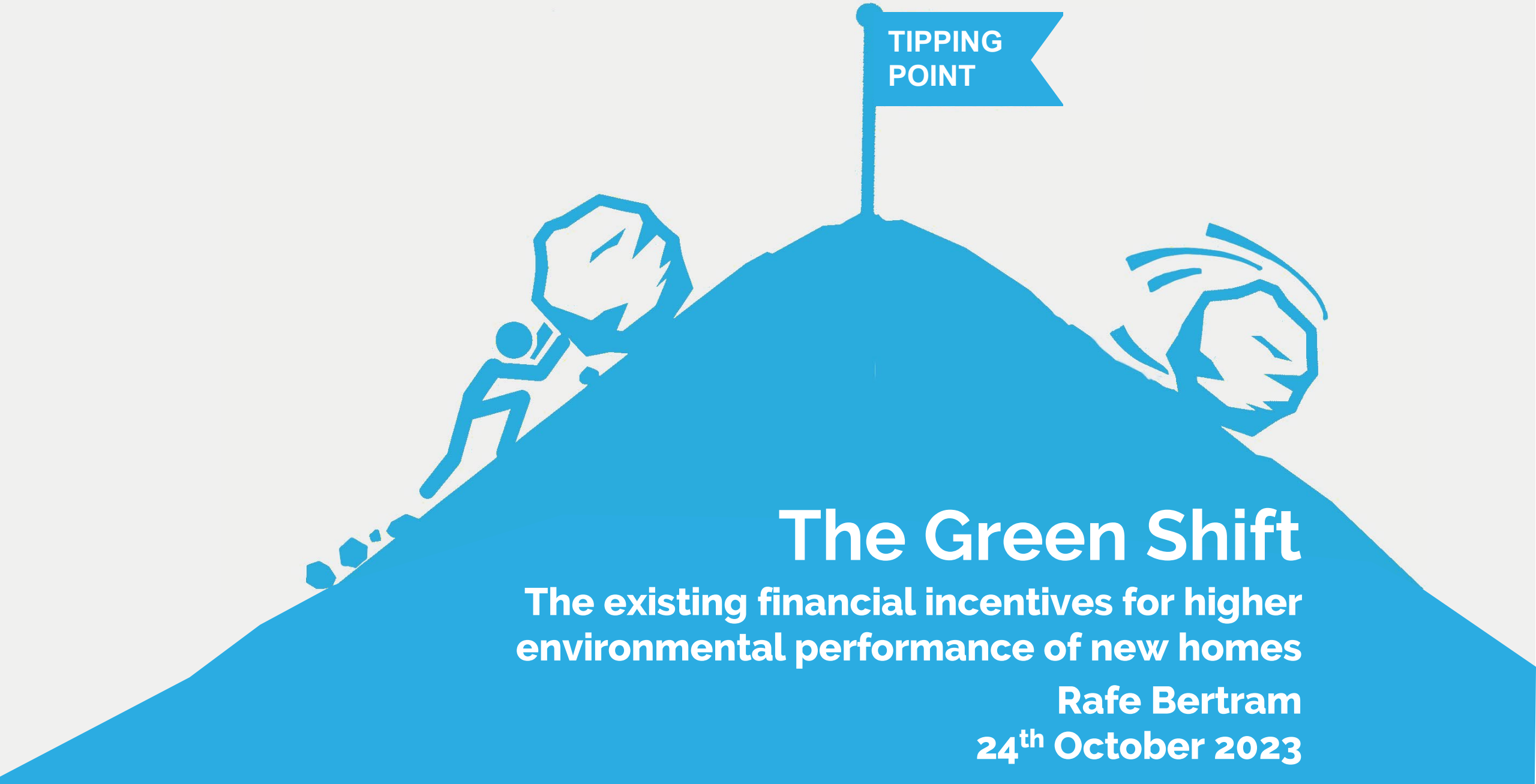


The Green Shift

The existing financial incentives for higher environmental performance of new homes

Rafe Bertram

24th October 2023

Huge thanks to…

Good Homes Alliance
Enfield Council
Homes England
OnePlanet
Reusefully
Green Finance Institute
London Councils Working groups
L&Q group
Centre for Social Justice
BEIS / DESNZ
Atelier
Useful Projects
Net Positive Solutions
HTA Architects
Savills
Inner Circle Consulting

And many others ….

Good Homes Alliance

Acknowledgements

Thank you to everyone who has inputted into this so far. It is so much appreciated.

Authored for the Good Homes Alliance by Rafe Bertram

With special thanks to Larry Tate - Good Homes Alliance

Good Homes Alliance
Julian Brooks
Richard Broad
Larry Tate
One Planet
Maresce Stephanus
Pooran Desai
Ben Gill
Useful Projects
Dan Epstein
Gabriela Costa
Net positive solutions
Nitesh Magdani
Reusefully
Gilli Hobbs
Introba
Dorte Rich Joergensen
Periscope
Daniel Rea
Good Homes Alliance – Financing Net Zero Now working group
Julian Brooks, Richard Broad and Larry Tate - Good Homes Alliance
Chris Brigstocke – Winckworth Sherwood
Gilbert Lennox-King - Construction Carbon.
Mark Ogden, Triodos Bank
Emyr Poole - Homes England and technical team.
Neil Murphy – TOWN -
Ian Rigarlsford - Ecology Building Society
Homes England
Jane Anderson
Haringey Council and the Towards Net Zero Carbon Working group
Suzanne Kimman
Helen Evans
Thomas Lefevre - Etude
Currie & Brown
Adam Mactavish
Department of Management, Society and Communication, Copenhagen Business School
Stella Whittaker
Green Finance Institute
Emma Harvey
Matt Ferretti -
Maria Dutton
Ryan Jude
Enfield Council
Jen Gutteridge
Kate Casey
Dominic Millen
Tilly Ford
Vera Vajda
Harriet Potemkin
Wesley Pemberton
Ed Jones
Natalya Palit
Jenny Offord
Centre for Social Justice
Ben Robinson
L&Q group
Giorgia Franco
BEIS
Fergus Harradence
Inner Circle Consulting
Lucy Webb
Nick Blackmore –
North London climate leads
Sarah Hitchock – Islington
Jackson Bylett – Camden
Joe Baker - Haringey
Louise Claeys– Hackney
Matthew Carrington - Hackney
HTA architects
Rory Bergin
Waugh Thistleton Architects
Andrew Waugh
Kristen Haggart
Alastair Ogle
Lloyds Bank
Robin Daines
Newbridge Advisors
Chris Evans
Savills
Marylis Ramos
Tanya Broadfield
Tom Hill
Drees & Sommer
Ana Dias
AESG
Philippa Grant
FCB Architects
Tim den Dekker
Unicorn Asset Management
Cordelia Tahany
Parity Projects
Liz Laine
Big Society Capital
Anna Shiel
EY
Elana Chester
Marcus Richards
Josh Dunn

