



centre for  
sustainable  
energy

# Do the next million first

What to do to get the home-owner market going for low carbon retrofit – in a world without grants

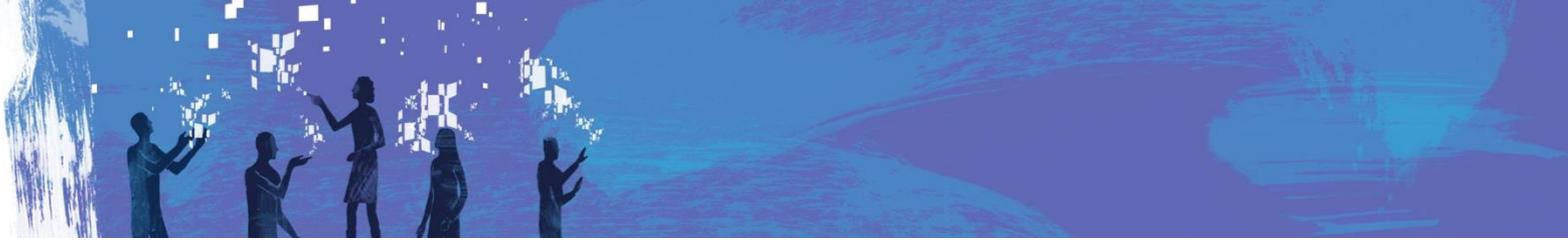
Simon Roberts OBE, Chief Executive

July 2017

# What is this?

A short presentation explaining our thoughts on:

- why we need to change the way we all seem to have been thinking about how to get home-owners to make their homes low carbon from now on;
- how we need to think about it instead, and what this leads to in terms of policies and programmes (sneak preview: locally focussed market orchestration);
- how much this might cost (spoiler alert: less than you might think).



# The problem? We're in a new phase

- We've done most of the easy insulation measures in the UK housing stock. The next phase of retrofit to make our housing stock genuinely low carbon is much harder and involves more complex building work (e.g. solid wall insulation) and heating engineering (e.g. smart controls). And the work is more expensive.



# The problem? Builders are busy

- Unlike ‘basic insulation’ (which had its cavity and loft insulation contractors – semi-skilled work), this next phase will need skilled building trades and heating engineers involved.
- And these companies – largely small and ‘local’ in the owner-occupied market – are already busy. And, if they are any good (and local firms know word gets around if they aren’t), they are generally making a decent living doing building and retrofit work which isn’t ‘low carbon’. So why change?



# The problem? It's policy 'all or nothing'

- Facing the challenge of the 5<sup>th</sup> carbon budget (and beyond) and the failure of Green Deal, lots of policy makers and lobbyists seem to be:
  - (a) obsessed by working out how to retrofit the entire housing stock before they do anything, and;
  - (b) worrying that the owner-occupied sector won't do anything without big grants or clever finance (because that's the only policy that's ever really been tried). But 'there's no money'.
- As a result, 2 years with nothing new.



# The problem? Policy paralysis

- The feeling that *'we need to know how to do it all before we do anything'* combines with the knowledge that there won't be big money to pay grants. As a result, we have what looks like policy paralysis which is preventing any positive action.
- To reiterate: 2 years with nothing new.



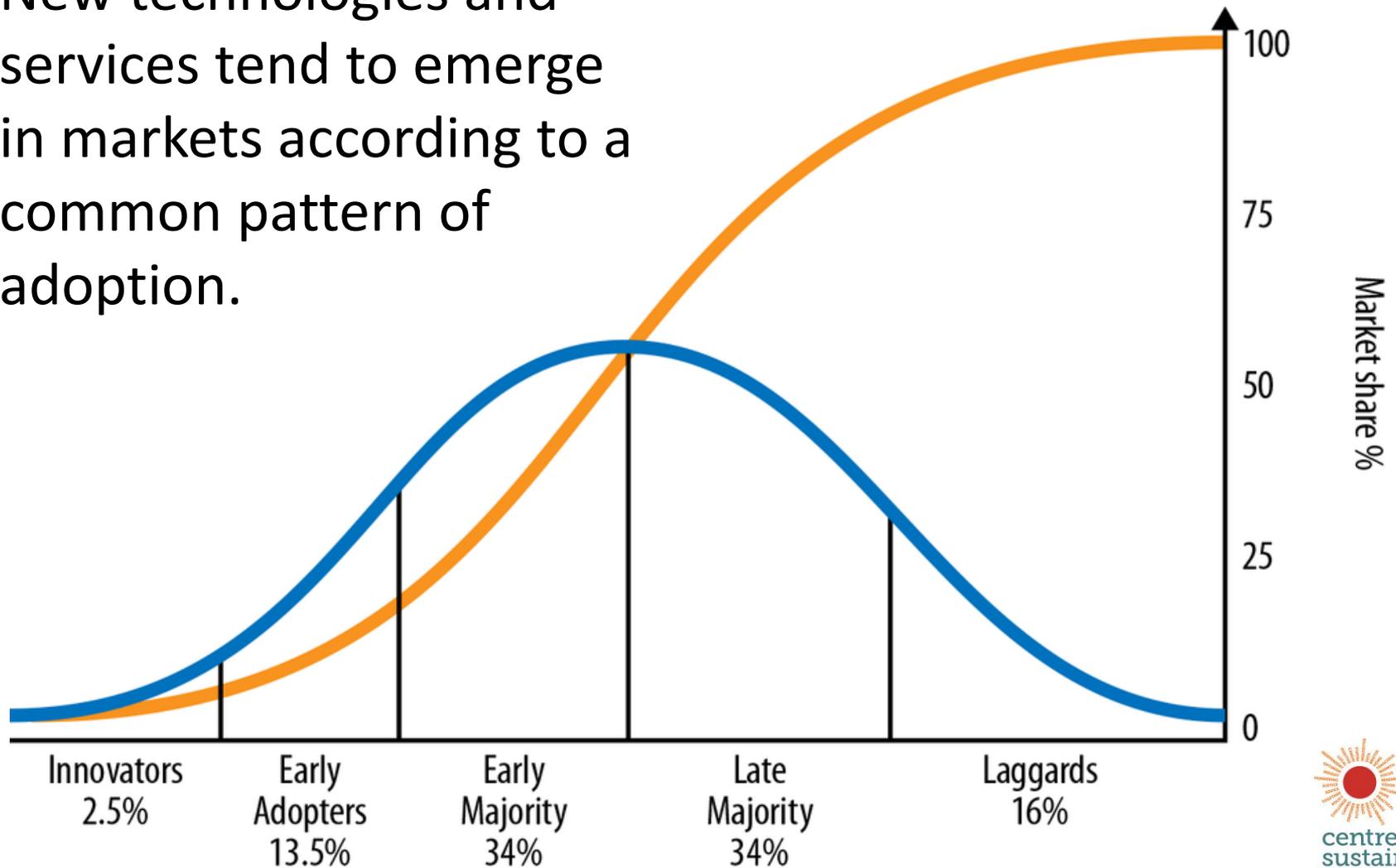
# The problem? We're not thinking right

- The way we're all thinking about the challenge is missing the point about:
  - (a) how markets typically develop and what that means for this market particularly, and;
  - (b) what governments can do to help markets grow (when they feel unable to invest much money).

