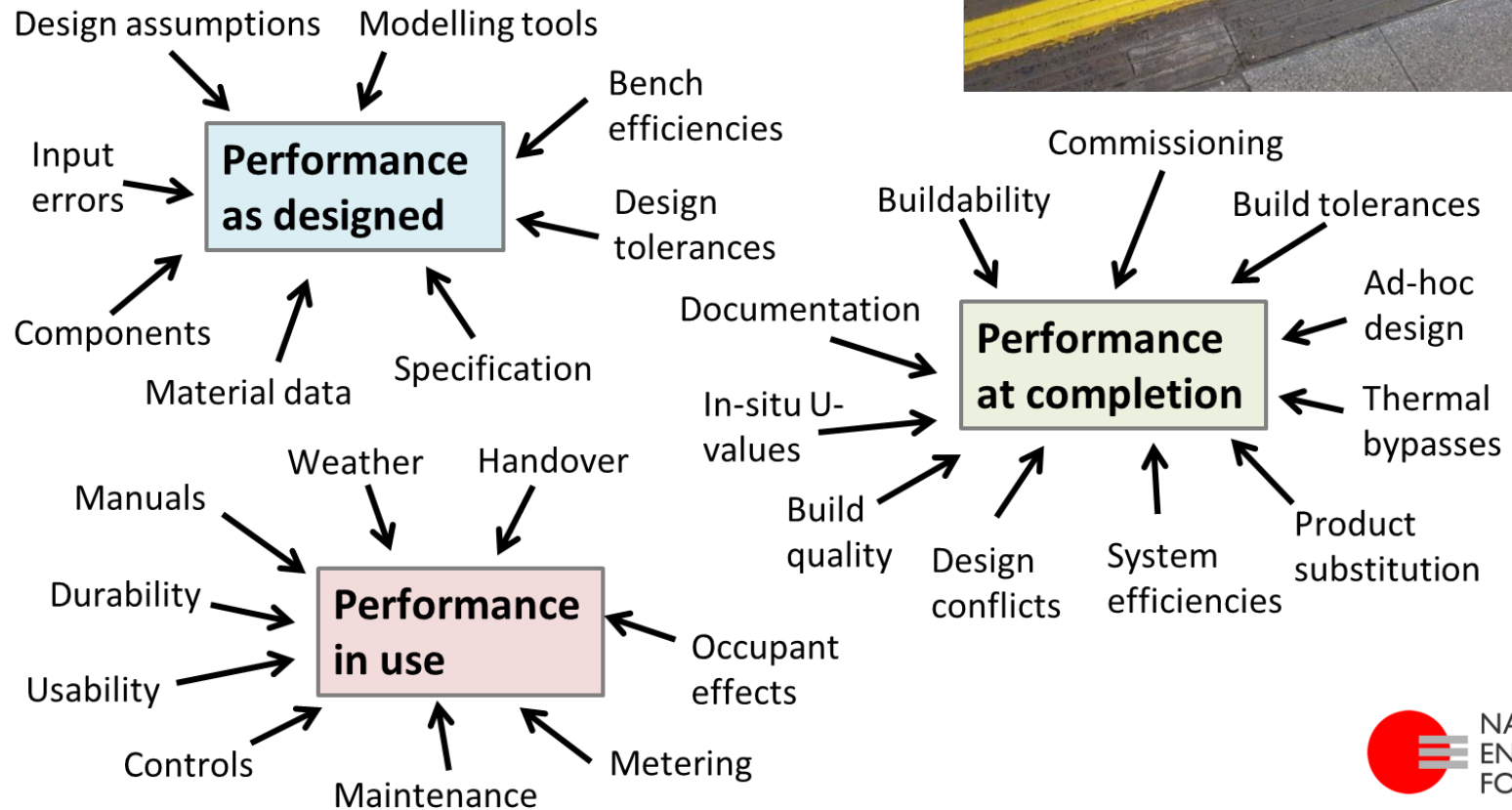


Energy Performance by Fuel



NEF Assured Performance Process

- Buildings typically use more energy than as predicted at design stage
- The gap can be measured at the **design** stage, **as-built** or **in use**
- The size of the gap can be significant – up to 5x

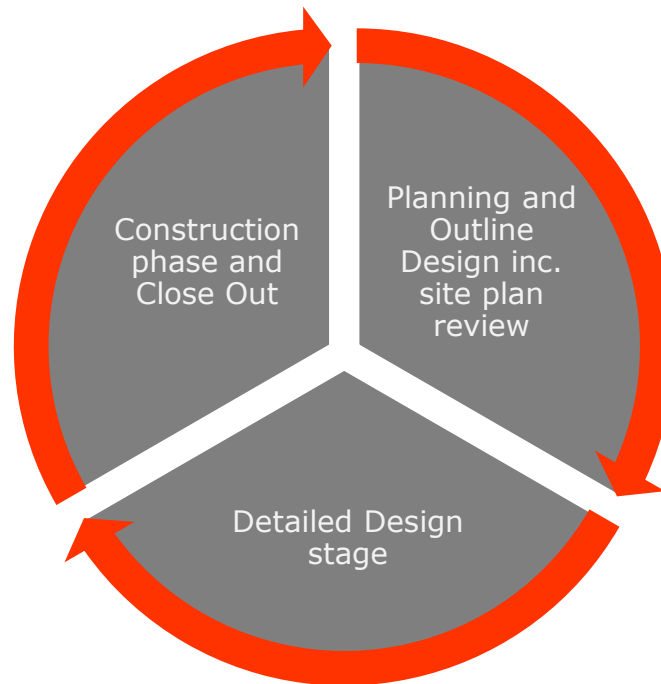


NEF Assured Performance Process

- NEF Assured Performance Process - independent design reviews and support input:

- **RIBA 5-6**
- Site presence + site manager check lists
- Testing and verification
- Support – feedback and feed-forward

- Substructure
- Oversite
- Oversite to joist, joist to roof
- Roof to weather tight
- First fix
- Dry lining
- Second fix
- Finals and close out

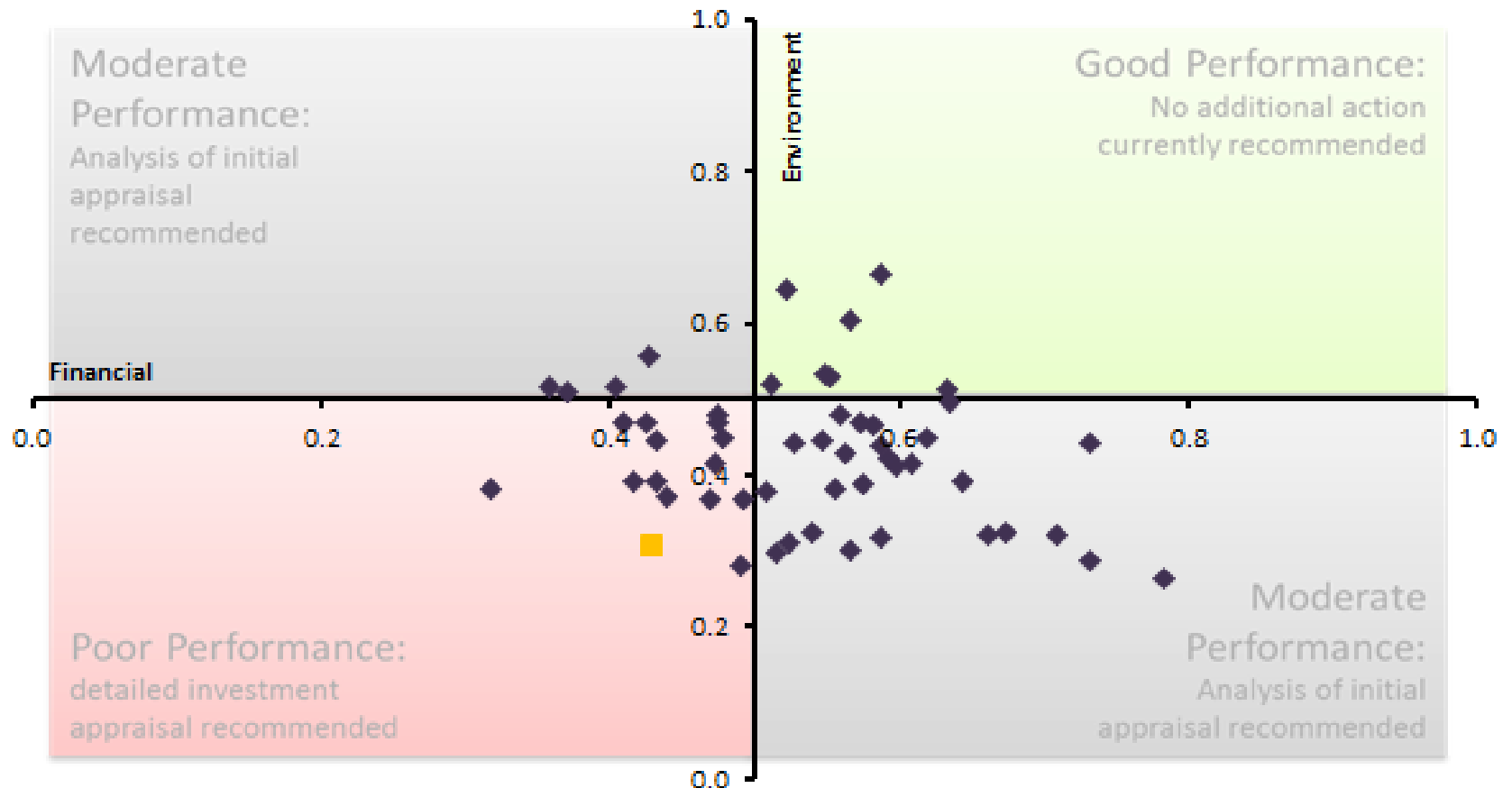


- **RIBA 0-2**
- Vision and objectives
- Massing, form, orientation – plots and site
- Recommendations

- **RIBA 3-4**
- Detailed review and feedback
- Construction phase is too late in the process! Get it right first time!

NEF COMPASS

ANALYSIS



Thank you

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www.nef.org.uk

www.pulseairtest.com

www.voldec.com

1. PULSE
2. VoIDEC
3. NEF App
4. NEF Compass