Introduction

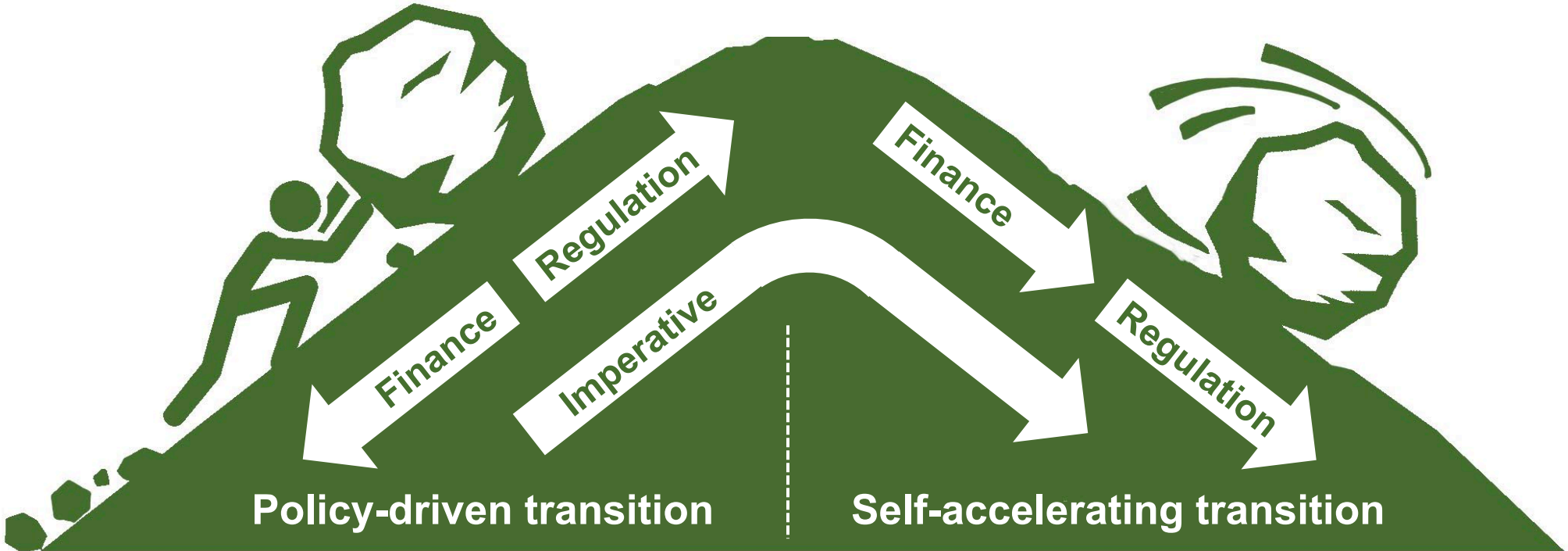
In the move toward higher environmental performance, we have developed:

- Understanding of the need
- Storytelling and communication
- Technology and techniques
- Law, Regulation and Policy
- Education and training
- Political and organisational buy-in
- Financial systems

Cost seems to be the biggest barrier to greater levels of sustainability in the built environment.

What Finance is out there? Is it enough?