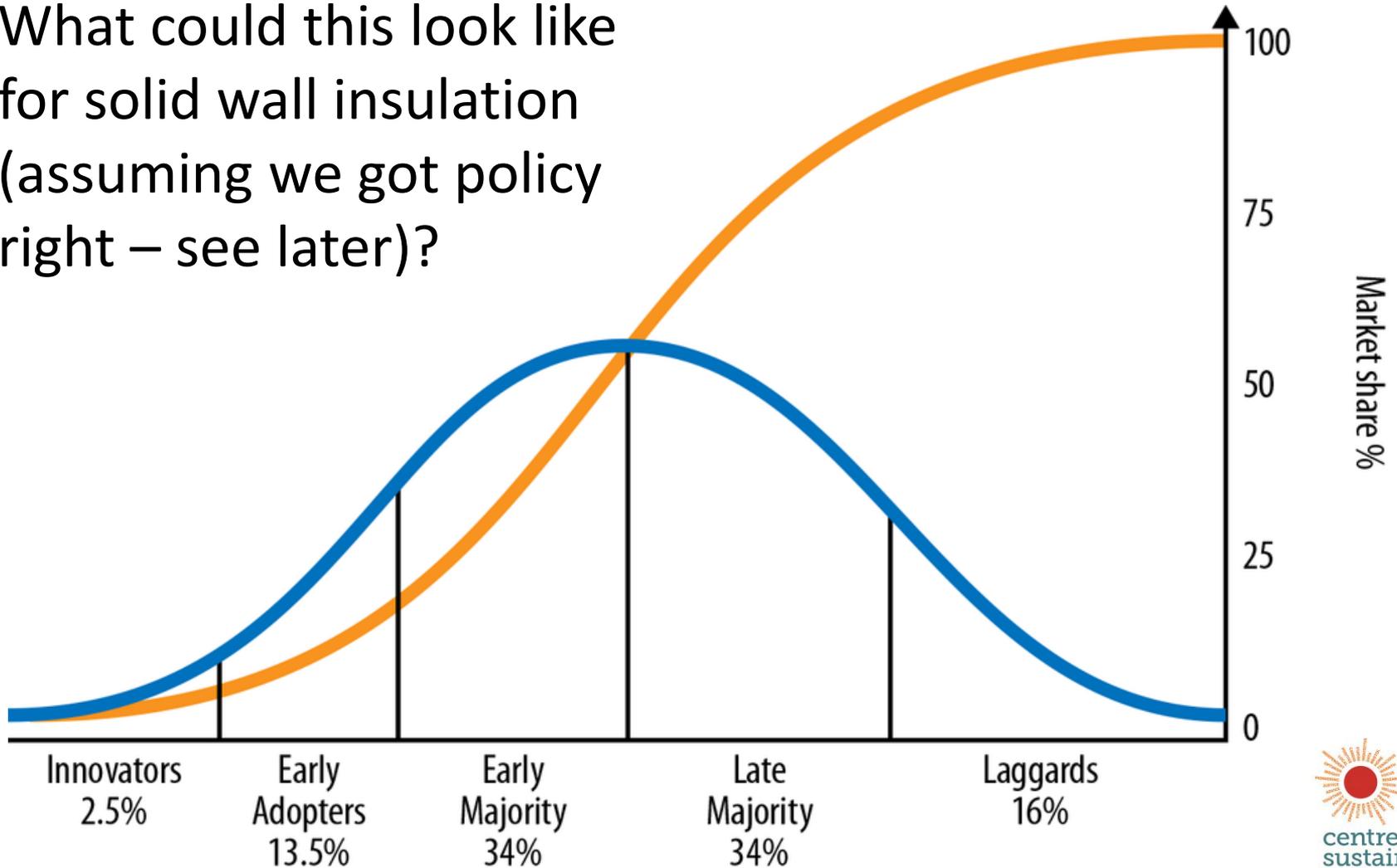
# So how should we be thinking about it?

Introducing the ‘technology adoption curve’...  
*(think ‘solid wall insulation’ or ‘low carbon retrofit’ as the ‘technology’...)*

New technologies and services tend to emerge in markets according to a common pattern of adoption.



What could this look like for solid wall insulation (assuming we got policy right – see later)?



YEAR

2008 ....

