



Renewable Energy on Social Housing

KNH

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Energy Team, KNH

Purpose of the Workshop

To use our past experience in order to help raise your awareness of any issues and encourage confidence in the delivery of renewable energy schemes within your social housing stock.

Format

- Brief overview of KNH
 - **Renewable Energy Business Case**
- Discussion groups
 - **Photo Voltaic**
 - **Solar Thermal**
 - **Air Source Heat Pumps**
- Key Points and Summary

45 Minutes



Who Are We

- Arms Length Management Organisation (ALMO)
 - Owned by Kirklees Council
 - Landlord to 24500 properties
- KNH Energy Team
 - Responsible for the energy assets of our properties
 - Gas, Electric, Insulation, Renewable Energy and Advice



Challenge For The Future

Things Already Done

Loft Insulation

Double Glazing

Modern Gas
Heating Systems

Some External
Cladding

Cavity Wall Insulation



Future Options

Renewable Energy ?

Solar Photo Voltaic

Solar Thermal

Air Source Heat Pumps

Ground Source Heat Pumps

Biomass

Low Energy Lighting ?

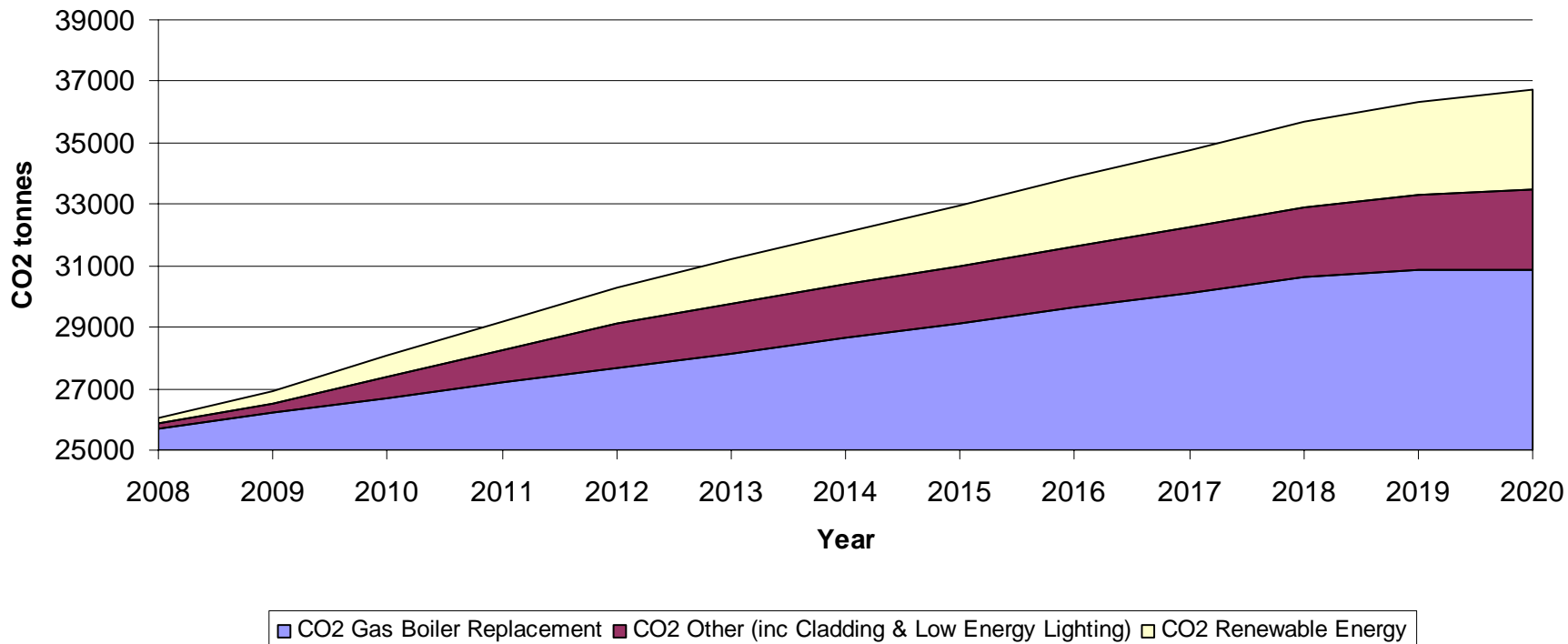
Modern Gas
Heating Systems

Replacement Schemes ?

