Programme Area: Smart Systems and Heat

Project: WP3 Business Model Development

Title: Business Model Game

Abstract:

The Business Model Game is an interactive toolkit for the creation, visualisation and optimisation of business models for low carbon heating technology in the residential energy sector. This pack of information allows users to create their own version of the game to use in a facilitated workshop.

Context:

The case for heat decarbonisation is widely acknowledged, with studies showing that it is more cost effective to tackle CO2 emissions from buildings than cutting more deeply in other sectors. The real challenge is establishing new heating solutions that substantially remove natural gas use from homes whilst making the solutions financially viable and attractive to consumers. Around 20,000 homes each week will need new heating system installations between 2025 and 2050 to meet decarbonisation targets; a rate fifty times greater than achieved to date. The current market will not deliver at scale for residential low carbon heat transition given: unappealing consumer propositions, a fragmented industry structure, a lack economic drivers and need for holistic policy framework. The Energy Technology Institute commissioned the Energy Systems Catapult to deliver a business model development project to develop a number of specific business propositions that could stimulate new thinking for models to be introduced into the market from just before 2020 through to the late 2020's.

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An interactive toolkit for the creation, visualisation and optimisation of business models for low carbon technology in the residential energy sector

CATAPULT
Energy Systems

"a clean, intelligent, energy system that works for people, communities and businesses"

The components of the toolkit

- Key Component Module decks
  - Each of the 9 Key Component Modules is identified by a colour
  - For each Component Modules there are up to [12] Sub-Modules
  - Each Sub-Module is represented by a rectangular coloured card (there is the option of having its detailed description on the back)
- Enabler cards
  - Theses hexagonal cards are represented by a colour linked to the Enabler category
- Playing Board
  - An A3 or A2 sheet or card printed with zones onto which the Sub-Module and Enabler cards are placed.
- Game Guide
  - This explains the rules of the game and provides detailed explanations of the Sub-Module elements and Enablers provided in the toolkit.

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Market Confidential

How to use the toolkit to create business models

1. Define **the business model objective** – to focus the thinking of the team

   e.g. in the case of the Business Models project it was to provide a compelling proposition for the rapid uptake of low carbon heating in the private, rented and social housing sectors within the UK

2. **Lay down the cards and playing board**: the Module cards and the Enabler Cards on a large table such that they are all visible to the participants
3. Where participants are unfamiliar with the meaning and scope of all the Modules and Enablers, the activity leader should **talk through the main Module and Enabler categories** and explain briefly the meaning of each Module Sub-Element.
4. Once the team members understand the business model objective and the range of Modules and Enablers that can be used the process of **creating a business model can s**tart.
5. Whilst the choice of Modules and Enablers is a matter for the team, for residential energy business models it is strongly recommended that cards from the following key component decks **must** be used:
   1. **Willingness to Pay** - in order to force thinking from the team as to how a solution's value can be sold or built into a model
   2. **Financing Options** - all business models need these
   3. **Efficiency / Effectiveness** – addresses the objective of reducing carbon and energy use versus status quo
6. In addition, it is strongly recommended to **enhance any business model** idea by **using at least one card** from each main Module deck.
7. When placing the cards, select the zone on the playing board that relates to the timing and the necessity of the module elements. A core business model idea can be shown to evolve over time or have add-on variants for market sub-sectors or client customisation.
8. Identify where **Enablers** are required to enhance of facilitate a business model
9. Note that there is the option, if new ideas for Modules or Enablers arise, to **write on the blank cards** of the appropriate colour (provided) and place them on the playing board.
10. **Debate and modify the business model** as a team and once the model is fixed, **photograph** it for future transcribing into a presentable form or canvas.

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Materials for creating your own toolkit

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Card Deck - Marketing

SERVICE BUNDLING
C1
Low Level - Bundling of Home services (without assets)

SERVICE BUNDLING
C2
Med Level - Bundling of asset with energy supply for defined comfort or other output

SERVICE BUNDLING
C3
High Level - Incorporate all other key house utilities (water, phone, insurance)

SERVICE BUNDLING
C4
Extra High Level - Incorporation of local taxation / rates

BROKERING
G1
Competitive sourcing – for user to act on

BROKERING
G2
Competitive sourcing – automatic linked to obligation of provider

BROKERING
G3
Collective switching

BROKERING
G4
Opt-out option for collective schemes

BROKERING
G5
Single collective supplier acting on social housing behalf

WILLINGNESS TO PAY
H1
Improved peace of mind including predictability of bill

WILLINGNESS TO PAY
H2
Approved contractors providing confidence to consumer

WILLINGNESS TO PAY
H3
Early adopters become part of an exclusive club

WILLINGNESS TO PAY
H4
Making the idea of investing in low carbon home aspirational & a good things for them

WILLINGNESS TO PAY
H5
Moving to concept of better comfort & outcomes

WILLINGNESS TO PAY
H6
Provision of turnkey service & removal of hassle for householder

WILLINGNESS TO PAY
H7
Being part of a community initiative / member of club

WILLINGNESS TO PAY
H8
Property is more appealing to rent

WILLINGNESS TO PAY
H9
Accredited home well-being system design providers –full spec

WILLINGNESS TO PAY
H10
Recognising value for money – greater transparency & understanding of offer

WILLINGNESS TO PAY
H11
Trusted design & selection assistance information source

BEHAVIOUR CHANGE
I1
Encouraging & rewarding low energy use

BEHAVIOUR CHANGE
I2
Encouraging behaviours that shift demand with new supply profiles

BEHAVIOUR CHANGE
I3
Having to manage within agreed consumption limits

BEHAVIOUR CHANGE
I4
Penalising excessive energy use

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Card Deck – Monetisation & Financing

MONETISATION
A1
Selling generation, storage or shift in small or aggregated volumes

MONETISATION
A2
Harvest consumption data to cross-sell, target advertising etc.

MONETISATION
A3
Improve consumption forecasting to reduce imbalance costs

MONETISATION
A4
Flexibility for electricity distributor to manage network constraints

MONETISATION
A5
Monetising spare heat

MONETISATION
A6
Optimising heat power and storage with district heating system

FINANCING
B1
Crowd-sourcing web-based micro-lending

FINANCING
B2
Locally-driven Special Purpose Vehicle

FINANCING
B3
Local authority financed – paid back via council tax

FINANCING
B4
Pension Fund Allocation

FINANCING
B5
Local Venture Capital Funding

FINANCING
B6
Lease / Service Bundling

FINANCING
B7
Guarantee from income arising from FIT/RHI, Internalise Carbon etc

FINANCING
B8
Adding investment cost to mortgage

FINANCING
B9
Preferential Discount from OEMs

FINANCING
B10
Charity Donation to Fuel Poor

FINANCING
B11
Pay back via higher rent (vs savings)

FINANCING
B12
Cash contribution option from householder

FINANCING
B13
Levy on property – paid back on sale (LA loan facilitated)

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Asset Utilisation Card Deck

ASSET UTILISATION
D1
Utilising spare heat from adjacent commercial/industrial buildings

ASSET UTILISATION
D2
Sharing heating / cooling asset between buildings or dwellings

ASSET UTILISATION
D3
Utilising heat from local power generation assets

ASSET UTILISATION
D4
Utilising spare heat from servers

ASSET UTILISATION
D5
Larger assets with shared use - better utilisation & lower capex