2017

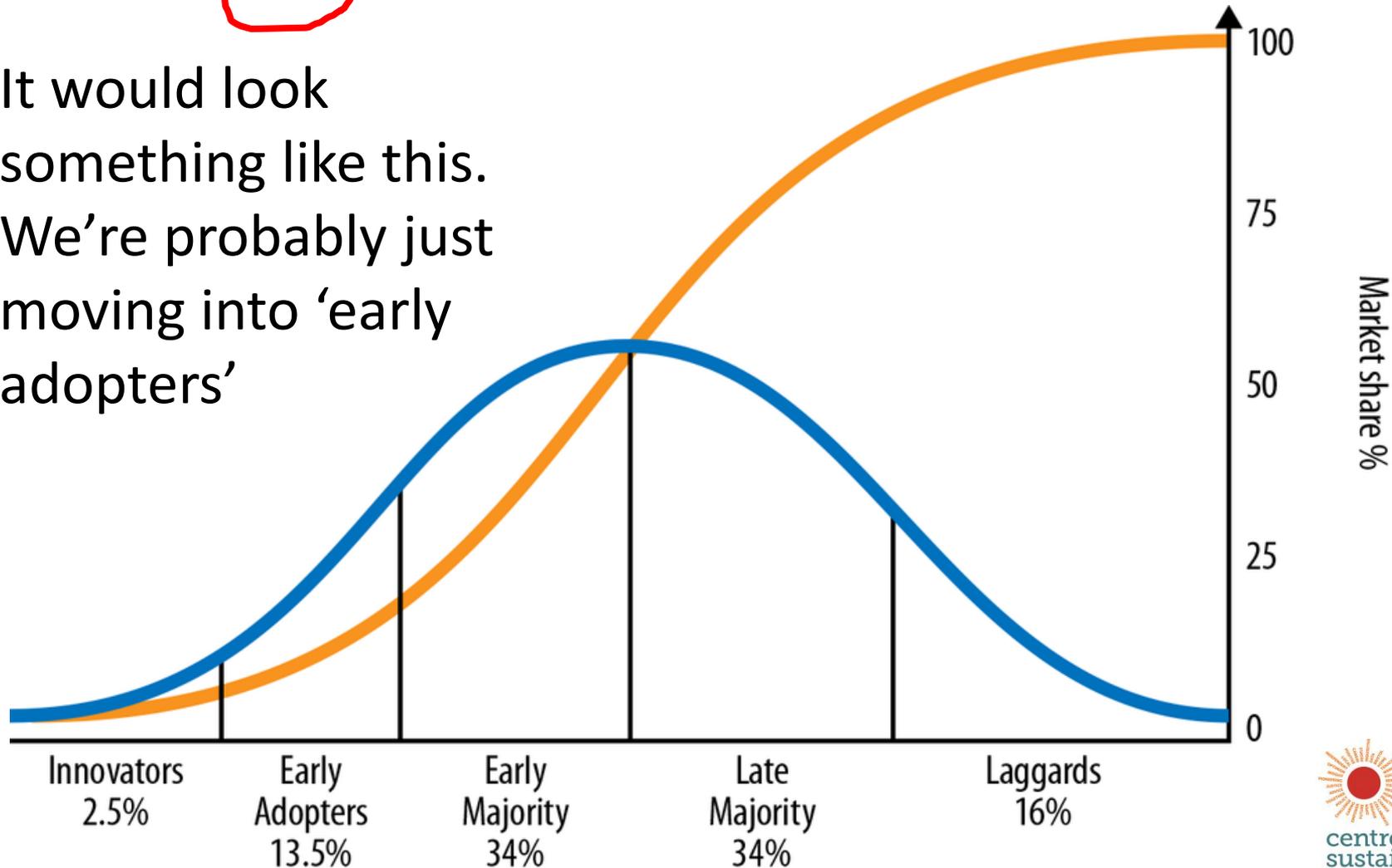
2019

2024

2028

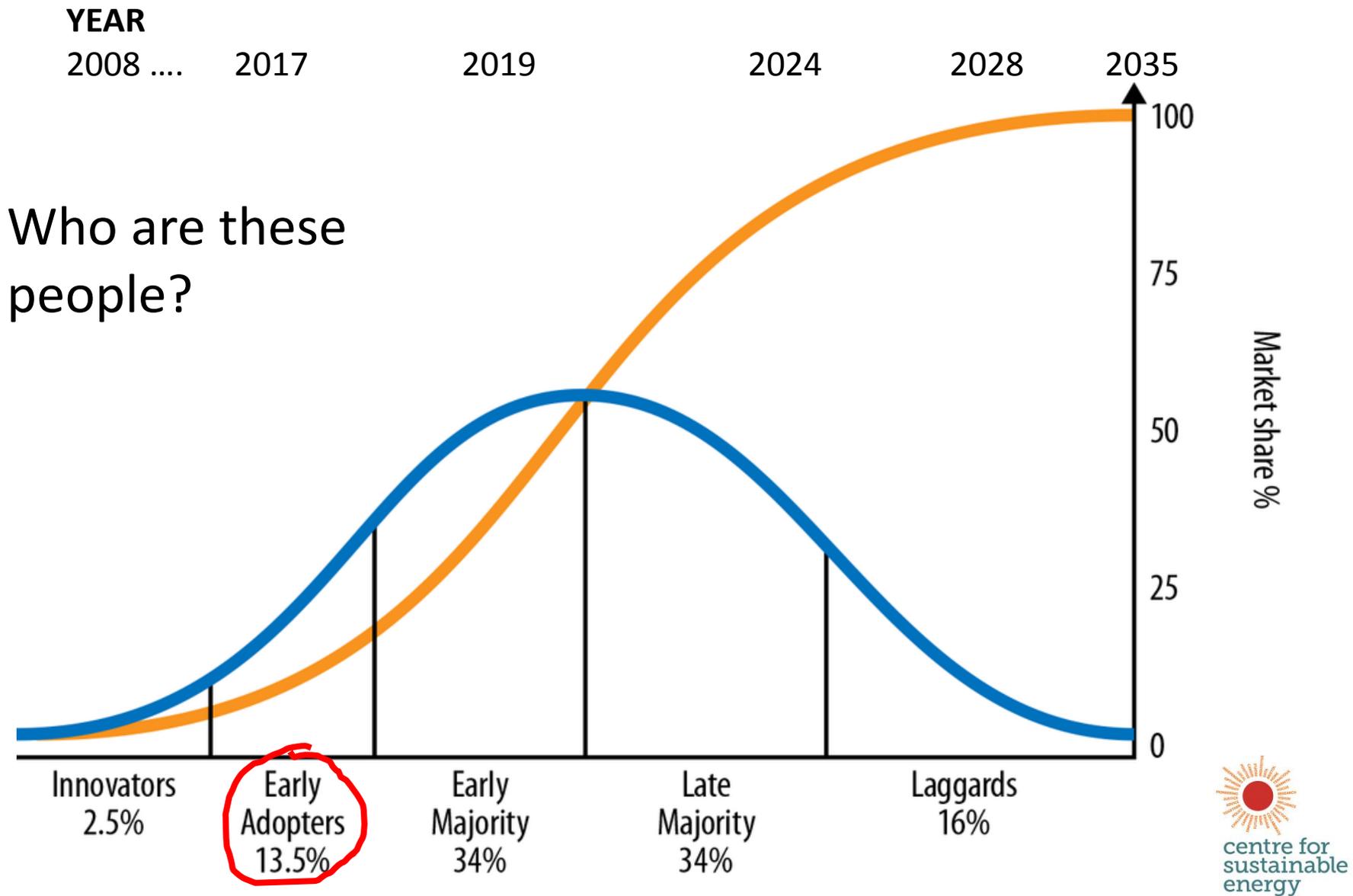
2035

It would look something like this. We're probably just moving into 'early adopters'



**Solid Wall Insulation Adoption Curve for 'able to pay' owner occupiers**

(subject to picking the right policies for early adopters)

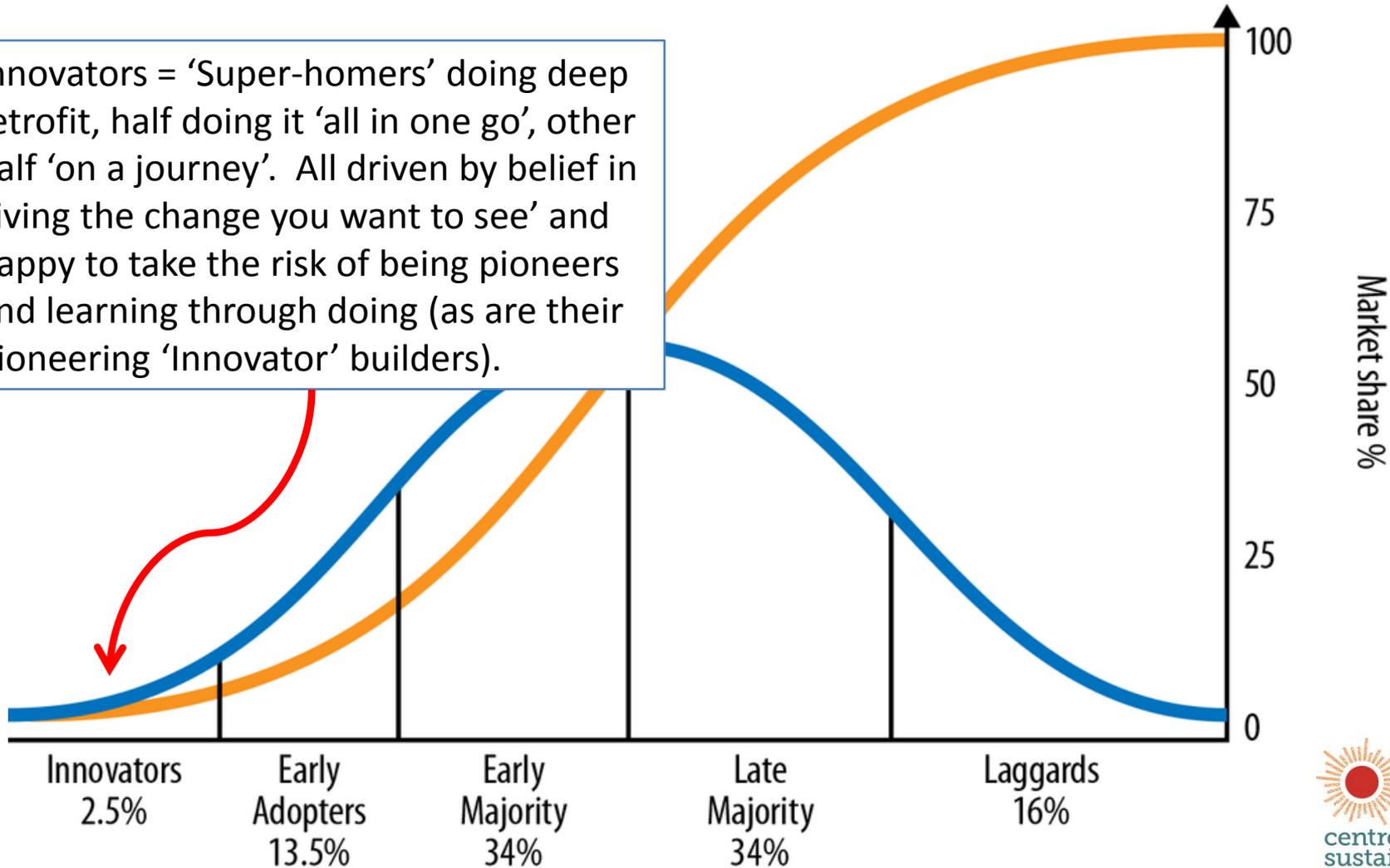


**Solid Wall Insulation Adoption Curve  
for 'able to pay' owner occupiers**  
(subject to picking the right policies for early adopters)

# YEAR

2008 .... 2017 2019 2024 2028 2035

Innovators = 'Super-homers' doing deep retrofit, half doing it 'all in one go', other half 'on a journey'. All driven by belief in 'living the change you want to see' and happy to take the risk of being pioneers and learning through doing (as are their pioneering 'Innovator' builders).



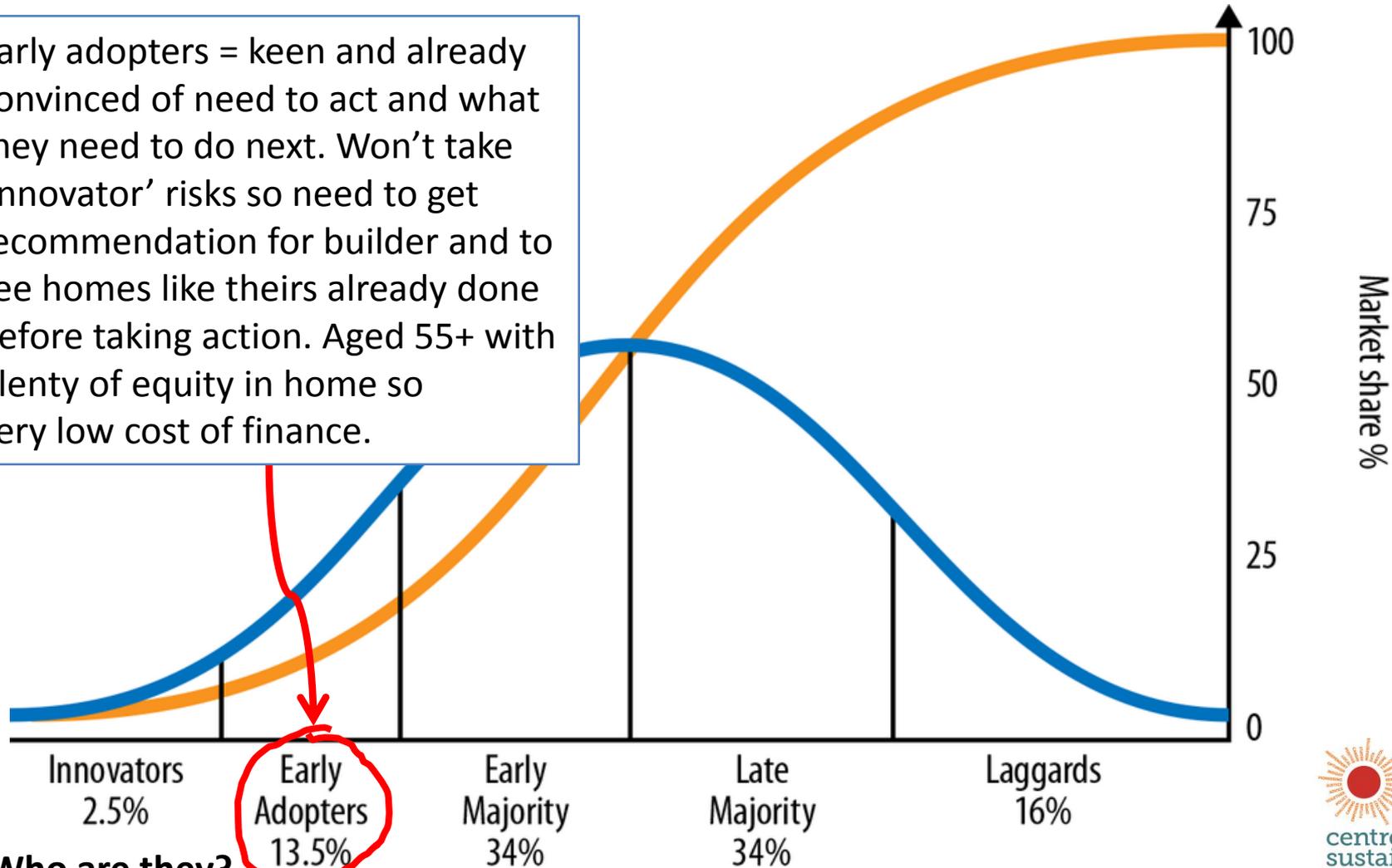
## Solid Wall Insulation Adoption Curve for 'able to pay' owner occupiers

(subject to picking the right policies for early adopters)

# YEAR

2008 .... 2017 2019 2024 2028 2035

Early adopters = keen and already convinced of need to act and what they need to do next. Won't take 'innovator' risks so need to get recommendation for builder and to see homes like theirs already done before taking action. Aged 55+ with plenty of equity in home so very low cost of finance.