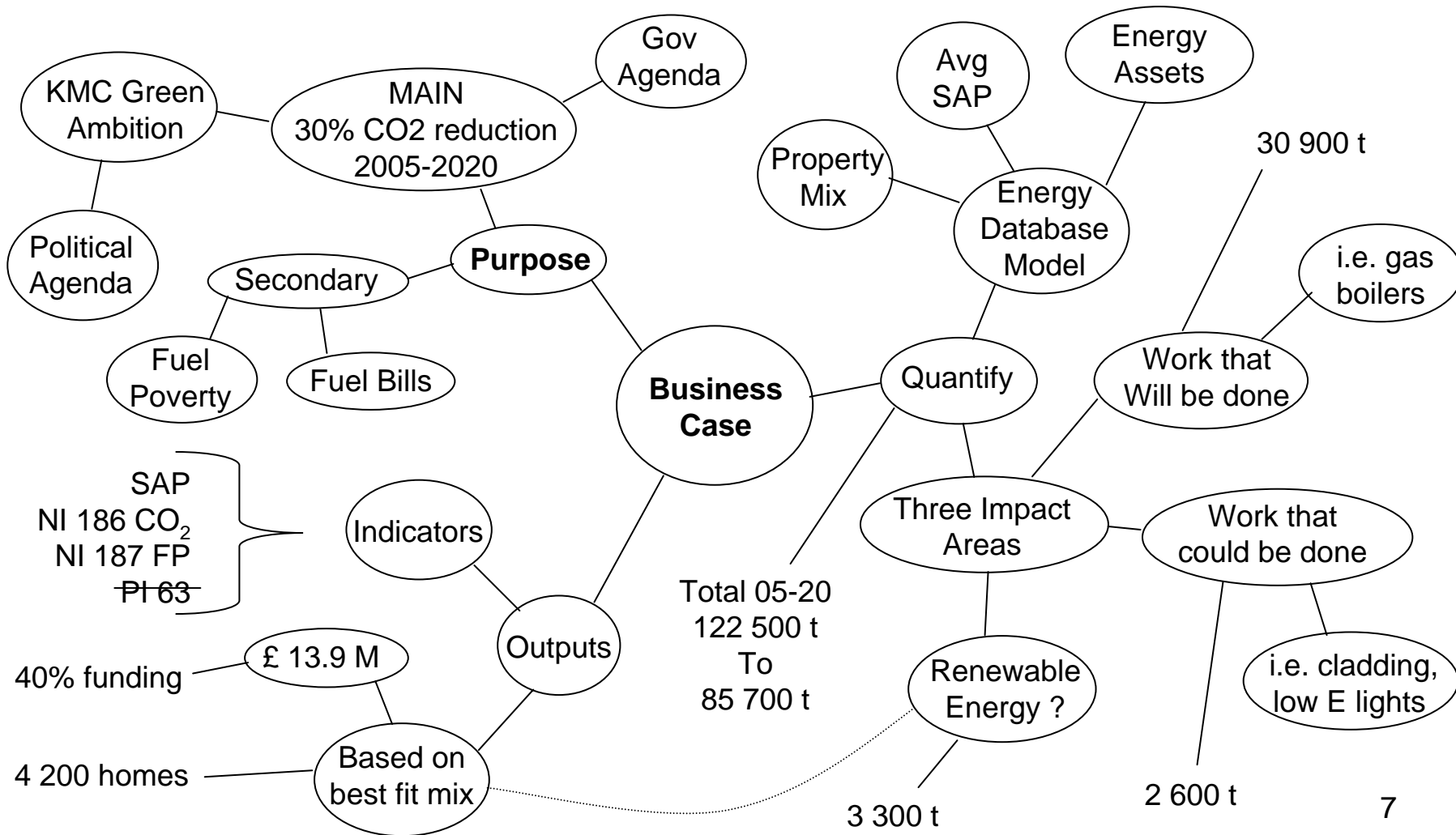
Extend External Cladding ?

