

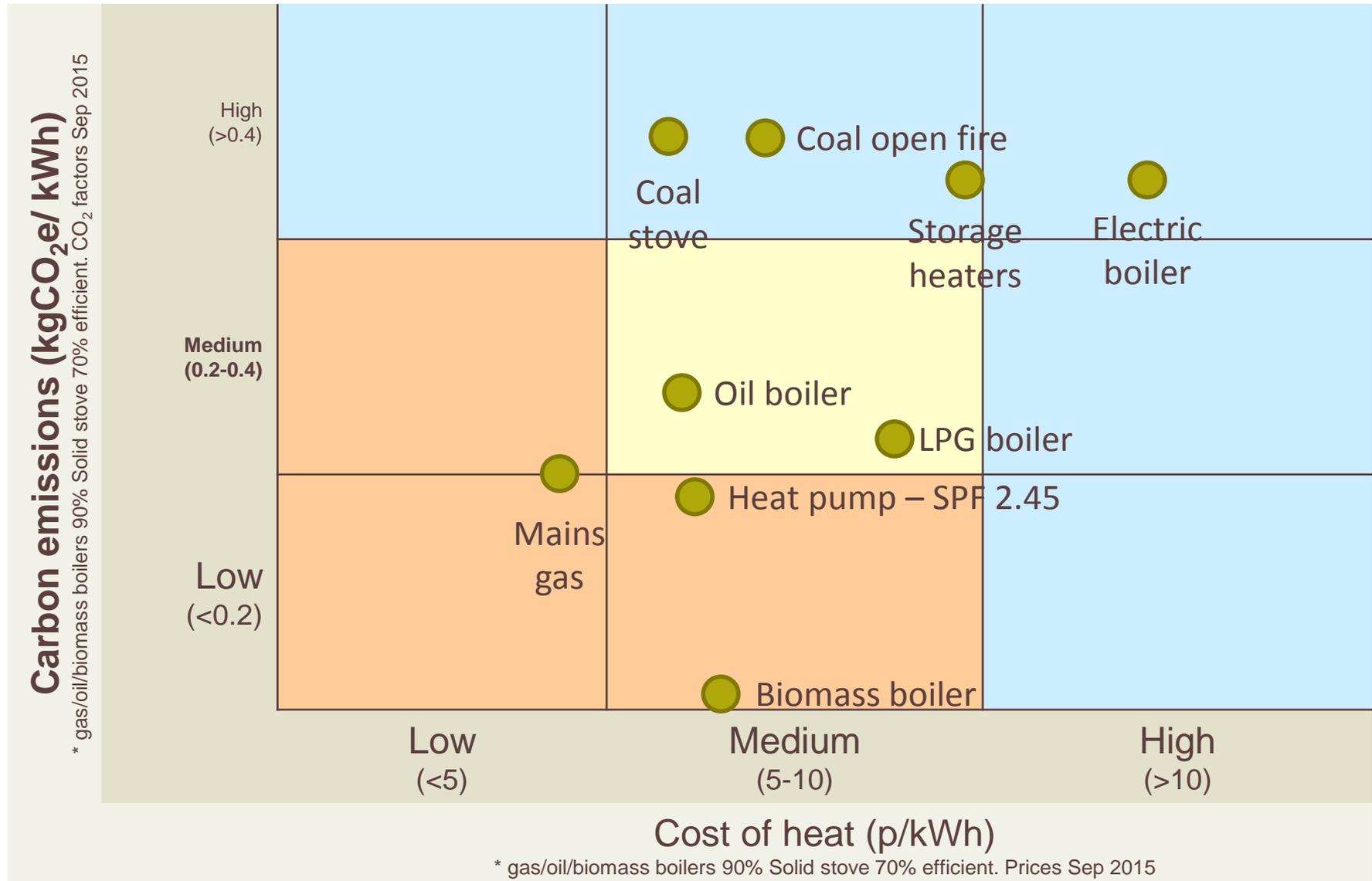


CHANGeworks

Inspiring change for people
and the environment

Heating options in off gas areas (their cost and carbon)

Heating – cost & carbon



Data sources for previous slide

Fuel data

- **Electricity costs** for the various tariffs from SSE Hydro website <https://www.hydro.co.uk/ourprices/#null> using a mid Argyll postcode (PA32 8YD) during Sep 2015. Lower tariffs are available for people who actively switch, but most people are still with Hydro and for THTC they have no choice
- **Gas costs** also from the Hydro web site
- **Costs for oil and LPG** were from recent bills (mid 2015) in the mid-Argyll area; use current EST conversion factors to convert to kWh (EST conversion factors provided to Home Energy Scotland renewables specialists)