ASSET UTILISATION
D6
Domestic asset owned & operated as a service

ASSET UTILISATION
D7
Pay by the hour/ B2B system to power or combined heat & power unit operator

Deck

HIGHER EFFICIENCY
E1
Reducing thermal losses via improved insulation

HIGHER EFFICIENCY
E2
Improved home controls

HIGHER EFFICIENCY
E3
Ventilation & heat recovery (incl. optional cooling in summer)

HIGHER EFFICIENCY
E4
Low carbon efficient heating devices to provide for the home

HIGHER EFFICIENCY
E5
Power storage system

HIGHER EFFICIENCY
E6
High efficiency community heat & power system

HIGHER EFFICIENCY
E7
Heat storage system

HIGHER EFFICIENCY
E7
Rebuild home to zero carbon specification

Deck

LEAN SUPPLY CHAIN
F1
LA's, government & home service Cos pooling purchasing to equipment vendors

LEAN SUPPLY CHAIN
F2
Standardisation & simplification of most common low carbon solution hardware

LEAN SUPPLY CHAIN
F3
Pre-fabrication of insulation etc. offsite (such as house blanket)

LEAN SUPPLY CHAIN
F4
Reducing installation time & cost via standardisation

LEAN SUPPLY CHAIN
F5
Standardising efficiency & reliability assessment

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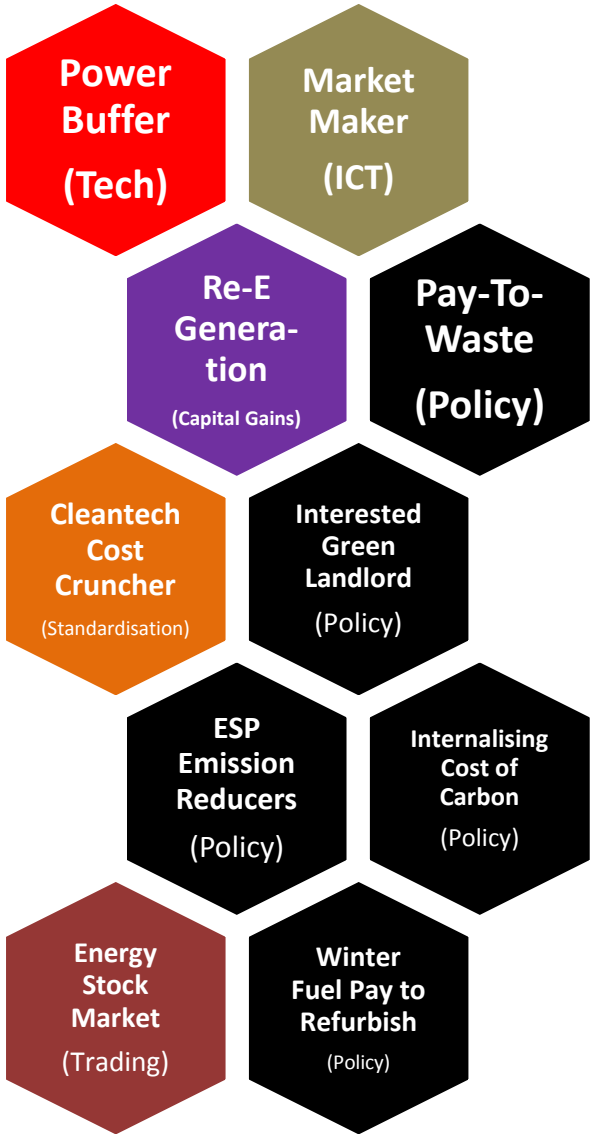
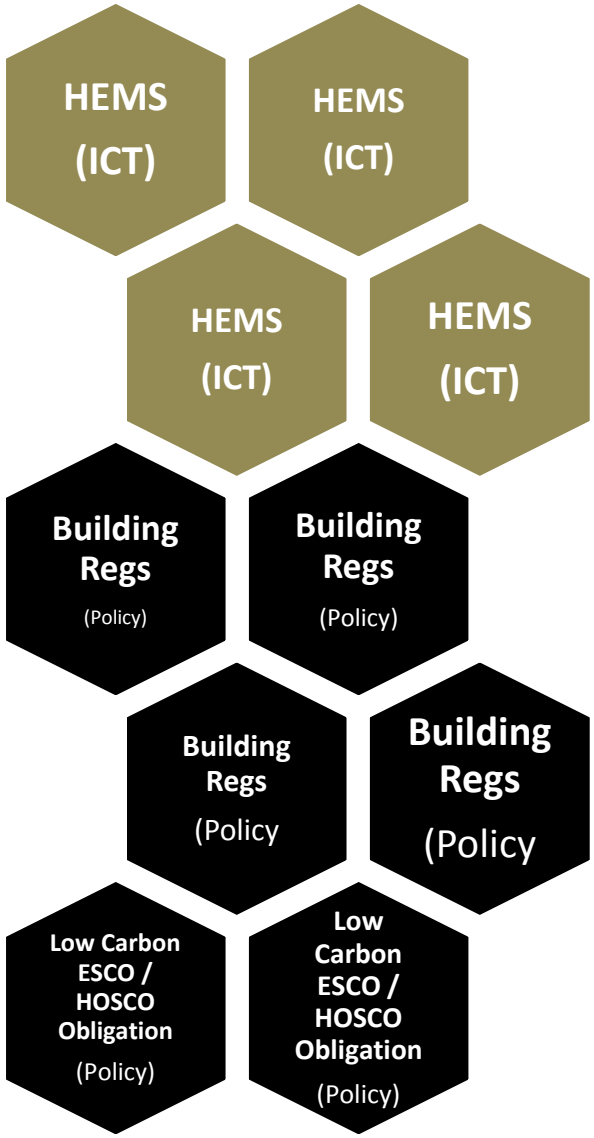
Enabler Cards


Policy &
Regulations
Trading
Innov.
Finance
Standard-
isation
New
Technology
ICT

Write enabler Idea
Write Enabler Idea
Write Enabler Idea
Write Enabler Idea
Write Enabler Idea
Write Enabler Idea


Power Buffer (Tech)
Market Maker (ICT)
Re-E Genera-tion (Capital Gains)
Pay-To-Waste (Policy)
Cleantech Cost Cruncher (Standardisation)
Interested Green Landlord (Policy)
ESP Emission Reducers (Policy)
Internalising Cost of Carbon (Policy)
Energy Stock Market (Trading)
Winter Fuel Pay to Refurbish (Policy)


HEMS (ICT)
HEMS (ICT)
HEMS (ICT)
HEMS (ICT)
Building Regs (Policy)
Building Regs (Policy)
Building Regs (Policy
Building Regs (Policy
Low Carbon ESCO / HOSCO Obligation (Policy)
Low Carbon ESCO / HOSCO Obligation (Policy)