The hill to climb

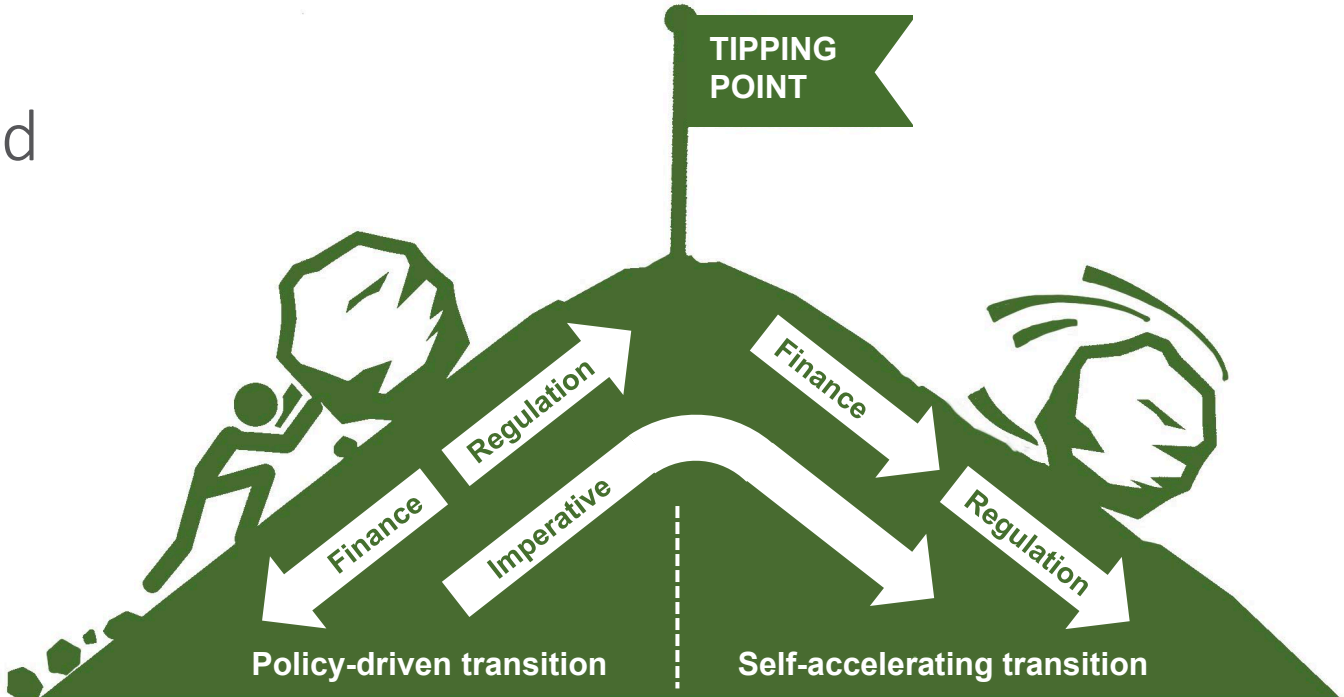


Three questions to answer

1. Would it be interesting to gather all the existing financial incentives together?

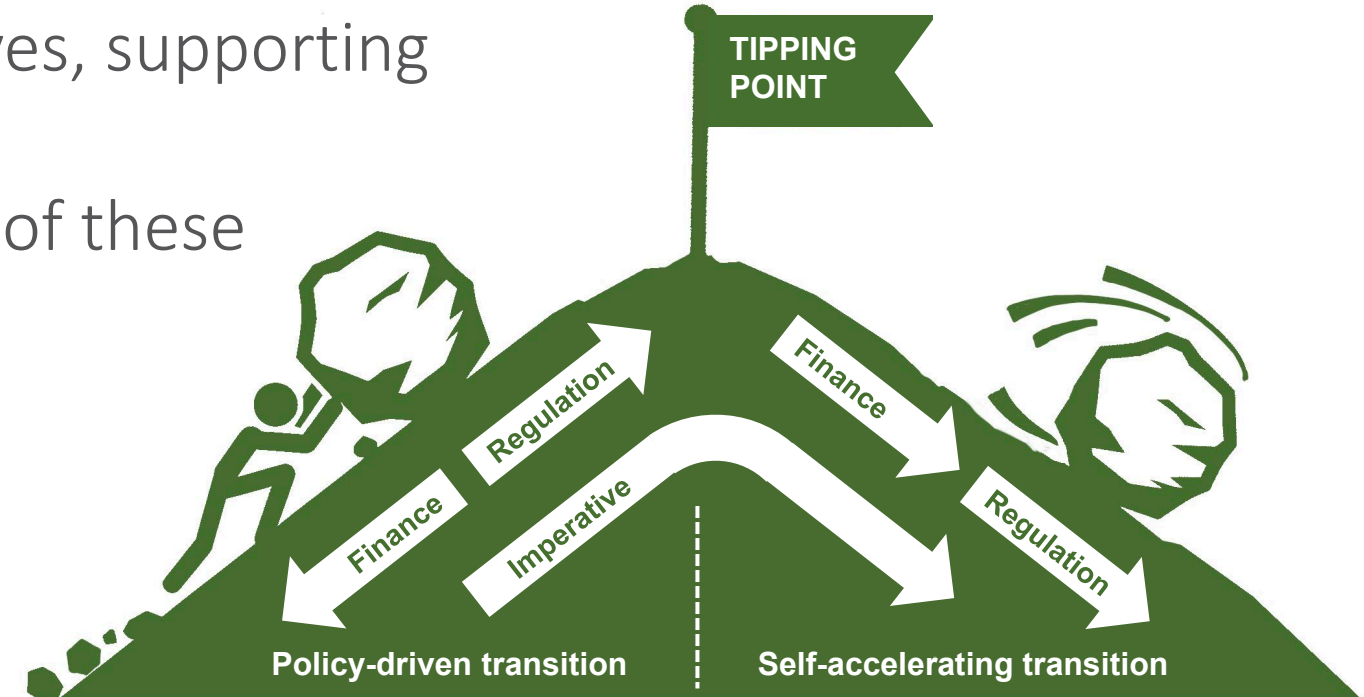
2. Do the incentives operate for each stakeholder on their own, or do they need to work in an eco-system of stakeholders?

3. Has a ‘Tipping point’ been reached where financial incentives support environmental imperatives and regulations to increase the speed of change?



Intended to be useful for:

- Funding proposals, business plans, financial models and business justifications for any of the stakeholders
- Local plan evidence, that could input into viability assessments
- Support for stronger regulations
- Communicating existing incentives, supporting ideas for new ones
- Lobbying to increase availability of these incentives



Its current limitations

- For new build
- For homes
- For existing incentives
- For direct financial benefits
- A concise eco-system of six stakeholder types
- For market sale and rent tenures
- Two scenarios only
  - The baseline - taking the Building Regs (Part L 2021), London Plan 2021 and existing Local Plans
  - Evolved scenario - comprising new Local Plans, RIBA 2030 climate challenge, LETI guides and targets.
- This is a discussion paper, done over time, and not to be relied upon for project decision making!

Part 1: The evidence

Lists and describes existing financial products, technologies, methodologies, studies and strategies that could be components of a ‘Green Shift’.