KNH – Renewable Energy Business Case

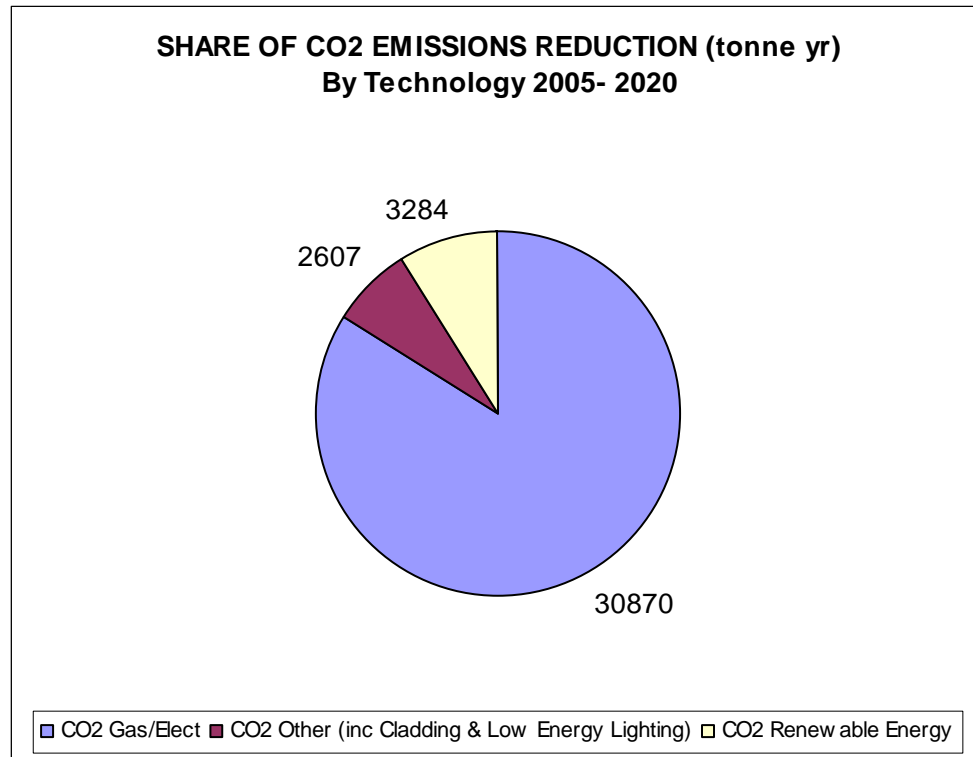
**CO2 Reduction Target for 2020
Contribution Made By Source (from 2008)**




KNH – Renewable Energy Business Case



KNH – Renewable Energy Business Case



Renewable Measures (May 09)