Playing Board Template

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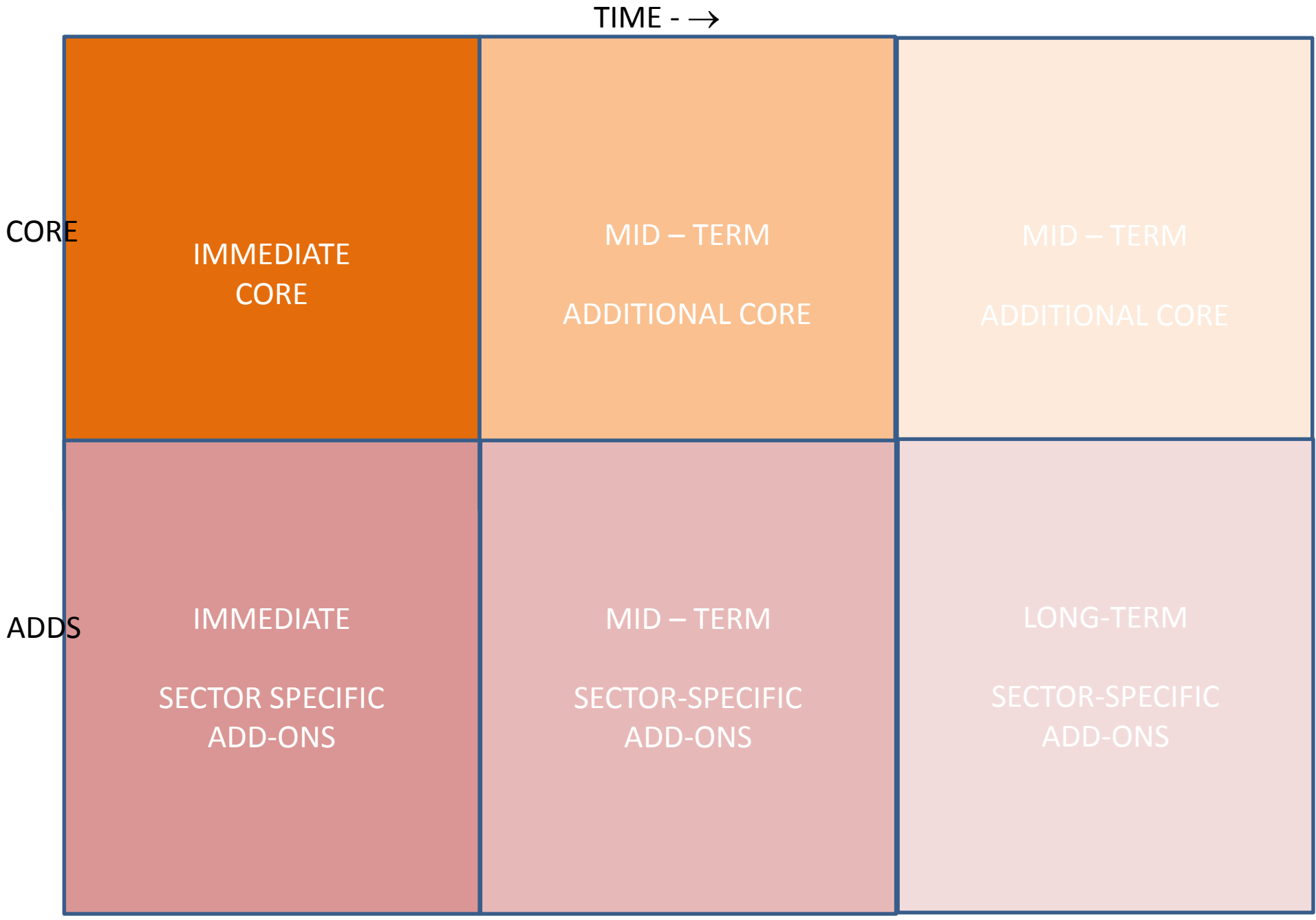
TIME - →
CORE
ADDS
IMMEDIATE
CORE
MID – TERM
ADDITIONAL CORE
MID – TERM
ADDITIONAL CORE
IMMEDIATE
SECTOR SPECIFIC
ADD-ONS
MID – TERM
SECTOR-SPECIFIC
ADD-ONS
LONG-TERM
SECTOR-SPECIFIC
ADD-ONS

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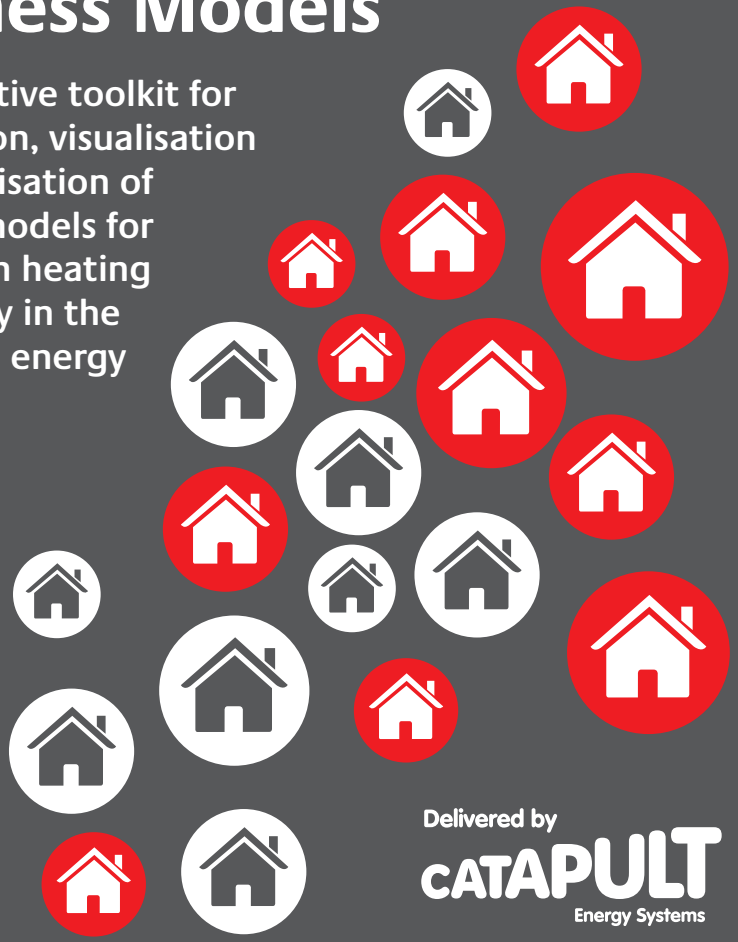
Developing Low Carbon Business Models

An interactive toolkit for the creation, visualisation and optimisation of business models for low carbon heating technology in the residential energy sector.



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The components of the toolkit

Key Component Module Decks

- Each of the 9 Key Component Modules is identified by a colour.
- For each Component Modules there are up to 12 Sub-Modules.
- Each Sub-Module is represented by a rectangular coloured card.

Enabler Cards

- Theses hexagonal cards are represented by a colour linked to the Enabler category.

Playing Board

- A playing board with zones onto which the Sub-Module and Enabler cards are placed.

Game Guide

- This explains the rules of the game and provides detailed explanations of the Sub-Module elements and Enablers provided in the toolkit.