Focussing on six stakeholders…

Buyer	Investor / funder
Renter	Operator / Housing association
Developer	Landowner / Master Developer

For the buyer

Better mortgages available for green homes

- Highstreet lenders eg Barclays
- Specialist lenders who only cater for highly efficient homes e.g. Ecology Building Society
- Green Finance Initiative has a tracker for all deals

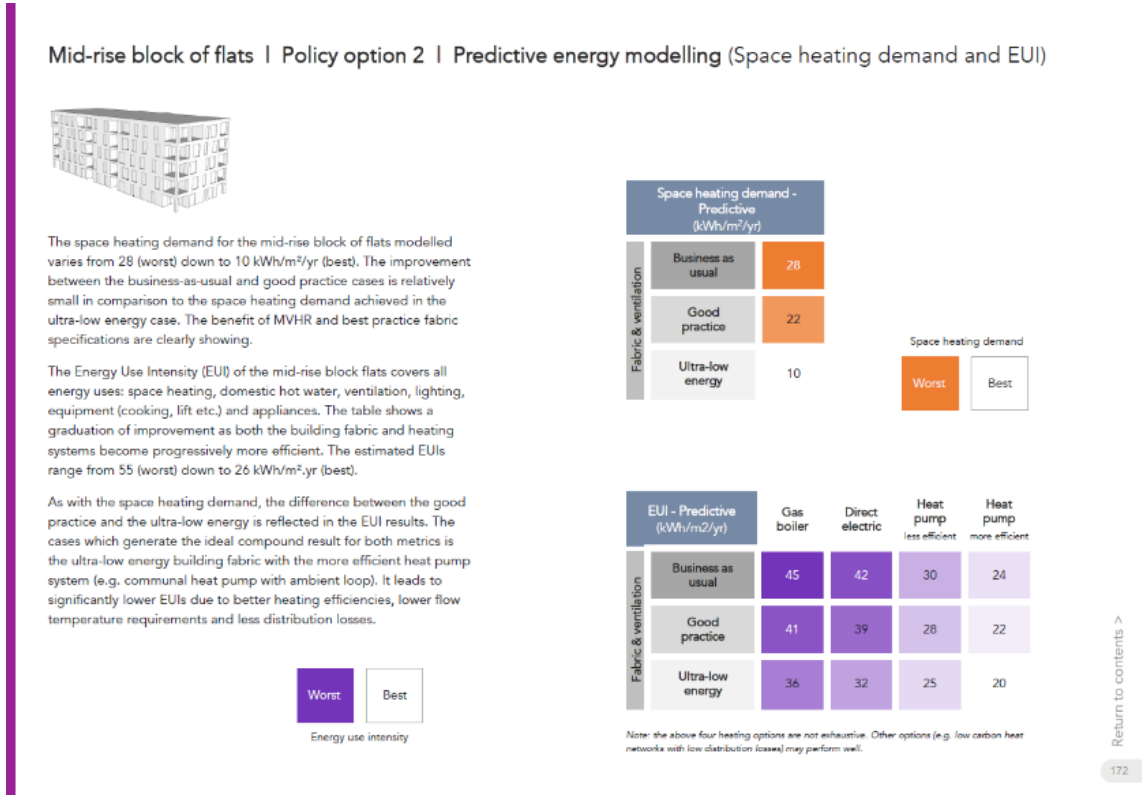
Company Name	Product Name	Link to Product	Launch Year	Features of product: Low-interest rate mortgage for new and/or existing customers	Additional borrowing for new and/or existing customers	Cashback/ Refund for new and/or existing customers	Energy Efficiency of renovated/retrofitted property must be improved	Property purchased or built must be energy efficient	Validation required?	Type of Building or target market	EPC Target	Aligned or supporters to the GHFPs?
AIB	Green Mortgage Rate		Feb-20	✓		✓		✓	ℹ	New Builds and Existing Homes	A/B	
Barclays	Green Home Mortgages		2018	✓				✓	ℹ	New Build	A/B; 81 SAP	
Barclays	Green Home Buy-to-Let Mortgages		Jan-22	✓				✓	ℹ	Buy-to-let, Existing and New Build	A/B; 81 SAP	
Coventry Building Society	Green Together Reward		Sep-21			✓	✓		ℹ	Residential and Buy-to-Let		✓
Chorley Building Society	Green Home Improvements		May-22			✓				Existing Properties	A-B	
Chorley Building Society	Green Home Improvements - Additional Borrowing		Jul-22		✓		✓					
Coutts	Green Mortgage		Jun-21			✓		✓	ℹ	Existing Homes or New Build	A/B	✓
Coutts	Retrofit Green Mortgage		Jun-21		✓	✓	✓		ℹ		A/B/C	✓
Danske Bank	Danske Carbon Neutral Mortgage		Jan-22	✓		✓				Existing Homes	A-C	
Dudley Building Society	Two Year Fixed Energy Efficient Remortgage		Jun-21	✓		✓	✓		ℹ	Residential Homes	A/B	✓

Assumptions	Baseline Scenario	Evolved Scenario	Notes
Interest rates for mortgage	5.67%	5.14%	Barclay Standard vs Barclay Green

For the buyer and renter

Achieving lower operational and maintenance costs

- Lower running costs are important to the renter and buyer
- Towards Net Zero Carbon Study
- Octopus piloting Zero Bills for homes with solar panels



Mid-rise block of flats | Policy option 2 | Predictive energy modelling (Space heating demand and EUI)

The space heating demand for the mid-rise block of flats modelled varies from 28 (worst) down to 10 kWh/m²/yr (best). The improvement between the business-as-usual and good practice cases is relatively small in comparison to the space heating demand achieved in the ultra-low energy case. The benefit of MVHR and best practice fabric specifications are clearly showing.

The Energy Use Intensity (EUI) of the mid-rise block flats covers all energy uses: space heating, domestic hot water, ventilation, lighting, equipment (cooking, lift etc.) and appliances. The table shows a graduation of improvement as both the building fabric and heating systems become progressively more efficient. The estimated EUIs range from 55 (worst) down to 26 kWh/m².yr (best).

As with the space heating demand, the difference between the good practice and the ultra-low energy is reflected in the EUI results. The cases which generate the ideal compound result for both metrics is the ultra-low energy building fabric with the more efficient heat pump system (e.g. communal heat pump with ambient loop). It leads to significantly lower EUIs due to better heating efficiencies, lower flow temperature requirements and less distribution losses.