## Who are they?

'Super-homers' – deep retrofit, half 'in one go' other half 'emergent' / 'on the journey'

## Solid Wall Insulation Adoption Curve for 'able to pay' owner occupiers

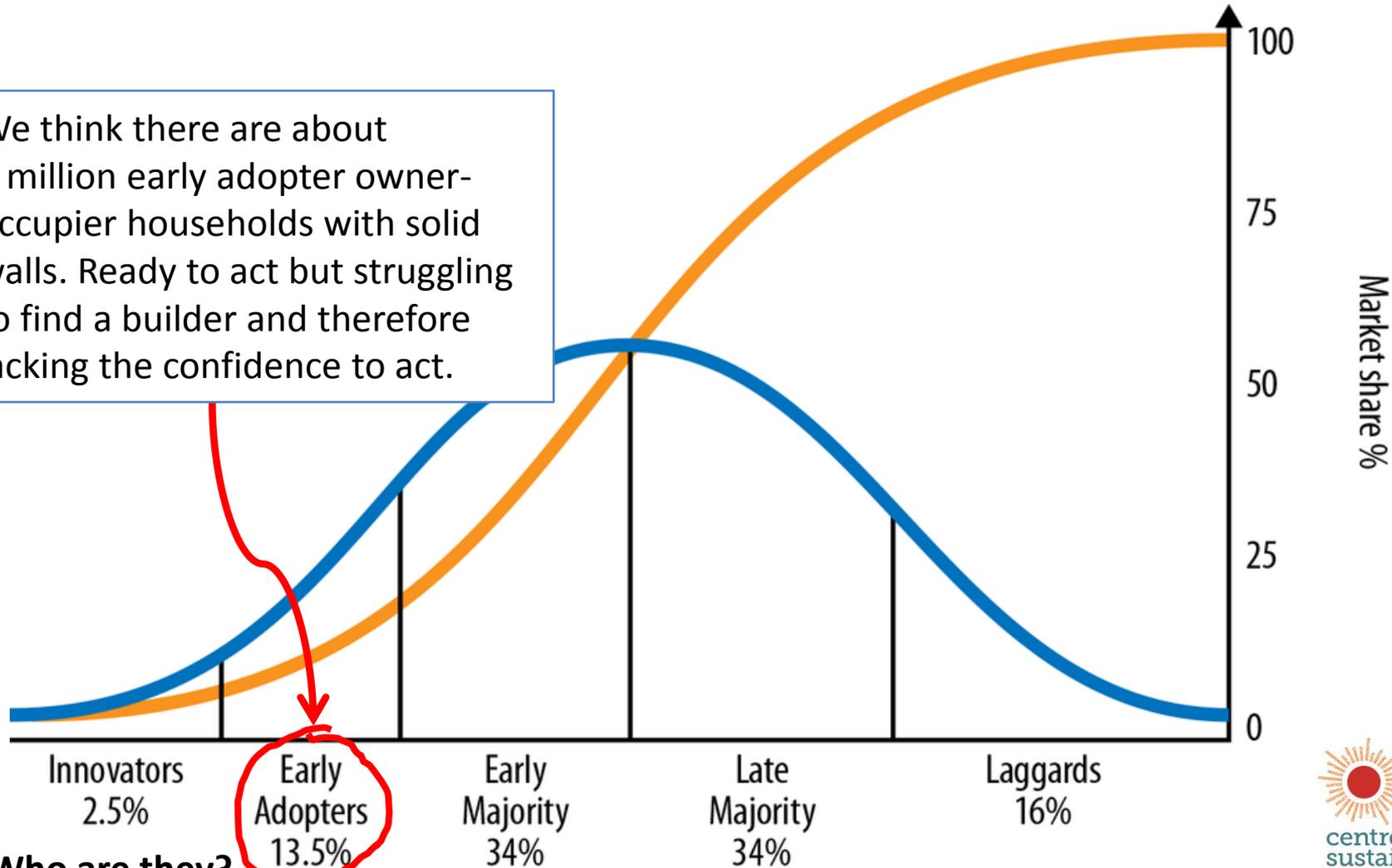
(subject to picking the right policies for early adopters)



YEAR

2008 .... 2017 2019 2024 2028 2035

We think there are about 1 million early adopter owner-occupier households with solid walls. Ready to act but struggling to find a builder and therefore lacking the confidence to act.



### Who are they?

'Super-homers' – deep retrofit, half 'in one go' other half 'emergent' / 'on the journey'

Keen, already convinced but need confidence building. >55 yrs old with lots of equity in home

### Solid Wall Insulation Adoption Curve for 'able to pay' owner occupiers

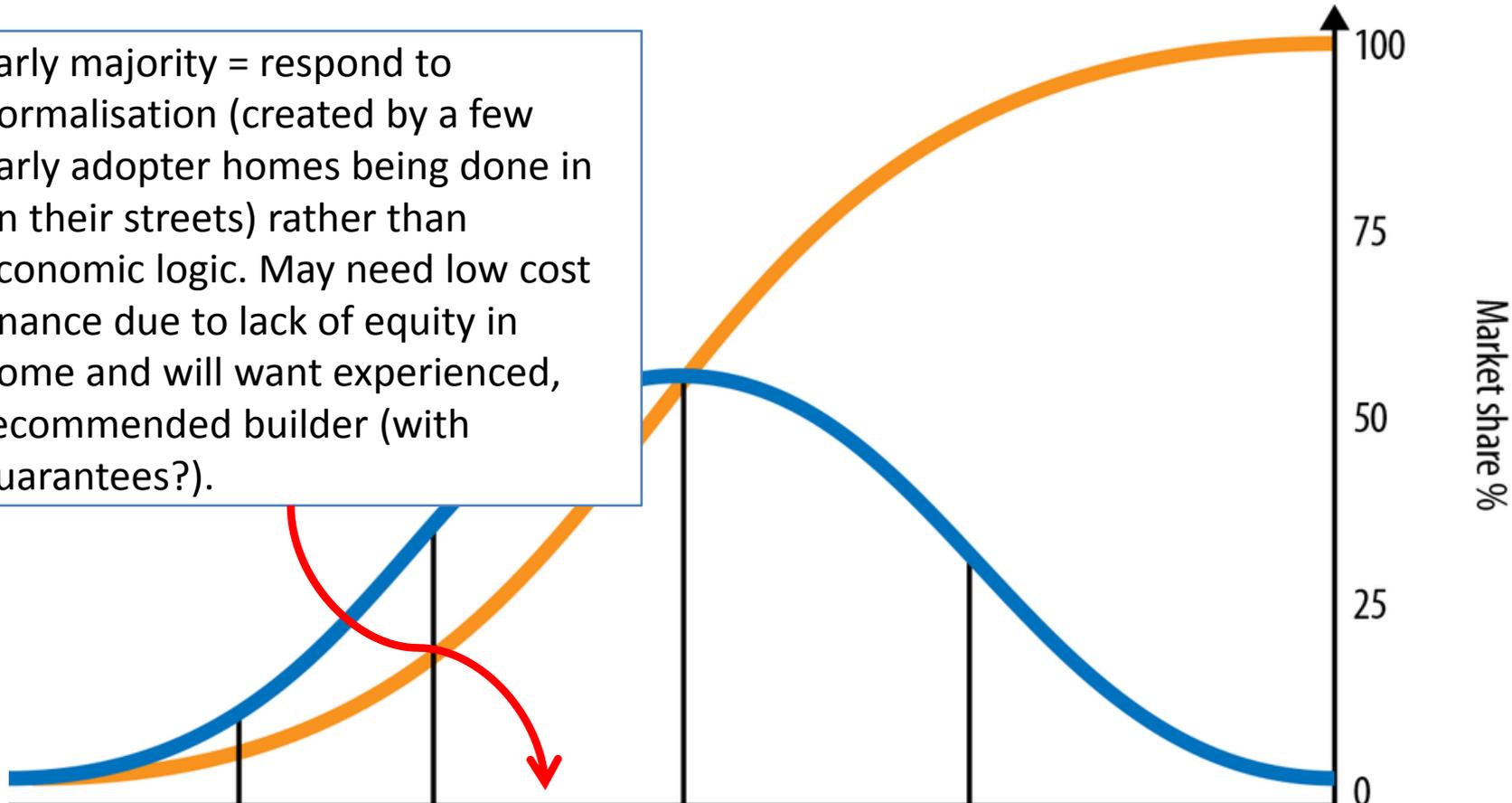
(subject to picking the right policies for early adopters)



# YEAR

2008 .... 2017 2019 2024 2028 2035

Early majority = respond to normalisation (created by a few early adopter homes being done in on their streets) rather than economic logic. May need low cost finance due to lack of equity in home and will want experienced, recommended builder (with guarantees?).