How to use the toolkit to create business models

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2. **Lay down the cards and playing board:** the Module cards and the Enabler Cards on a large table such that they are all visible to the participants.
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   - **Financing Options** - all business models need these
   - **Efficiency / Effectiveness** - addresses the objective of reducing carbon and energy use versus status quo.
6. It is **strongly recommended** that at **least one card** from each main Module deck is used to improve the business model.
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Developing Low Carbon Business Models

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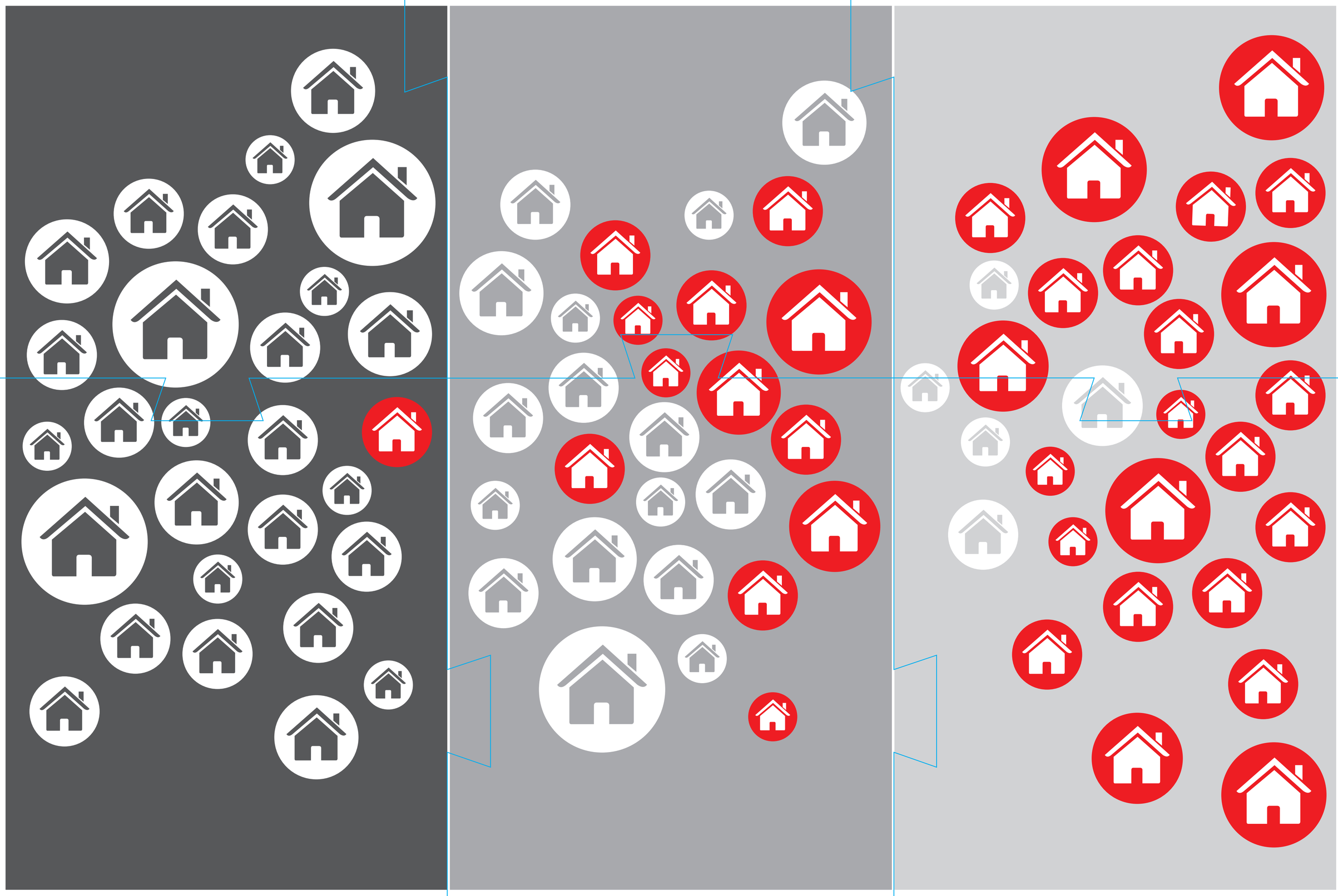
Immediate **Core**	Mid-Term **Additional Core**	Long-Term **Additional Core**



Immediate **Sector Specific Add-ons**	Mid-Term **Sector Specific Add-ons**	Long-Term **Sector Specific Add-ons**

Developing Low Carbon Business Models

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An interactive toolkit for the creation, visualisation and optimisation of business models for low carbon heating technology in the residential energy sector.