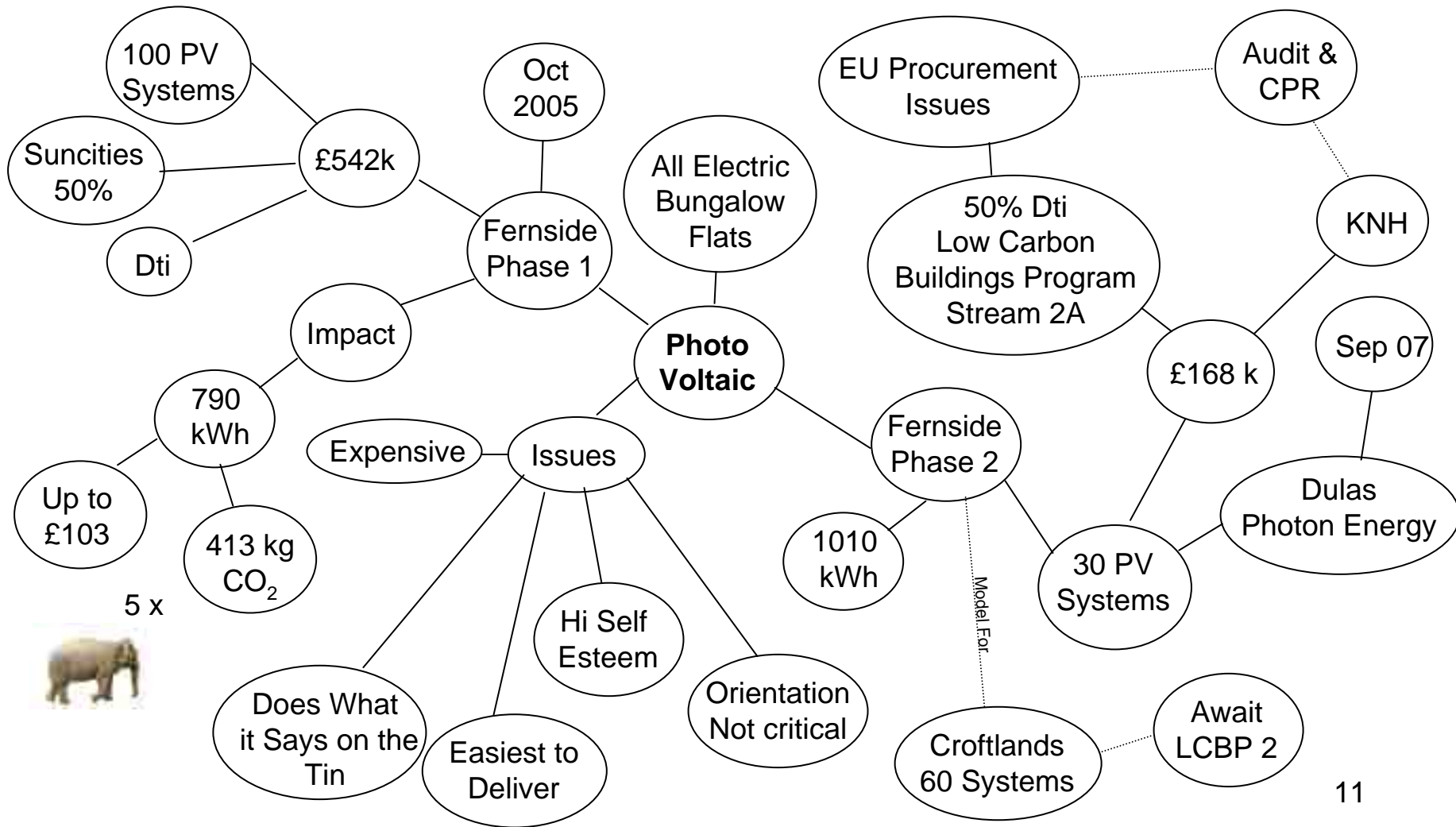
	Units Installed	Units Planned	Note
Solar Photo Voltaic (electric)	188	60 5	<i>Croftlands</i> <i>Large Scale PV Sheltered</i>
Solar Thermal (hot water)	74	63 ?	<i>4 Bed Solar Thermal</i> <i>3 Bed Solar Thermal</i>
Air Source Heat Pumps (for use in all electric properties)	60		
Ground Source Heat Pumps (for use in all electric properties)	7	59	Fernside
Biomass		3	Oxford Grange, Blagden, Gledhow
Totals	329	182	