## Who are they?

'Super-homers' – deep retrofit, half 'in one go' other half 'emergent' / 'on the journey'

Keen, already convinced but need confidence building. >55 yrs old with lots of equity in home

## Solid Wall Insulation Adoption Curve for 'able to pay' owner occupiers

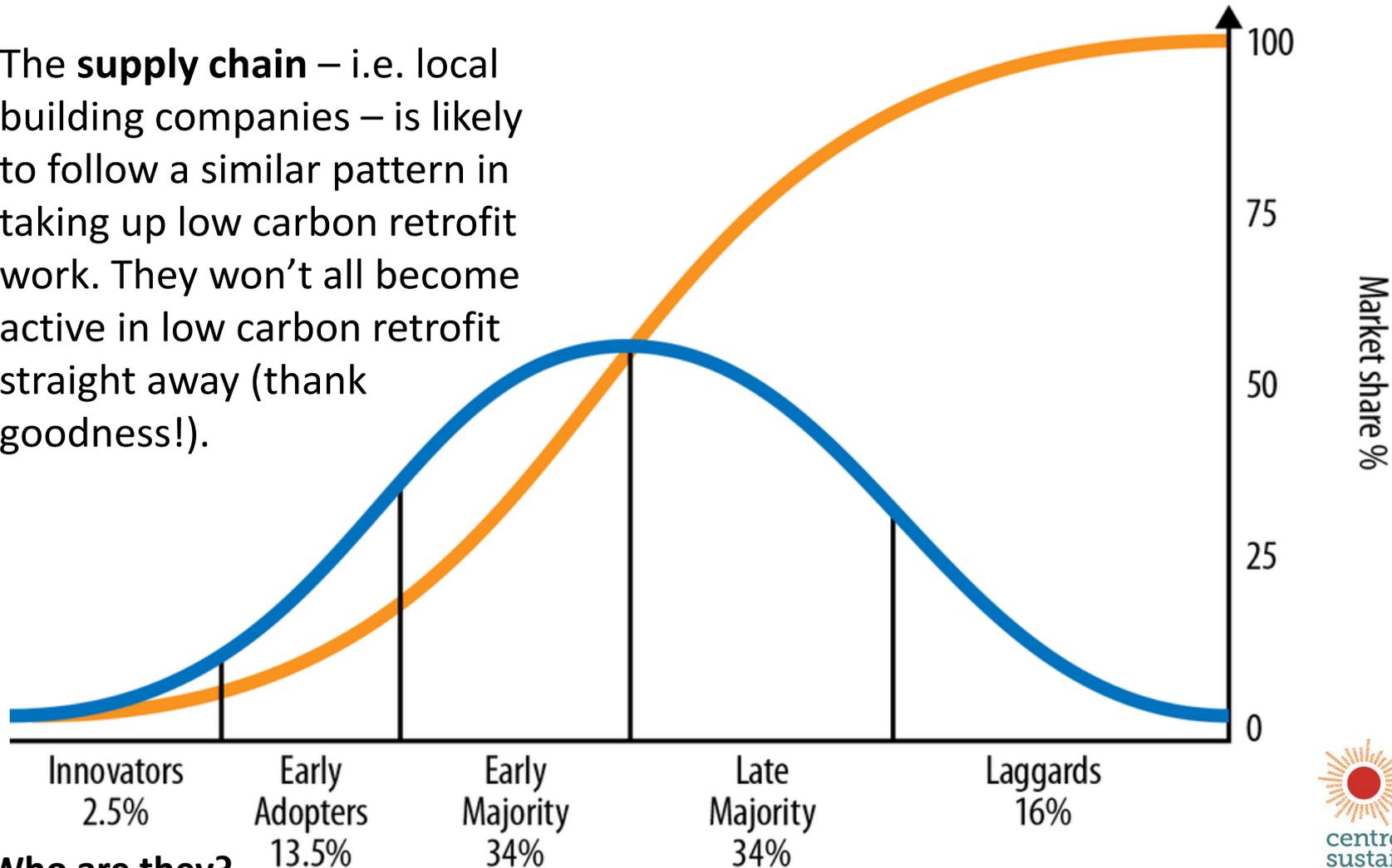
(subject to picking the right policies for early adopters)



YEAR

2008 .... 2017 2019 2024 2028 2035

The **supply chain** – i.e. local building companies – is likely to follow a similar pattern in taking up low carbon retrofit work. They won't all become active in low carbon retrofit straight away (thank goodness!).



### Who are they?

'Super-homers' – deep retrofit, half 'in one go' other half 'emergent' / 'on the journey'

Keen, already convinced but need confidence building. >55 yrs old with lots of equity in home

Respond to normalisation. Will want quality marks, guarantees and low cost finance



### Solid Wall Insulation Adoption Curve for 'able to pay' owner occupiers

(subject to picking the right policies for early adopters)

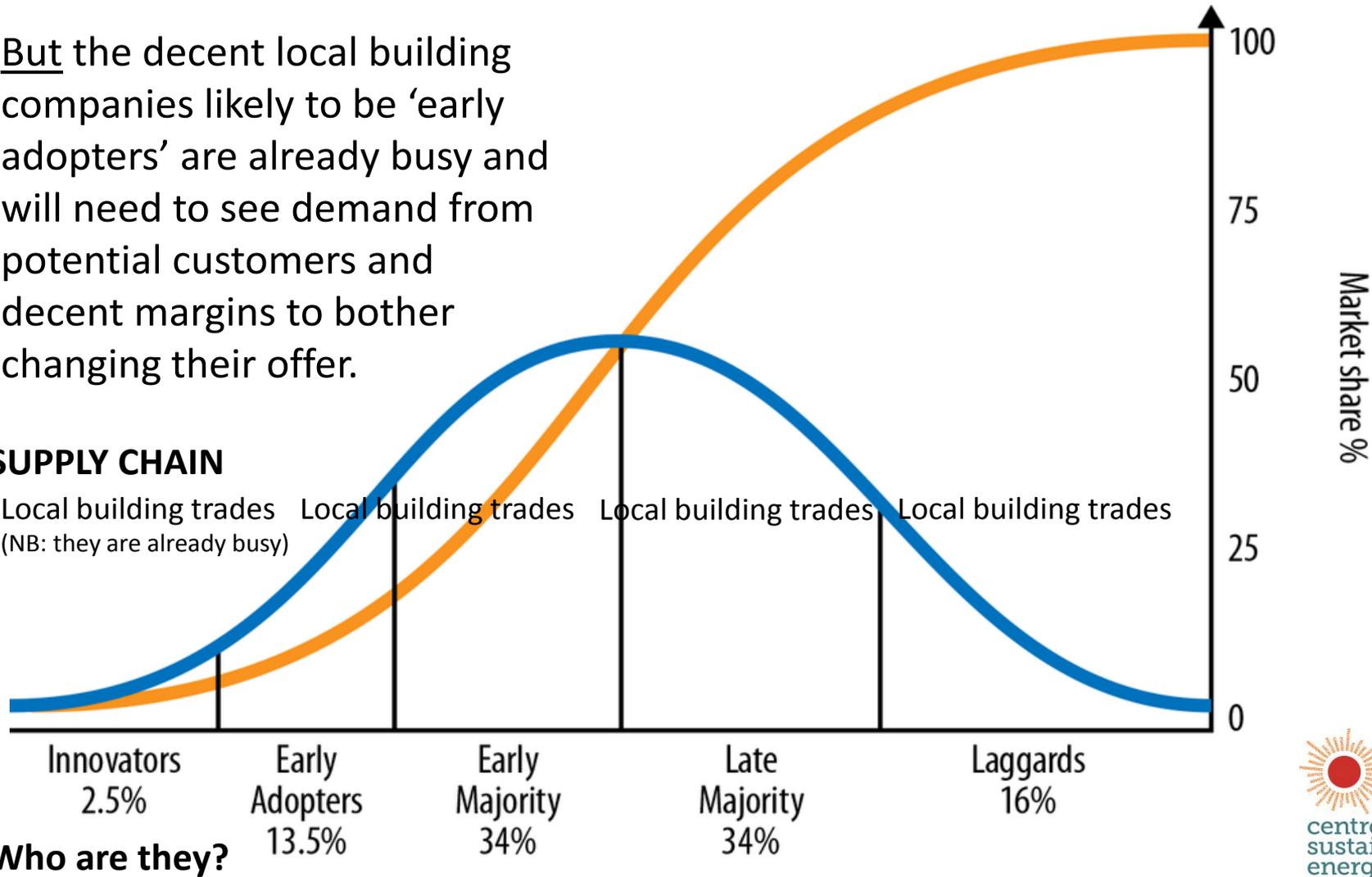
## YEAR

2008 .... 2017 2019 2024 2028 2035

But the decent local building companies likely to be 'early adopters' are already busy and will need to see demand from potential customers and decent margins to bother changing their offer.