Worst Best

Energy use intensity

Space heating demand - Predictive (kWh/m²/yr)	
Business as usual	28
Good practice	22
Ultra-low energy	10

Fabric & ventilation

Space heating demand

Worst Best

EUI - Predictive (kWh/m2/yr)	Gas boiler	Direct electric	Heat pump less efficient	Heat pump more efficient
Business as usual	45	42	30	24
Good practice	41	39	28	22
Ultra-low energy	36	32	25	20

Fabric & ventilation

Note: the above four heating options are not exhaustive. Other options (e.g. low carbon heat networks with low distribution losses) may perform well.

Return to contents >

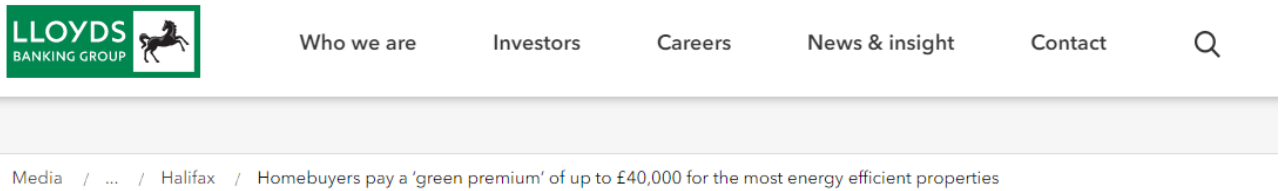
172

Assumptions	Baseline Scenario	Evolved Scenario	Notes / units
Using Toward Net Zero Carbon (TNZC) study			
Annual energy costs	£825	£675	Half mid rise, half high rise

For the Developer

Evidence now shows property prices reflect the energy efficiency of a home.

Assumptions	Baseline Scenario	Evolved Scenario
EPC rating	B/C	A
Percentage uplift of house price	0	1.8%



Homebuyers pay a 'green premium' of up to £40,000 for the most energy efficient properties

HALIFAX 27 September 2021

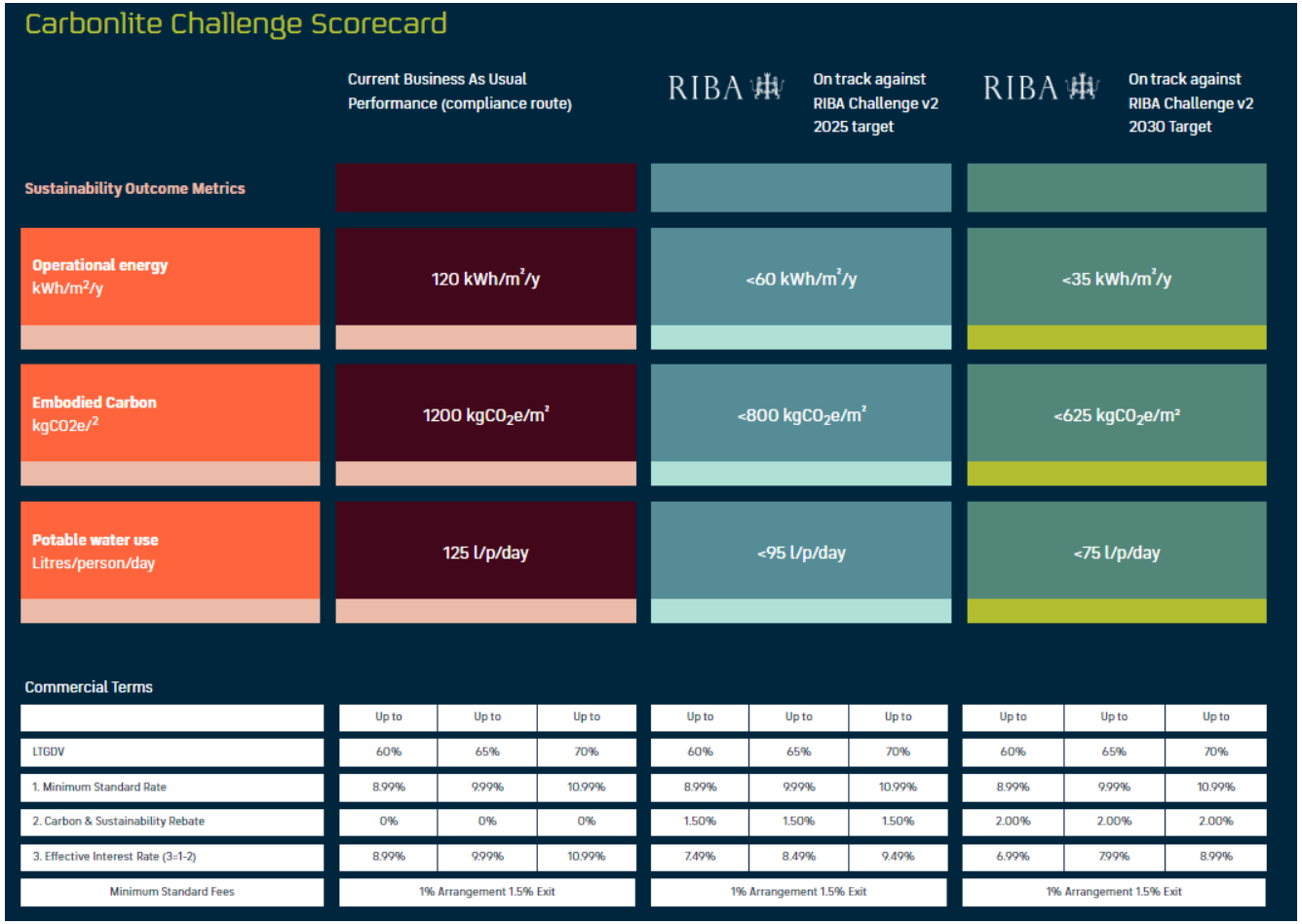
Value added per property based on EPC upgrades:

	Change in EPC rating					
	G→F	F→E	E→D	D→C	C→B	B→A
Average difference in price (% increase on average house price)	£9,954 (3.8%)	£7,584 (2.9%)	£6,162 (2.4%)	£5,214 (2.0%)	£5,214 (2.0%)	£4,740 (1.8%)