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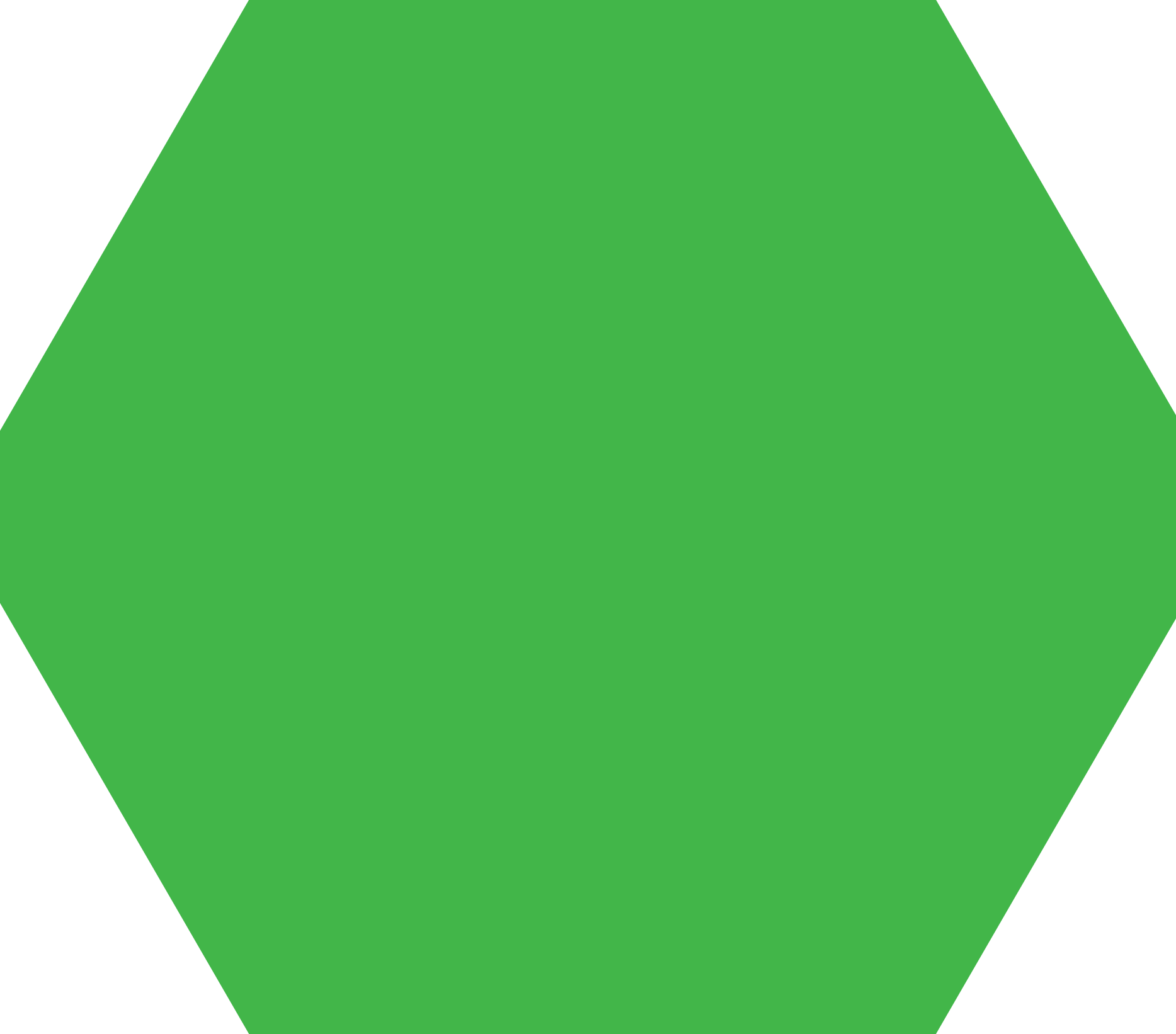
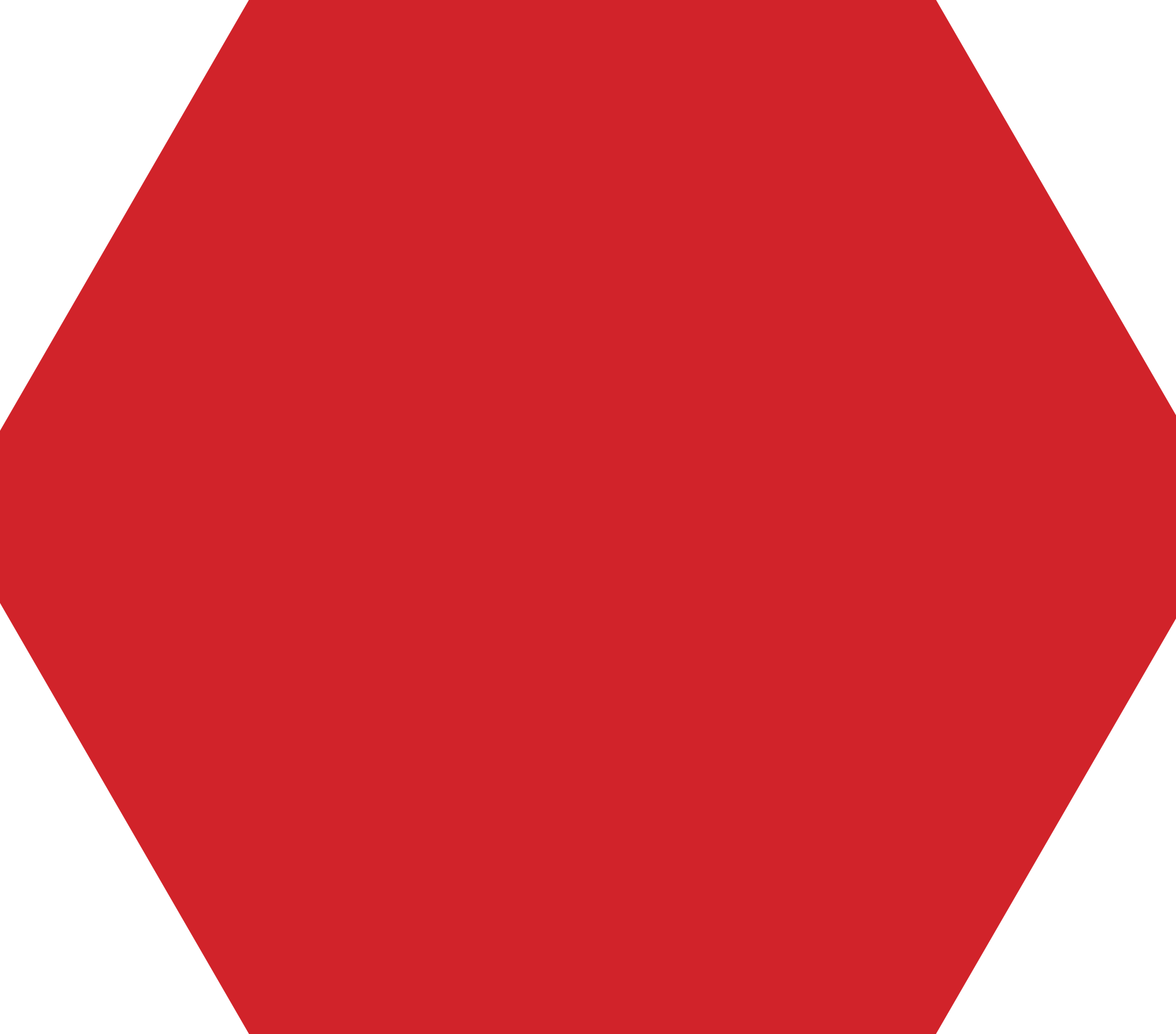
Novel Financing

Technical Standards

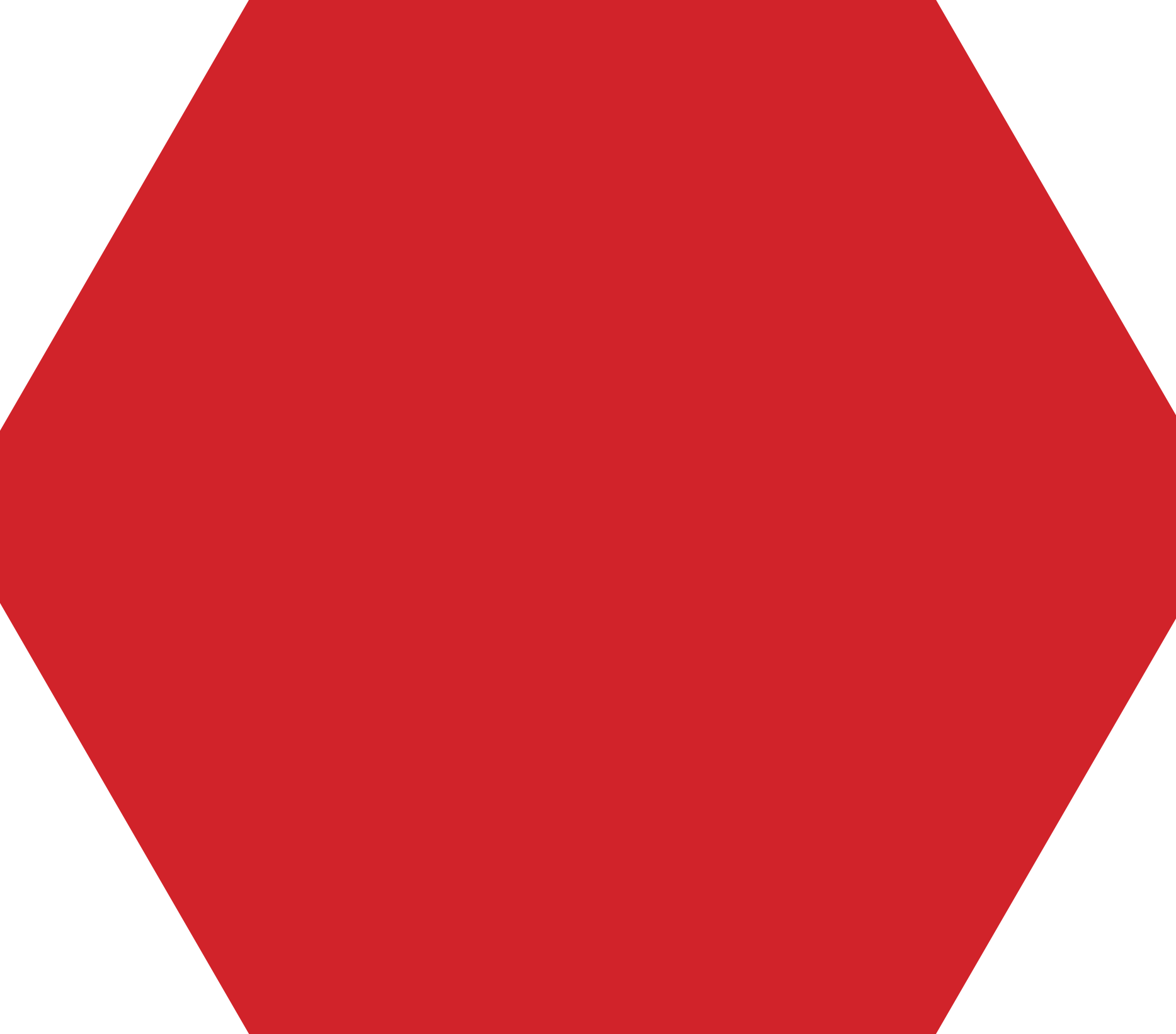


Trading Markets



Policy & Regulation

Technology



ICT Platforms

ICT Platforms

BROADBAND PROVISION (SOCIAL HOUSING SECTOR)