## SUPPLY CHAIN

Local building trades Local building trades Local building trades Local building trades  
(NB: they are already busy)



## Who are they?

'Super-homers' – deep retrofit, half 'in one go' other half 'emergent' / 'on the journey'

Keen, already convinced but need confidence building. >55 yrs old with lots of equity in home

Respond to normalisation. Will want quality marks, guarantees and low cost finance

## Solid Wall Insulation Adoption Curve for 'able to pay' owner occupiers

(subject to picking the right policies for early adopters)





# The problem? Lack of local orchestration

- So ‘early adopter’ households will only act if they are confident they can find a builder who knows what they are doing (and they’ve seen their work). And, like almost every other home-owner, they tend to use local builders. ‘No builder’ = ‘no demand’
- And pioneer and early adopter building companies (usually small and local) won’t develop their low carbon offer if they don’t think there’s demand locally or they can’t make margins better than current business. ‘No demand’ = ‘stay with what you know’



## But if we can solve that...

- The early adopters (both households and building companies) will start to do business, revealing a new approach to retrofit on a street near where other early adopters and some early majority types live.
- And thus a new (and potentially aspirational) 'normal' is born and starts to take hold.



# And a new normal...

- ... creates a different market within which all future policies and programmes will take place.
- And over time it makes possible policies which may be politically impossible now (such as minimum energy efficiency standards for the sale of owner-occupier homes).

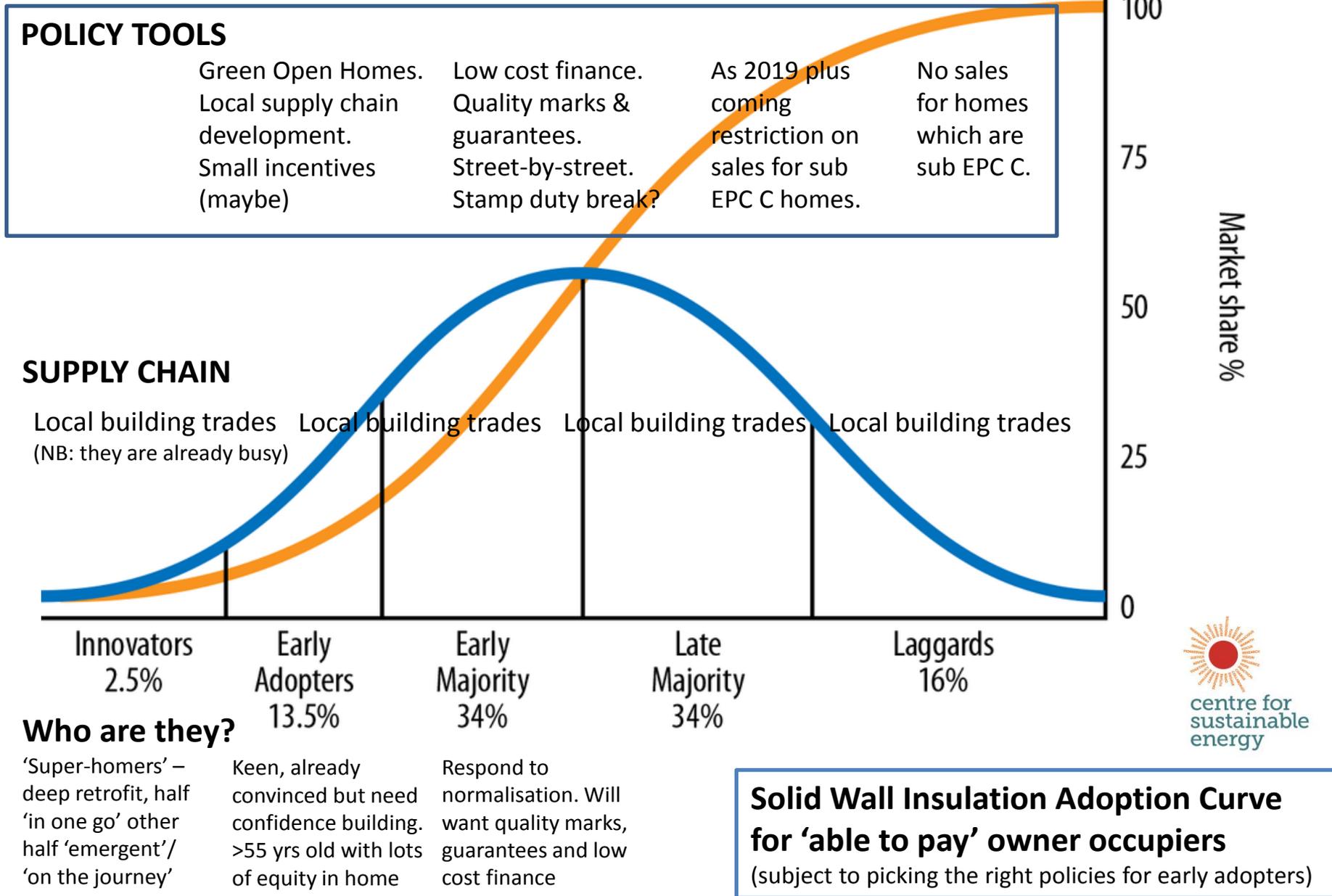


# What does that look like?

- Back to the technology adoption curve to see what the policy tools look like over time...

# YEAR

2008 .... 2017 2019 2024 2028 2035



## POLICY TOOLS

Green Open Homes. Local supply chain development. Small incentives (maybe)

Low cost finance. Quality marks & guarantees. Street-by-street. Stamp duty break?

As 2019 plus coming restriction on sales for sub EPC C homes.

No sales for homes which are sub EPC C.

## SUPPLY CHAIN

Local building trades (NB: they are already busy)

Local building trades

Local building trades

Local building trades

Innovators 2.5%

Early Adopters 13.5%

Early Majority 34%

Late Majority 34%

Laggards 16%

## Who are they?

'Super-homers' – deep retrofit, half 'in one go' other half 'emergent' / 'on the journey'

Keen, already convinced but need confidence building. >55 yrs old with lots of equity in home

Respond to normalisation. Will want quality marks, guarantees and low cost finance

**Solid Wall Insulation Adoption Curve for 'able to pay' owner occupiers**  
 (subject to picking the right policies for early adopters)



YEAR

2008 ....

2017

2019

2024

2028

2035

### POLICY TOOLS

Green Open Homes.  
Local supply chain development.  
Small incentives (maybe).

Low cost finance.  
Quality marks & guarantees.  
Street-by-street.  
Stamp duty break?

As 2019 plus coming restriction on sales for sub EPC C homes.

No sales for homes which are sub EPC C.

What are these?