Developer & Operator

Cheaper funding for greener projects is available

- Environmental, Social and Governance (ESG) has impacted borrowing rates
- Lendlease, Cornwall council and others have taken advantage of this.
- Between 0.5 and 2%
- For Landlords, buy to let mortgages with discount rates are also available



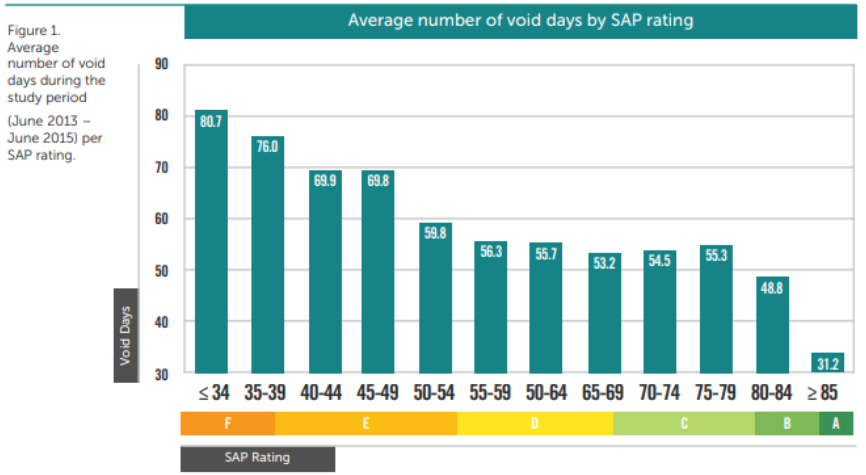
Assumptions	Baseline Scenario	Evolved Scenario	Notes / units
ESG investment interest rate discount	-	1%	Less ambitious then Atelier or Octopus
Buy to Let Mortgage	5.1%	4.65%	Ref. Barclay BTL mortgages

For the Developer and Operator

Increased sale velocity

Less risk of retrofit needed.

Fewer Voids



Assumptions	Baseline Scenario	Evolved Scenario	Notes
Decreased time for borrowing period	0	1 month quicker	Using the idea of green homes sell quicker from Rightmove Green Homes Report

Assumptions	Baseline Scenario	Evolved Scenario	Notes
Cost of retrofit	£30,000	£0	Government estimate
Timescale	20 years	Not needed	Assumption to meet UK net zero target
Preparing for forthcoming retrofit costs	£1,500		£ per year set aside

Assumptions	Baseline Scenario	Evolved Scenario	Notes
Voids per year	26 days	16 days	Ref table 1 of 'Touching the Void' study
Percentage void	7.1%	4.3%	

First question

Would it be interesting to gather all the existing financial incentives together?

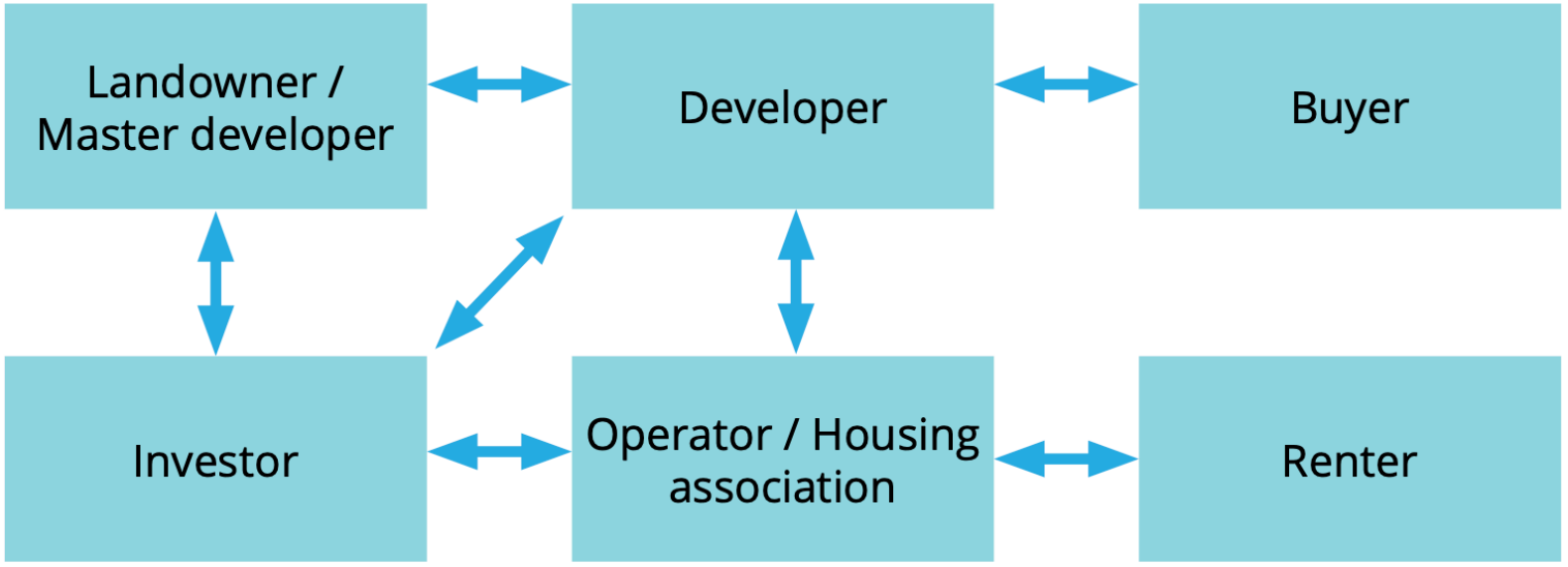
Yes, there are many financial incentives that already exist, that can be of benefit to all stakeholders.

Part 2: Illustration and analysis

How do these incentives fit together?