EB-ICT-1

The provision to broadband to the home (by authority or private sector) to enable metering, smart controls and assurance of comfort & well-being.

ICT Platforms

HEMS

EN-ICT-2

Home Energy
Management Systems
for homes to support monitoring
and control of comfort in the
most efficiency way.

ICT Platforms

MARKET MAKER - PLATFORM FOR SHARING AND UTILISING HOME DATA

EN-ICT-3

Using home energy and other data relating to operation of the home that could be used by service providers to offer benefits to customers.

Policy & Regulation

CARBON REDUCTION OBLIGATION ON PROVIDER

EN-POL-1

The home service provider (of the new business model) is obliged, as a condition of its licence to operate, to reduce the carbon intensity of the home or its portfolio of homes in line with long-term targets.

Policy & Regulation

MORTGAGE OR LOAN TAX RELIEF FOR ENERGY EFFICIENT REFURBISHMENT

EN-POL-2

Provision of enhanced tax relief to home owners or landlords who invest capital in improving the energy efficiency of the home and the well-being of its residents.

Policy & Regulation

LICENCE LIGHT FOR ENERGY SUPPLY

EN-POL-3

The ability for new service providers to offer energy and services without prohibitive regulations (e.g. offering comfort-level contracts versus those against kWh usage).

Policy & Regulation

CONSUMER PROTECTION FOR NEW SERVICE CONTRACTS

EN-POL-4

Protection of consumers
so that they are protected
against poor service or abuse
or market position when signing
up for long-term contracts that
may be a feature of
new business models.

Policy & Regulation

INTERNALISING THE COST OF CARBON

EN-POL-5

Applying the cost of carbon to new energy devices and energy supply to the home. For example this will mean applying the cost of carbon to gas supply and boilers and perhaps a balancing of environmental charges between gas and electricity.

Policy & Regulation

BUILDING REGULATIONS - MAINTENANCE OF STRICT EFFICIENCY STANDARDS

EN-POL-6

Applying tighter requirements on the efficiency of new and refurbished homes such that there is a compulsion to invest in a low carbon home (via a business model).

Policy & Regulation

PENSION FUND ALLOCATION TO HOME IMPROVEMENT

EN-POL-7

Homeowners are able
to use pension contributions
to fund home improvements
against recovery in the future
via lower household
energy bills.

Policy & Regulation

ESP EMISSIONS OBLIGATIONS FLEXIBILITY

EN-POL-8

The Energy Service Provider is allowed to use a wider range of methods than currently permitted to meet its emissions obligations.

Policy & Regulation

WINTER FUEL ALLOWANCE INVESTMENT INTO REFURBISHMENT

EN-POL-9

Using the universally applied winter fuel payments to support the renovation of poor housing stock and to guarantee minimum levels of well-being.

Technical Standards

CLEANTECH COST CRUNCHER

EN-STA-1

Using specification standardisation, investment in more efficient manufacture in high volumes and direct channels to market in order to simplify and reduce the cost of new low carbon heating systems.

Technical Standards

STANDARDS REVIEW FOLLOWING DEMONSTRATION

EN-STA-2

Reassessment of heating system standards and performance following initial period of trial such that improvements can be incorporated into the next wave of devices and the lifecycle costs of heating systems can be accurately determined.

Technical Standards

COMMON SET OF APPLIANCE SELECTION / EFFICIENCY TOOLS

EN-STA-3

Developing and publishing for all homeowners accurate and impartial guidelines on home efficiency improvements, best combinations of enhancements, appliance ratings, accredited suppliers and market pricing benchmarks.

Technical Standards

ACCREDITED HOME WELLBEING SYSTEM DESIGN PROVIDERS

EN-STA-4

A network of specialist companies able to offer impartial advice and determine the most cost effective interventions for the home covering insulation, heating technology, controls, other home renovations and energy provider and financing options.

Technology

IMPROVED & MORE COST-EFFECTIVE POWER STORAGE SYSTEMS (POWER BUFFER)

EN-TEC-1

The application of new battery technology to be installed in the home to allow demand-side response and back-up in the home.

Trading Markets

ENERGY STOCK MARKET

EN-TRA-1

An energy trading market that applies to the general public or small commercial enterprises whereby small demand shifts, generation or storage assets can be monetised.

Efficiency / Effectiveness

VENTILATION & HEAT RECOVERY (INCLUDING SUMMER COOLING OPTION)

E3

Energy Monetisation

DEMAND-SIDE MANAGEMENT, GENERATION & STORAGE

A1

Income or credits to householders or direct funding of providers via the value of demand-side management, generation (feeding into grid or reduced demand) and energy storage (supporting grid balancing).

Energy Monetisation

HARVEST CONSUMPTION DATA TO CROSS-SELL, TARGET ADVERTISING ETC.

A2

Accredited providers, with householder permission, using energy consumption pattern data and other measurements from HEMS to sell data to other service providers that may be appropriate for household or a market in general.

Energy Monetisation

IMPROVE CONSUMPTION FORECAST TO REDUCE IMBALANCE COSTS

A3

Controls and predictive algorithms within homes that in aggregate provide much better forecasts for power consumption for DNOs.

Energy Monetisation

FLEXIBILITY FOR ELECTRICITY DISTRIBUTOR TO MANAGE NETWORK CONSTRAINTS

A4

Reduced cost or avoiding reinforcement of network. Improving network reliability.

Energy Monetisation

MONETISING SPARE HEAT

A5

Homes/buildings that have spare heat as a by-product or because of large capacity could be sold to adjacent buildings or via a local heat network.

Energy Monetisation

OPTIMISING HEAT, POWER & STORAGE WITH DISTRICT HEATING SYSTEM

A6

Optimising the utilisation, control and balance of different heating, power generation and consuming assets to reduce the overall costs of supplying a locality.

Energy Monetisation

A7

Blank for other means by which the use of assets can generate value, which can be used to reduce costs of running the home or produce an income stream for the householder or provider.

Energy Monetisation

A8

Blank for other means by which the use of assets can generate value, which can be used to reduce costs of running the home or produce an income stream for the householder or provider.

Novel Financing

CROWD SOURCING OF FINANCING FOR NEW HEATING SYSTEMS

B1

Web-based portal bringing together funding from small companies or general public to fund heating / home improvements for those lacking the capital.