Carbon factors

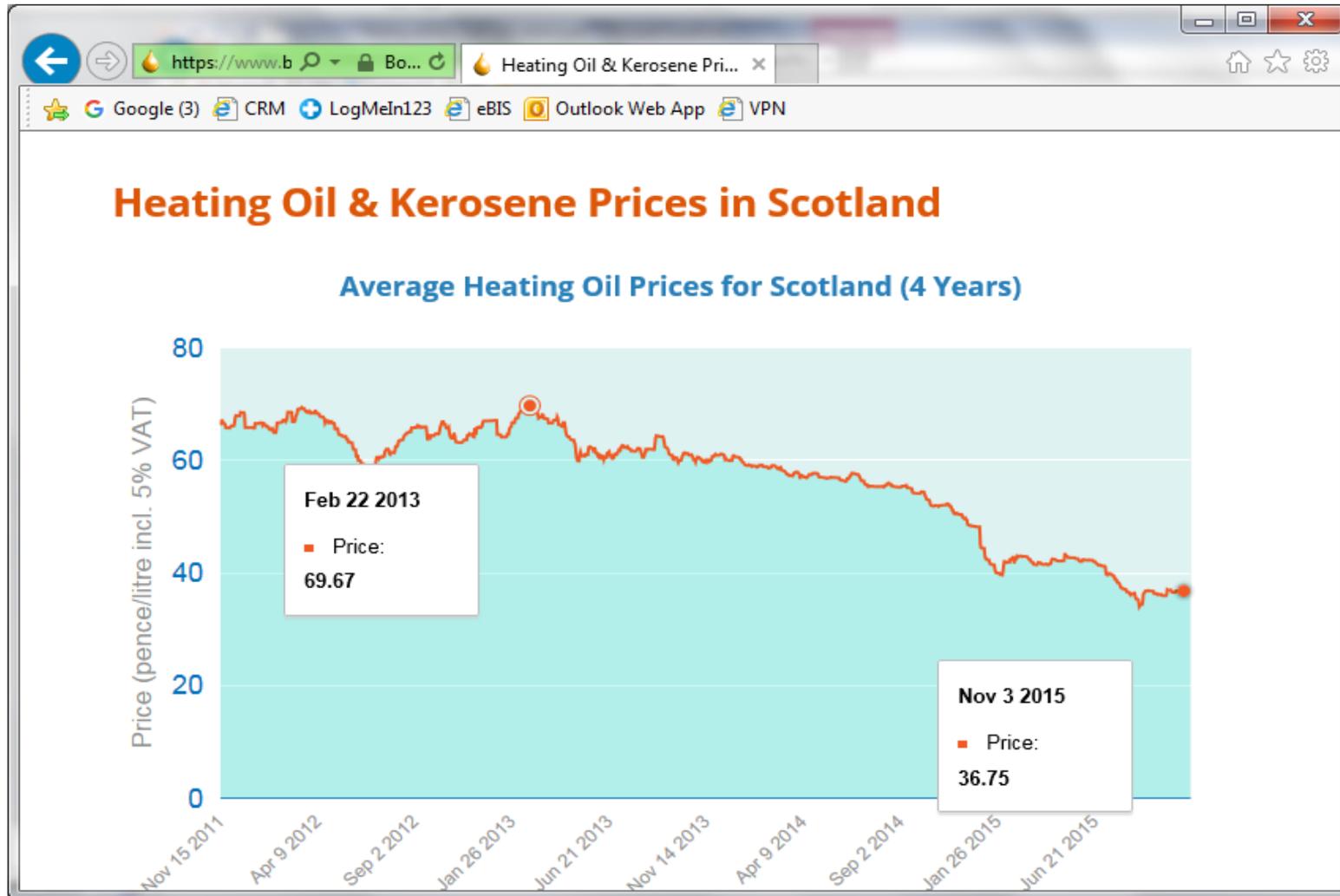
- Used UK Government DEFRA website <http://www.ukconversionfactorscarbonsmart.co.uk/>.

Cost of heat per kWh

In order of expense (cheapest first)

1. Gas low carbon
2. Coal stove high carbon
3. Oil (at Aug 15 nb volatile) medium carbon
4. Electricity for heat pump low carbon
5. Biomass (bagged pellets) low carbon
6. Coal open fire high carbon
7. LPG boiler medium carbon
8. Storage heaters high carbon (& high cost)
9. Electric boilers high carbon (& highest cost)

Volatility in heating oil prices



Source: Boilerjuice website

Discussion points

1. Electricity may be renewable source of future but now it is high carbon (fossil fuel generation). Storage heaters are v high cost to run and difficult to control in variable climate. They offer low maintenance & install costs
2. Gas is low cost and accepted as low/medium carbon so efficient gas boilers are installed in government-backed schemes in on-gas areas
3. Oil is often perceived as high carbon which isn't true (medium carbon). Oil is currently medium cost for new efficient boilers though has volatile cost. nb: at previous peak oil price of 7.8p/kWh at Feb 13, cost was still cheaper than storage heaters. Nb fixed annual maintenance cost.
4. LPG has always been more expensive than oil in last 4 years (comparing costs per kWh; not costs per litre)
5. Oil offers a controllable wet system. Might oil represent a better, more affordable transition to renewables; with good potential to move to pumps or biomass as oil prices rise?

Discussion points

1. Householders with access to financial capital and / or with confidence for a loan, benefit from Government financial incentives to encourage them to invest in **renewable heat** such as biomass and heat pumps whose running costs are low; or to make their **boiler more efficient**.
2. Storage heaters are the most common install in off-gas areas under government funded schemes aimed at the most fuel poor. Is this fair? What other heating options should be considered / funded for off-gas homes?