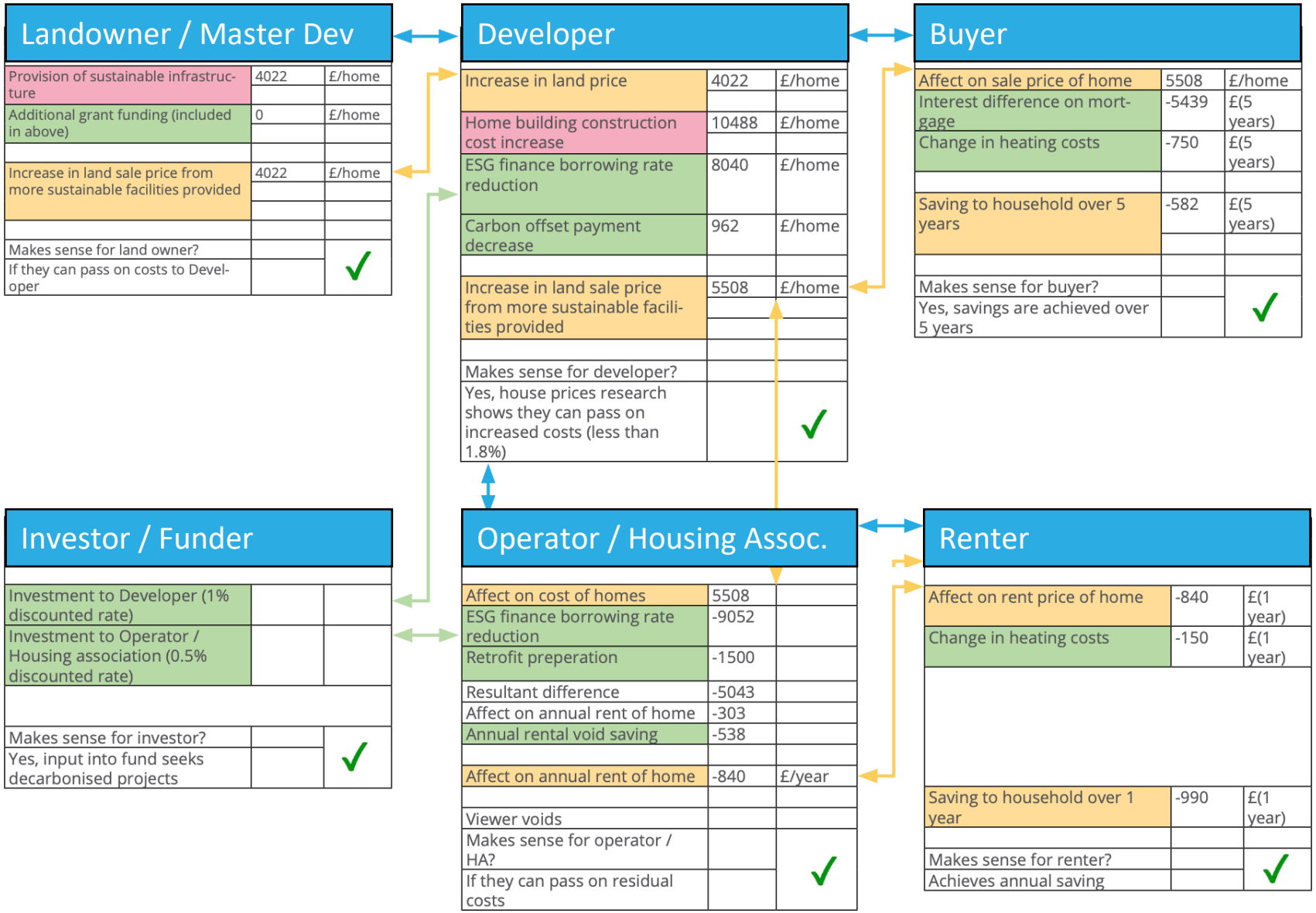
Using a hypothetical outer London mid-rise development project to illustrate these issues.

Starting with how stakeholders already interact with each other



The illustration

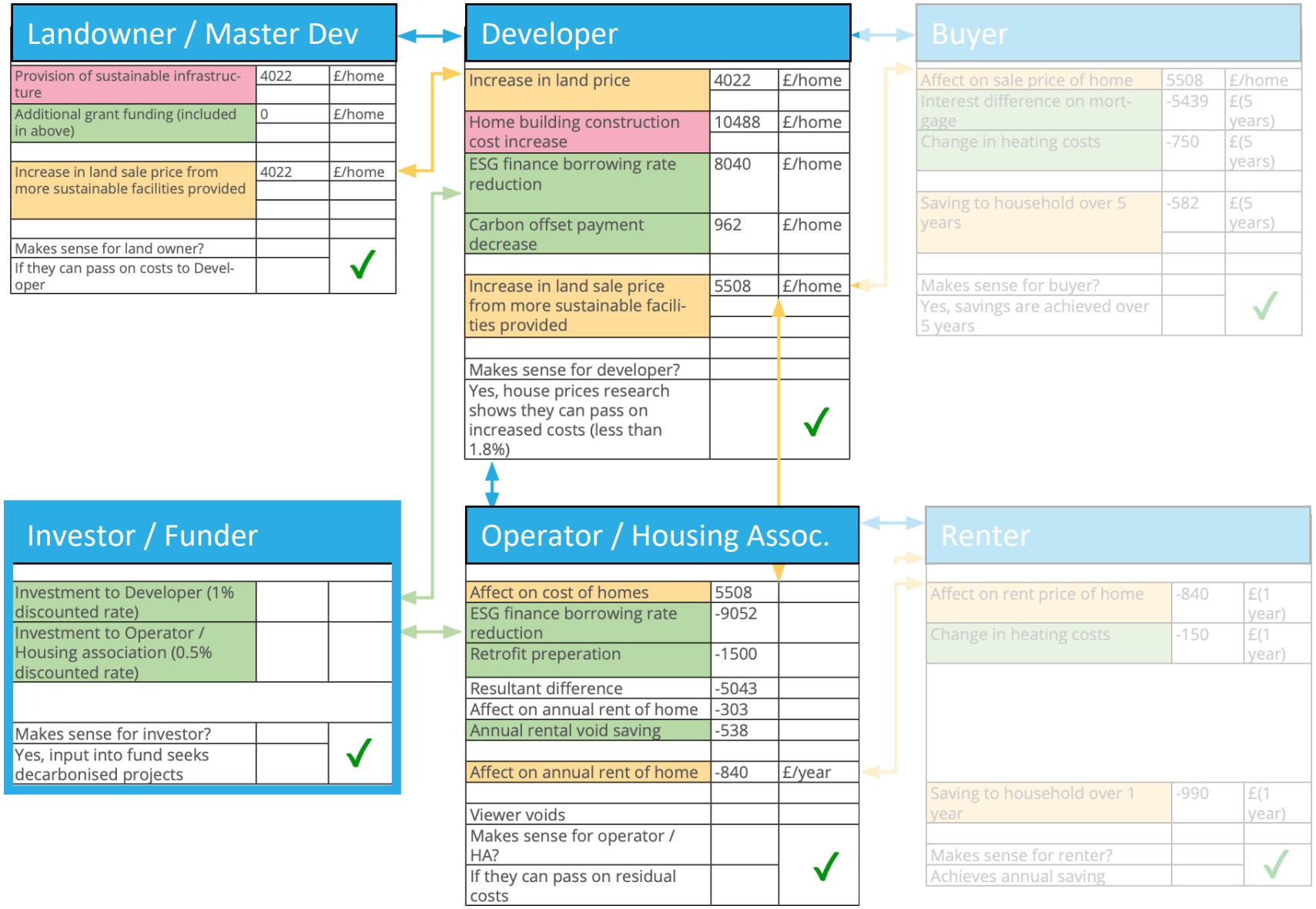
Takes all the evidence from Part 1, using it for an ecosystem illustration.