KNH - Photo Voltaic

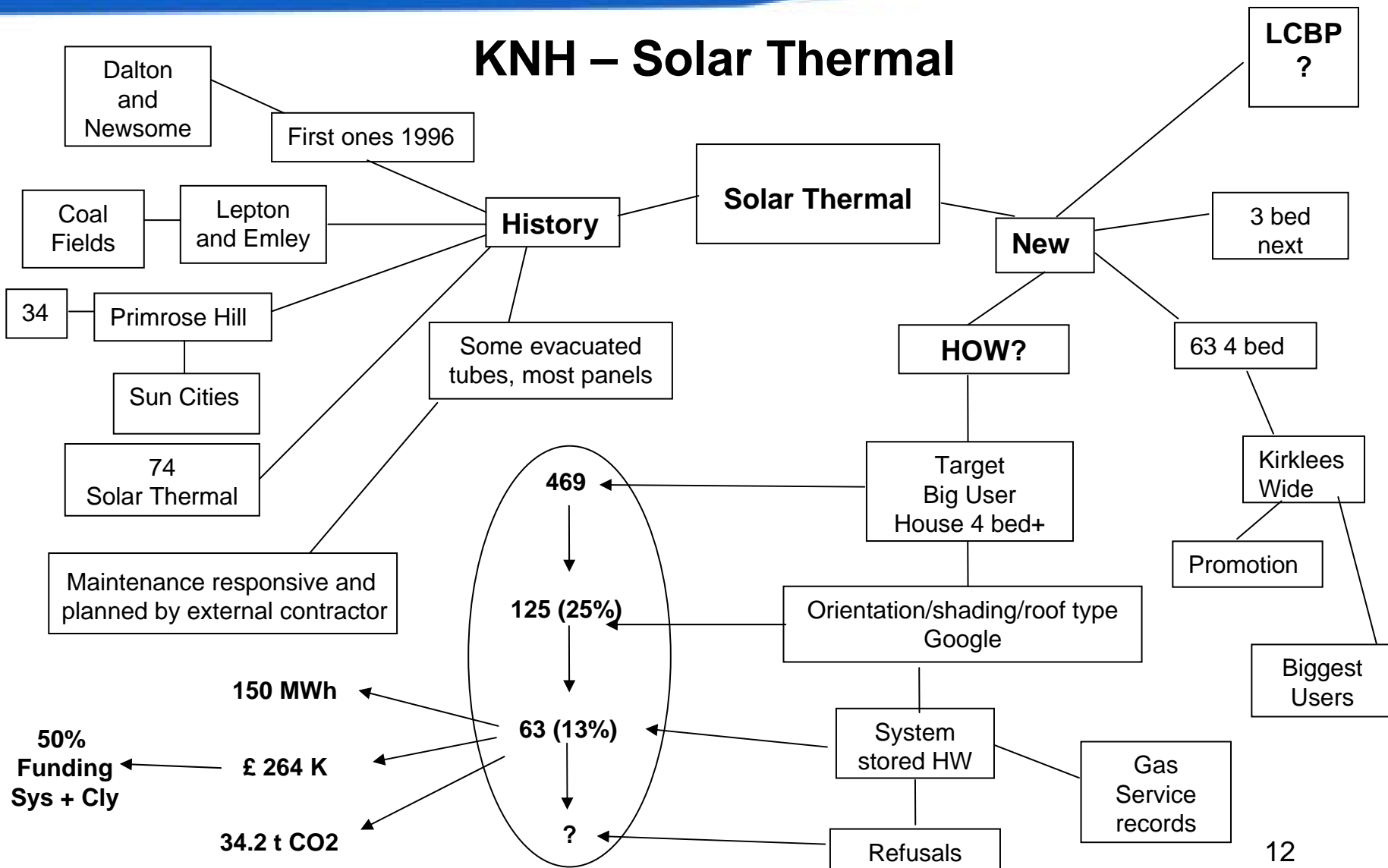


KNH - Photo Voltaic





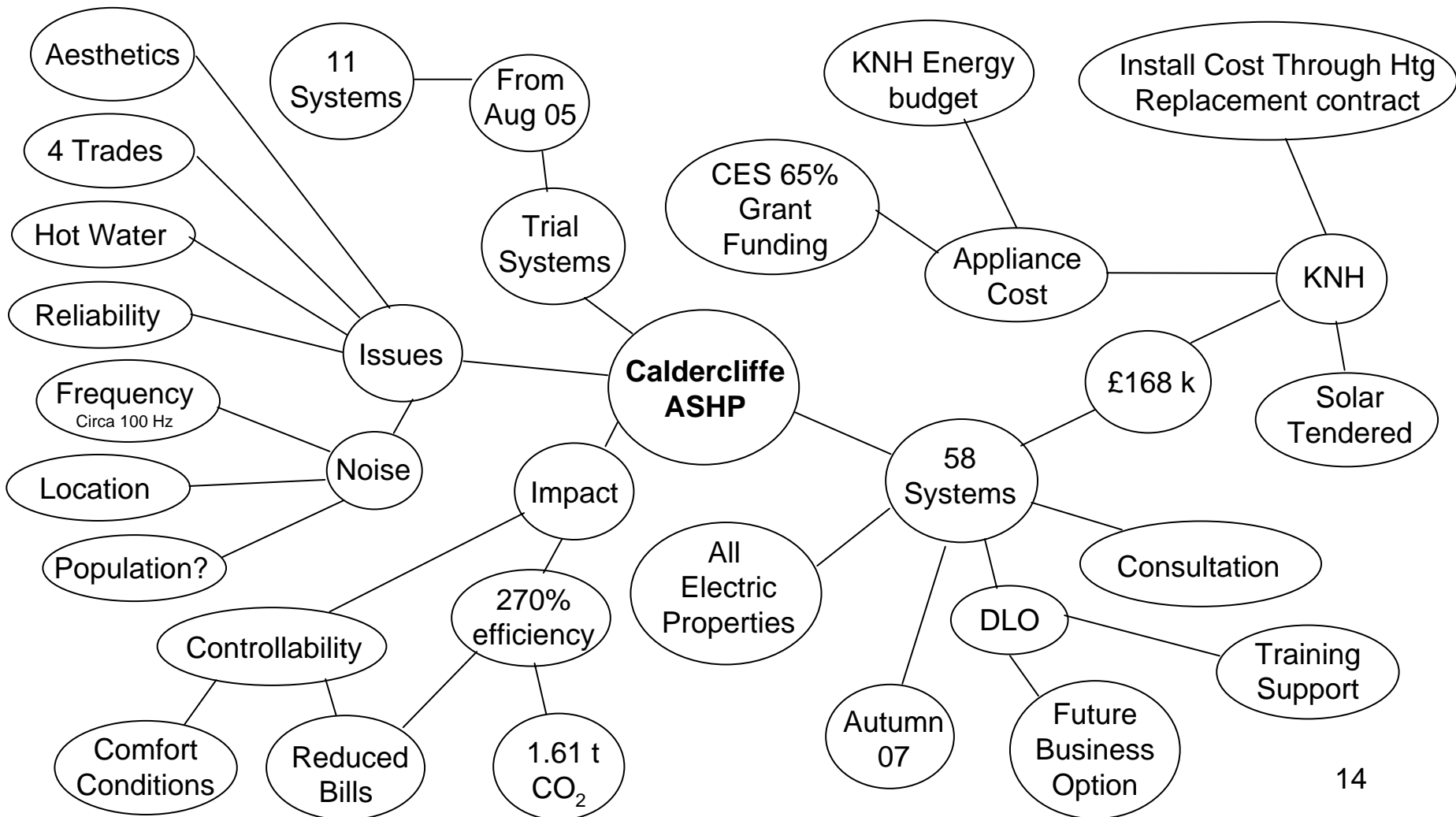
KNH – Solar Thermal



KNH - Air Source Heat Pumps



KNH - Air Source Heat Pumps





KNH - Air Source Heat Pumps

Strength	Weakness
<p>Provides the controllability needed by tenants Reduces fuel bills and risk of fuel poverty No need for internal space to install unit Reduces CO2 emissions (more than gas) Raises SAP of properties No gas servicing issues/access Can happen quickly Can use original energy supplier Consultation is on a 1 to 1 basis</p>	<p>Location of unit outside may be unsightly Internal disruption to install pipe work etc. Not suitable for low hot water usage homes</p>
Opportunity	Threat
<p>Release of £ into community High levels of external funding available Install Solar Thermal to high hot water users (Houses) Improved void re-let due to improved desirability Could be carbon neutral National promotion of the area and renewables</p>	<p>Issues over noise New technology training required Unknown technology (fear) If it needs replacing what with ? Vandalism to unit Hot water still supplied by E7</p>



Discussion Areas

Photo Voltaic- Chris

Solar Thermal- Richard

Air Source Heat Pumps - Tom



Key Points / Summary

Photo Voltaic

Solar Thermal

Air Source Heat Pumps

Renewable Energy Business Case



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