Novel Financing

CHARITABLE DONATIONS TOWARDS FUEL POOR RENOVATIONS

B10

A scheme whereby the public can make gifts directed at renovations of poor housing stock or improvements in heating for the poor - either nationally or locally.

Novel Financing

PAY BACK OF FABRIC IMPROVEMENT / NEW HEATING SYSTEMS VIA HIGHER RENTS

B11

Tenants paying higher rents in exchange for having refurbished heating / homes that result in lower energy bills.

Novel Financing

PART CASH CONTRIBUTION OPTION FROM HOUSEHOLDER / HOME OWNER

B12

Simple cash payment as is the current practice. Option to tailor down-payment according to available capital as is typical for car financing schemes.

Novel Financing

LEVY ON PROPERTY - PAID BACK ON SALE (LA FACILITATED)

B13

The local authority or other financing body pays for the heating system and the money is recovered via a charge on the property (akin to equity release).

Novel Financing

STAMP DUTY REDUCTION FOR REDUCING ENERGY USE

B14

Stamp Duty becomes linked to energy efficiency of home. Upon purchase the new homeowner can carry out refurbishment, improving the energy efficiency band and reducing cost of home purchase.

Novel Financing

MORTGAGE OR LOAN TAX RELIEF FOR ENERGY EFFICIENT REFURBISHMENT

B15

Linked to a policy change, the ability to offset loan interest against taxable profits for landlords when the capital is used to improve energy efficiency and well-being within the home.

Novel Financing

LOCALLY-DRIVEN SPECIAL PURPOSE VEHICLE FUNDED BY COMMUNITY INVESTMENT

B2

SPV to fund a range of local energy efficiency and well-being interventions and assets.

Novel Financing

LOCAL AUTHORITY FINANCED; PAID BACK THROUGH COUNCIL TAX

B3

For less well-off sectors whereby the local authority pays for the home improvement or new heating system and claims back over a period via increased council tax against the property.

Novel Financing

PENSION FUND ALLOCATION

B4

Homeowners are able to use pension contributions to fund home improvements which are recovered in future via lower household energy bills.

Novel Financing

B16

Blank for other means of financing low carbon home interventions including heating systems, insulation, controls and home renovations.

Novel Financing

B17

Blank for other means of financing low carbon home interventions including heating systems, insulation, controls and home renovations.

Novel Financing

LOCAL AUTHORITY VENTURE CAPITAL FUNDING (COMMERCIAL RATE?)

B5

The local authority creates a local fund to support new local businesses to provide low cost heat & power or supporting services.

Novel Financing

LEASE / SERVICE BUNDLE FINANCING

B6

Smoothing the capital cost of the asset and its installation via a premium on monthly energy bills over a 5-10 year period. This may include servicing too.

Novel Financing

FINANCING GUARANTEED BY INCOME FROM SAVINGS OR FIT / RHI

B7

Using the known income stream from the FIT or RHI or energy savings stream recovery to fully or part-finance the home improvement or new heating system.

Novel Financing

FINANCE ADDED TO MORTGAGE

B8

Putting the cost of a home improvement, new heating system etc. on the mortgage over a 25 year term.

Novel Financing

DISCOUNT OR SUBSIDY FROM HARDWARE MANUFACTURER WHO BENEFITS FROM INITIATIVE

B9

Appliance OEMs offering discounts in exchange for support by LA or developers in seeding the market and establishing a track-record for its brand.

Service Bundling

LOW LEVEL - HEAT & POWER & SERVICE

C1

Combining electricity, gas and service of the heating appliance in a single fixed monthly bill.

Service Bundling

MEDIUM LEVEL - HEAT & POWER & FULL APPLIANCE PACKAGE

C2

Combining electricity, gas, installation, capital cost & service of the heating appliance in a single fixed monthly bill.

Service Bundling

HIGH LEVEL - ALL HEAT & POWER SERVICES PLUS OTHER UTILITIES

C3

Combining all energy, hardware and servicing together with all other home utilities (including insurance, telecoms and water).

Service Bundling

COMPLETE - INCLUDING ALL LOCAL TAXES

C4

Covering all charges to run the home (except house repairs) and including local council taxes.

Service Bundling

C5

Blank for other concepts that could apply to the bundling of services to the home to ease risk, administrative burden and budgetary worries for the householder.

Service Bundling

C6

Blank for other concepts that could apply to the bundling of services to the home to ease risk, administrative burden and budgetary worries for the householder.

Asset Utilisation

UTILISING SPARE HEAT FROM ADJACENT NON-RESIDENTIAL PREMISES

D1

Using a local heat network to exploit surplus or non-business hours heat to provide comfort at lower capital and operating costs to homes.

Asset Utilisation

SHARING HEATING / COOLING ASSET

D2

Reducing the cost of capital investment by sharing a heating system between several properties; on the basis that in many cases a heating asset's utilisation is low and with smart controls its running hours could be increased.

Asset Utilisation

UTILISING WASTE HEAT FROM LOCAL POWER GENERATION

D3

A common approach whereby heat from CHP units is utilised for homes in the neighbourhood.

Asset Utilisation

UTILISING SPARE HEAT FROM DISTRIBUTED SERVERS

D4

A niche business model module that has been adopted in some parts of Europe whereby a home hosts a server and in exchange benefits from the waste heat.

Asset Utilisation

DOMESTIC HEATING (& POWER) ASSET OWNED & OPERATED AS A SERVICE

D5

Single small or larger communal heating systems are procured.

Asset Utilisation

PAY-BY-THE-HOUR B2B MODEL TO POWER OR COMBINED HEAT & POWER UNIT OPERATOR

D6

A contractual arrangement between a heat supplier and a heat producer facilitating an hourly price for a level of heat supplied. Energy centre performance and risks sits with heat producer. Domestic customers could have a proposition based on the same principle.

Asset Utilisation

D7

Blank for other concepts for improved utilisation of heating / power assets to reduce capital cost and opex.

Asset Utilisation

D8

Blank for other concepts for improved utilisation of heating / power assets to reduce capital cost and opex.

Efficiency / Effectiveness

REDUCING THERMAL LOSSES THROUGH IMPROVED INSULATION

E1

Installation of insulation in the home which may include external, internal or cavity wall insulation, loft insulation and double glazing.

Efficiency / Effectiveness

IMPROVED HOME CONTROLS

E2

Using new generation smart controls to optimise heating comfort, control and efficiency in the home.

Efficiency / Effectiveness

VENTILATION & HEAT RECOVERY (INCLUDING SUMMER COOLING OPTION)

E3

Installation of efficient fresh air ventilation with stale air heat recovery (and the potential of cooling when using heat pumps) to improve air quality, comfort and efficiency of keeping house warm.

Efficiency / Effectiveness

LOWER CARBON & MORE EFFICIENT HEATING DEVICES TO PROVIDE HEAT IN THE HOME

E4

Installation of improved efficient low carbon heating thereby lowering energy costs, carbon and perhaps increasing comfort.

Efficiency / Effectiveness

POWER STORAGE SYSTEM

E5

The installation in the home of a battery or other power storage device that allows storage of power generated on site or storage of power supplied to the home for demand shift, power security and possible monetisation.

Efficiency / Effectiveness

HIGH EFFICIENCY COMMUNITY HEAT & POWER SYSTEM

E6

The installation in the home or a local grouping of homes of a high efficiency heat and power system that can provide low cost and low carbon heat and power to the homes, with the potential for export to the grid.