### SUPPLY CHAIN

Local building trades (NB: they are already busy)

Local building trades

Local building trades

Local building trades

Market share %



Innovators  
2.5%

Early Adopters  
13.5%

Early Majority  
34%

Late Majority  
34%

Laggards  
16%

### Who are they?

'Super-homers' – deep retrofit, half 'in one go' other half 'emergent' / 'on the journey'

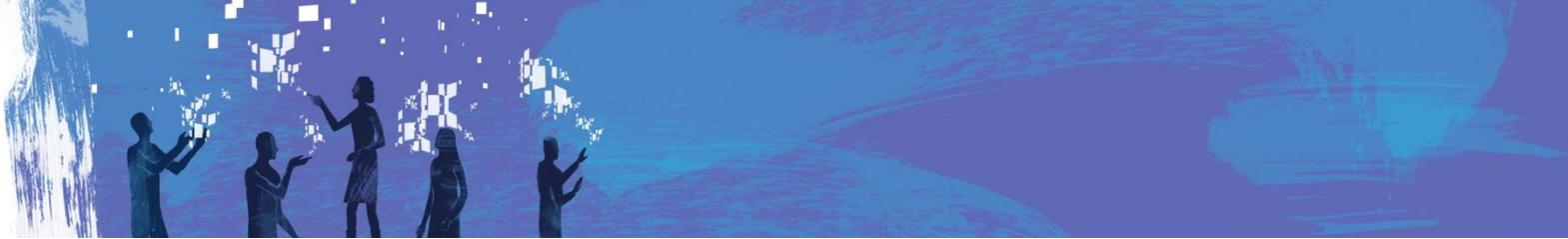
Keen, already convinced but need confidence building. >55 yrs old with lots of equity in home

Respond to normalisation. Will want quality marks, guarantees and low cost finance

### Solid Wall Insulation Adoption Curve for 'able to pay' owner occupiers

(subject to picking the right policies for early adopters)

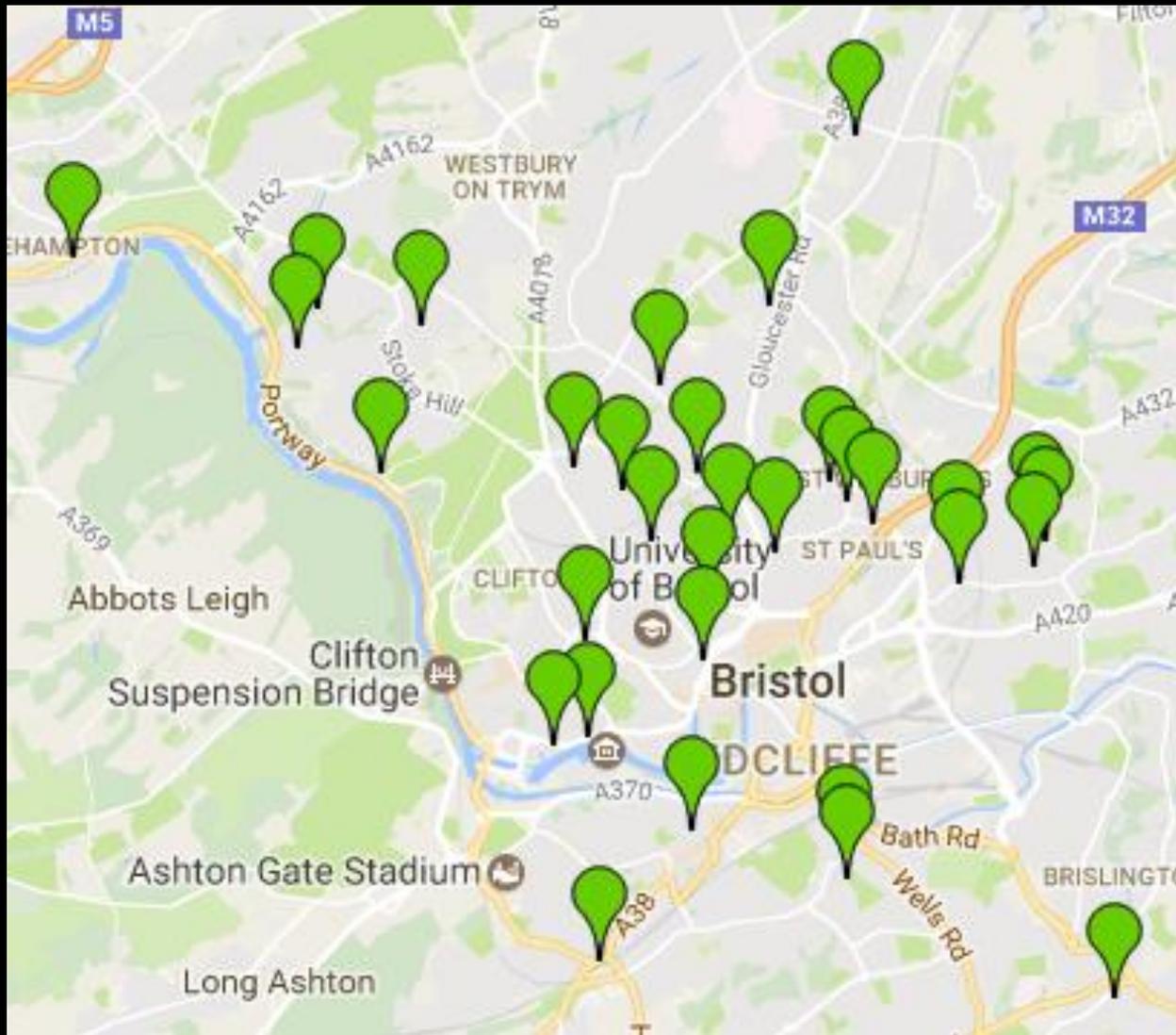




# Orchestrating the local market - demand

- Green Open Homes – community-organised events getting people who've done some low carbon retrofit to open up their homes for a day or weekend so people interested in doing their own home can visit (which 20,000 people did in 2014 and 2015).
- There's a national network supporting this (see [www.greenopenhomes.net](http://www.greenopenhomes.net)) with 'how-to' resources, web-space to tailor for local events, and, when funding was available, small grants for local organisers. This is not currently funded.

# What do people want from visiting a Green Open Home?



“Someone living in a home like mine round the corner from where I live who has already done it. What does it look like? Who did the work? Were they any good? What’s the story of their retrofit?”



GREEN OPEN HOMES

THE NATIONAL NETWORK FOR LOW-CARBON OPEN HOMES



Event organisers: [Sign in](#) or [sign up](#)

Home

About

Find homes to visit

Support for organisers

Making your home low-carbon

No events coming up where you live? Get inspired by previous Green Open Homes events!

[Find out more](#)



Find open homes near you

POSTCODE OR PLACE

[SEARCH](#)

Events coming up

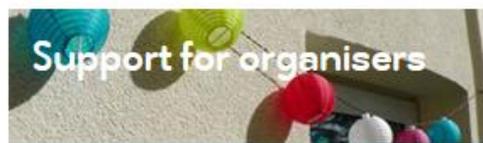


16 - 24 SEP 2017

**West Dorset Open EcoHomes**

14 homes

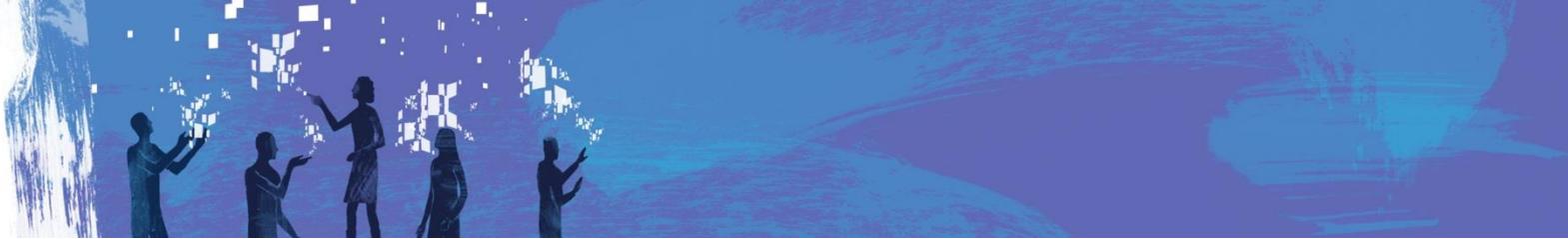
Support for organisers



Are you interested in putting on an event?

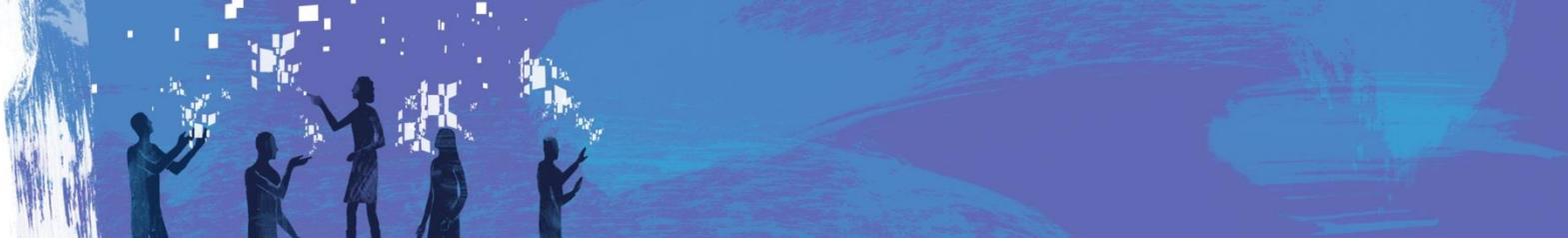
We're here to help you every step of the way.

[Free website with listing pages](#)



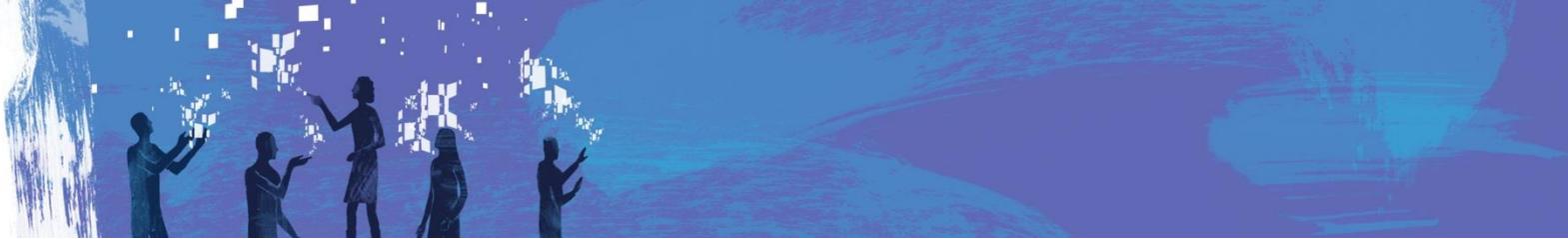
# Orchestrating the local market - demand

- There may be value in testing small incentives to ‘act now’ in some localities to see whether it accelerates demand creation (without creating supply-side bottlenecks).
- These should be thought of as rewards for doing the right thing – a few hundred pounds – rather than large grants (which risk creating a grant-dependent market).
- Test this first in a few places (it may not be necessary).



# Orchestrating the local market

- BUT demand doesn't emerge in this market without builders willing to give quotes to do the work and able to command the confidence of potential customers (the early adopters).
- In other words: it's not enough just to stimulate demand.
- So we need to act on the supply side of the market too.



# Orchestrating the local market - supply

- Local supply chain development is needed to support local building trades to develop their offers, understand potential risks and margins and engage with emerging demand.
- Or, in more detail (because it involves at least 10 different interventions) ...



# Local supply chain development activities

1. Training on: installation techniques and different systems; specifying and sourcing materials/equipment; preparing quotes; technical risks and their management etc.
2. Trades matching: bringing together different trades required for low carbon retrofit
3. Deals with local builders/plumbers merchants for materials/equipment
4. Specifications for local vernacular housing and construction types (eg Bristol SWI guide)
5. Quality assurance to help contractors deliver quality and resolve technical challenges
6. Local 'Trusted and Trained' contractor network meeting a shared code of practice
7. Assistance with any paperwork associated with attaining required quality standards or accessing any grants
8. Engagement with technical colleges to establish training with link to apprenticeships
9. Promotion of supply chain (contractor network) and link in with local Green Open Homes programme and other local 'market development' initiatives
10. Local awards scheme to promote (and reward) good practice and create a buzz



# What's needed to enable this?

- Local partnerships (not just local authorities given BEIS money to procure services) with right range of skills, relationships, and know-how to cover all interventions.
- Probably best at combined authority scale (since that's roughly the 'travel to work' distance for local building trades).
- Roughly three full-time-equivalent (FTEs) for three years plus some direct costs. So £200-250K per year per partnership.
- Small grants for Green Open Homes activities by local community organisations (to take place in same areas as supply chain support partnerships – though likely to be more local in focus).
- A £1 million pot to test the value of 'small incentives' in a few areas.



# What does that look like nationally?

- Competitive bidding round organised by BEIS for about 50 partnerships across England would cost in the region of £30-37.5 million over 3 years (plus evaluation costs). Plus a modest ‘sharing resources and learning’ core function and a £1 million ‘small incentive’ trial pot.
- Green Open Homes national network re-funded – £600K per year (mostly for grants to local green open doors programmes run by community organisations).
- That’s c.£40 million over next three years to transform the owner-occupier low carbon retrofit market – by focusing on doing the next million homes first.

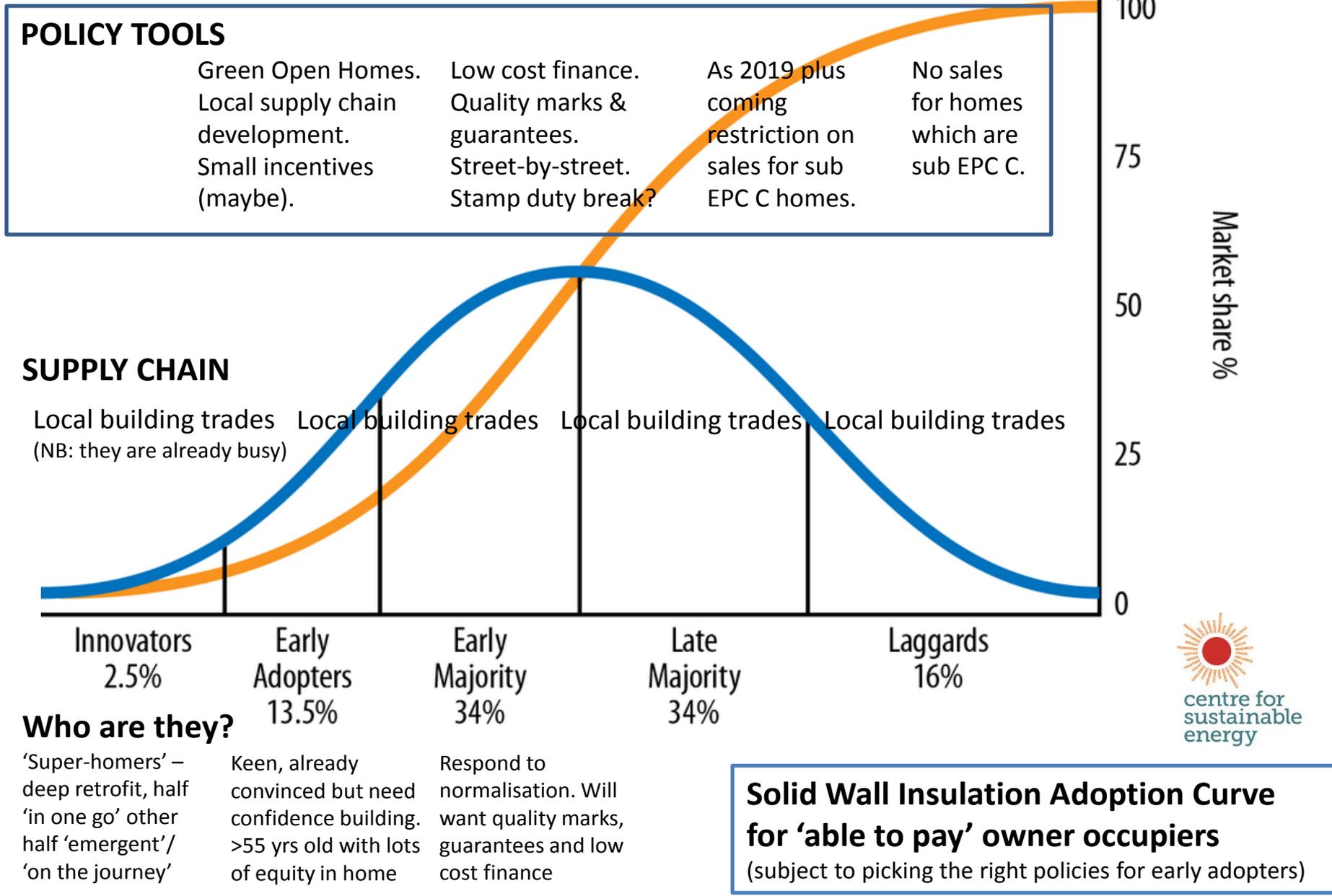


# What does that look like nationally?

- A transformation of the owner-occupier low carbon retrofit market from the bottom-up – by focusing first on working with the million people ready to act next and the decent local builders they will trust.
- This establishes new norms and stronger local supply chains which then make it easier in future to stimulate new demand (amongst the ‘early majority’) and, in time, to introduce more ‘insistent’ policies (to drive the ‘late majority’ and the ‘laggards’).

# YEAR

2008 .... 2017 2019 2024 2028 2035



## POLICY TOOLS

Green Open Homes. Local supply chain development. Small incentives (maybe).  
 Low cost finance. Quality marks & guarantees. Street-by-street. Stamp duty break?  
 As 2019 plus coming restriction on sales for sub EPC C homes.  
 No sales for homes which are sub EPC C.

## SUPPLY CHAIN

Local building trades (NB: they are already busy)  
 Local building trades  
 Local building trades  
 Local building trades

Innovators 2.5%  
 Early Adopters 13.5%  
 Early Majority 34%  
 Late Majority 34%  
 Laggards 16%

## Who are they?

'Super-homers' – deep retrofit, half 'in one go' other half 'emergent' / 'on the journey'  
 Keen, already convinced but need confidence building. >55 yrs old with lots of equity in home  
 Respond to normalisation. Will want quality marks, guarantees and low cost finance

**Solid Wall Insulation Adoption Curve for 'able to pay' owner occupiers**  
 (subject to picking the right policies for early adopters)





For more information and to discuss the contents of this presentation, contact:

[simon.roberts@cse.org.uk](mailto:simon.roberts@cse.org.uk)

[www.cse.org.uk](http://www.cse.org.uk)

@cse\_bristol

July 2017