Efficiency / Effectiveness

HEAT STORAGE SYSTEM

E7

Installation of a home heat storage device to allow smoothing of demand on a heating system, thereby reducing its size or cost or improving operating strategy. In addition a heat storage system can be used to smooth power demand, reducing cost and network capacity requirements.

Efficiency / Effectiveness

E8

Blank for other concepts that could improve the efficiency or effectiveness of home heating and power use.

Efficiency / Effectiveness

E9

Blank for other concepts that could improve the efficiency or effectiveness of home heating and power use.

Lean Supply Chain

LAs, GOV'T & HOME SERVICE COMPANIES POOLING PURCHASING TO EQUIPMENT VENDORS

F1

Local authorities, government or accredited providers pooling purchasing power & adopting direct channels to OEM, thereby dramatically reducing costs of low carbon heating systems and their installation.

Lean Supply Chain

STANDARDISING LOW CARBON HEATING SOLUTIONS

F2

Creating a UK or EU-wide standard size and format for low carbon heating systems to reduce unnecessary variety, drive competitive sourcing and simplify specification for retrofits and new homes.

Lean Supply Chain

LOW COST PRE-FABRICATED HOME UPGRADES

F3

Off-site / pre-fabrication of insulation, ventilation and new heating system upgrades in the home whereby manufacturing costs and expensive on-site assembly times are reduced dramatically.

Lean Supply Chain

INSTALLATION SIMPLIFICATION & STANDARDISATION

F4

Standardising connection, installation and commissioning approaches for new heating systems such that there is far less variety in skills, equipment and fitting hardware; thereby reducing the cost and risks of poor quality of installation.

Lean Supply Chain

STANDARD EFFICIENCY, RELIABILITY & LIFETIME ASSESSMENT FOR NEW HEATING / CLEANTECH DEVICES

F5

Standard efficiency, reliability & lifetime assessment for new heating / cleantech devices.

Lean Supply Chain

F6

Blank card for new concepts that will make the supply chain more efficient resulting in lower costs and faster deployment of low carbon technologies in the home.

Lean Supply Chain

F7

Blank card for new concepts that will make the supply chain more efficient resulting in lower costs and faster deployment of low carbon technologies in the home.

Energy Brokering

COMPETITIVE SOURCING - MANUAL - BEST DEAL FOUND FOR USER TO ACT ON

G1

DIY brokering, supported via easy reference tools or price comparison sites, so that the homeowner can establish the best providers for a bundled service which may include assets, home improvements and service.

Energy Brokering

COMPETITIVE SOURCING - AUTOMATIC LINKED TO OBLIGATION OF PROVIDER

G2

The sourcing of best deals for each element of the utility offering is done by the provider, which uses its purchasing power and selection tools to effect the optimal package.

Energy Brokering

COLLECTIVE SWITCHING

G3

A co-ordinated initiative at the local level, aided by a local authority or charity, to negotiate better terms for many households simultaneously.

Energy Brokering

OPTION TO OPT OUT OF BROKERING SERVICE

G4

This option will be required to allow reverting back to self-selection.

Energy Brokering

SINGLE COLLECTIVE SUPPLIER ACTING ON COMMUNITY SCHEME BEHALF

G5

Supplier representing the interests of consumers who are signed up to a community scheme. The supplier will source energy from market participants that best aligns to the overall needs of the community scheme.

Energy Brokering

G6

Blank card for new ideas that will ensure the homeowner achieve the best deals for provision of well-being in the home and with the minimum of hassle.

Energy Brokering

G7

Blank card for new ideas that will ensure the homeowner achieve the best deals for provision of well-being in the home and with the minimum of hassle.

Willingness to Pay

IMPROVED PEACE OF MIND I.E. PREDICTABILITY OF BILL

H1

Taking away the worry of variable or surprise bills or very costly emergency repairs of boilers etc.

Willingness to Pay

SELLING THE VALUE FOR MONEY

H10

Improving the way the benefits of well-being (health, comfort, security, reliability) are sold to the consumer.

Willingness to Pay

DESIGN & SELECTION INFORMATION SOURCES / TOOLS FOR HOMEOWNERS

H11

Increasing trust and understanding (and therefore commitment to act) via the supply of objective and authoritative guides on how home interventions work, their benefits and how they can be implemented and providers chosen.

Willingness to Pay

H12

Blank card for other sources of perceived value that can be used to sell or support a new energy / well-being service proposition.

Willingness to Pay

H13

Blank card for other sources of perceived value that can be used to sell or support a new energy / well-being service proposition.

Willingness to Pay

APPROVED CONTRACTORS - PROVIDING CONFIDENCE TO CONSUMER

H2

A scheme that provides a choice of regulated providers offering up the new business models and installing new heating systems or insulation etc.

Willingness to Pay

EARLY ADOPTERS BECOME PART OF AN EXCLUSIVE CLUB

H3

Increasing the allure of investing in your home - aimed at better off homeowners - whereby they become members of an early adopter community and have access to special events and involvement in the energy efficiency movement.

Willingness to Pay

MAKING THE IDEA OF INVESTING IN LOW CARBON HOME ASPIRATIONAL AND SEEN TO BE A GOOD THING TO DO

H4

Changing the way home improvements and heating are marketed so that they become akin to investments in kitchens and bathrooms. Moving away from a focus on the technology and kWh to the value of the outcomes.

Willingness to Pay

PROVISION OF TURNKEY SERVICE AND REMOVAL OF HASSLE

H5

Single face and engagement to customer where multiple supply chain delivery partners are required.

Willingness to Pay

BEING PART OF A COMMUNITY SCHEME

H6

Tapping into the value that people are willing to attribute to having a trusted local energy/heating brand that appears to act in their interests and support the community.

Willingness to Pay

PROPERTY SEEN BY LANDLORD AS BECOMING MORE ATTRACTIVE TO RENT

H7

The landlord, by investing money in new heating systems that improve the comfort, aesthetics and well-being of residents, can capture higher rent values.

Willingness to Pay

ACCREDITED HOME WELLBEING SYSTEM DESIGN PROVIDERS

H8

Homeowners attach a premium to trusted providers - the brand premium. The willingness to pay will be higher if the installers and new business model providers have a track record of quality and acting in the consumers' best interests.

Behaviour Change

ENCOURAGING & REWARDING LOW ENERGY USE

Providing rewards for trends in low energy use - could be via Nectar or similar schemes.

Behaviour Change

ENCOURAGING BEHAVIOURS THAT SHIFT DEMAND WITH NEW SUPPLY PROFILES

Via HEMS or other form of notification, consumers could be incentivised to reduce energy demand during peak periods, thereby reducing carbon via lower demand on peaking power assets.

Behaviour Change

HAVING TO MANAGE WITHIN SELF-IMPOSED USAGE LIMITS

A set of control bands in the supply contract which align to the fixed monthly payment. Going under could create carry-over credits; going over could be rolled over or incur a premium on the bill.

Behaviour Change

PENALISING EXCESSIVE ENERGY USE

A tariff system whereby pricing per kWh escalates with use, rising to very high levels where consumption is excessive for the house. This creates an incentive to invest in energy efficiency or change behaviour.

Behaviour Change

Blank card for other ideas that could help drive behaviour of the householder to improve energy efficiency at home or national level.

Behaviour Change

Blank card for other ideas that could help drive behaviour of the householder to improve energy efficiency at home or national level.