Development funding

The investor who feels pressure to fund decarbonised projects and provides a discounted interest rate.

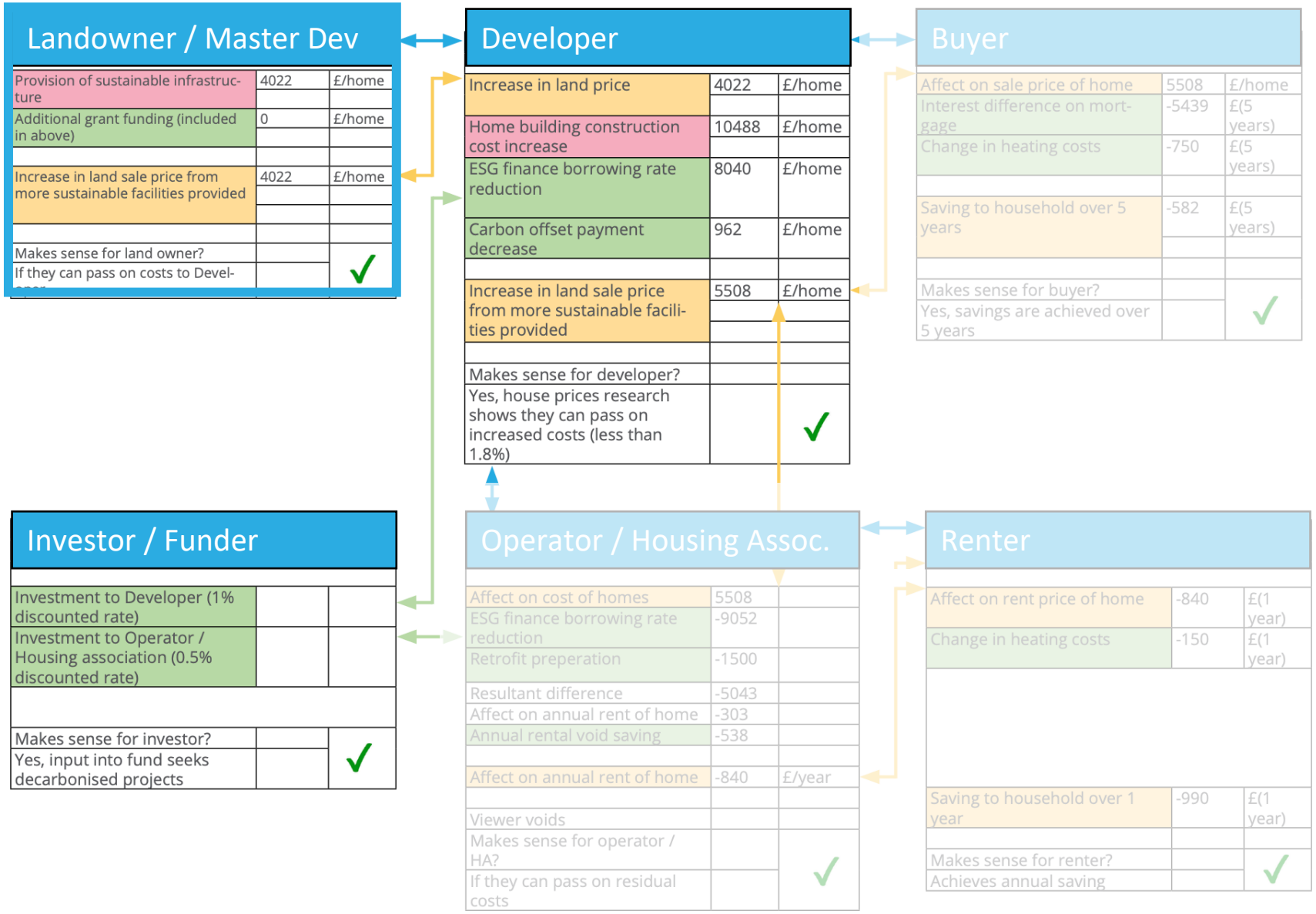
They achieved their aims, via Landowners, Developers and Operators, producing net-zero homes



Site preparation

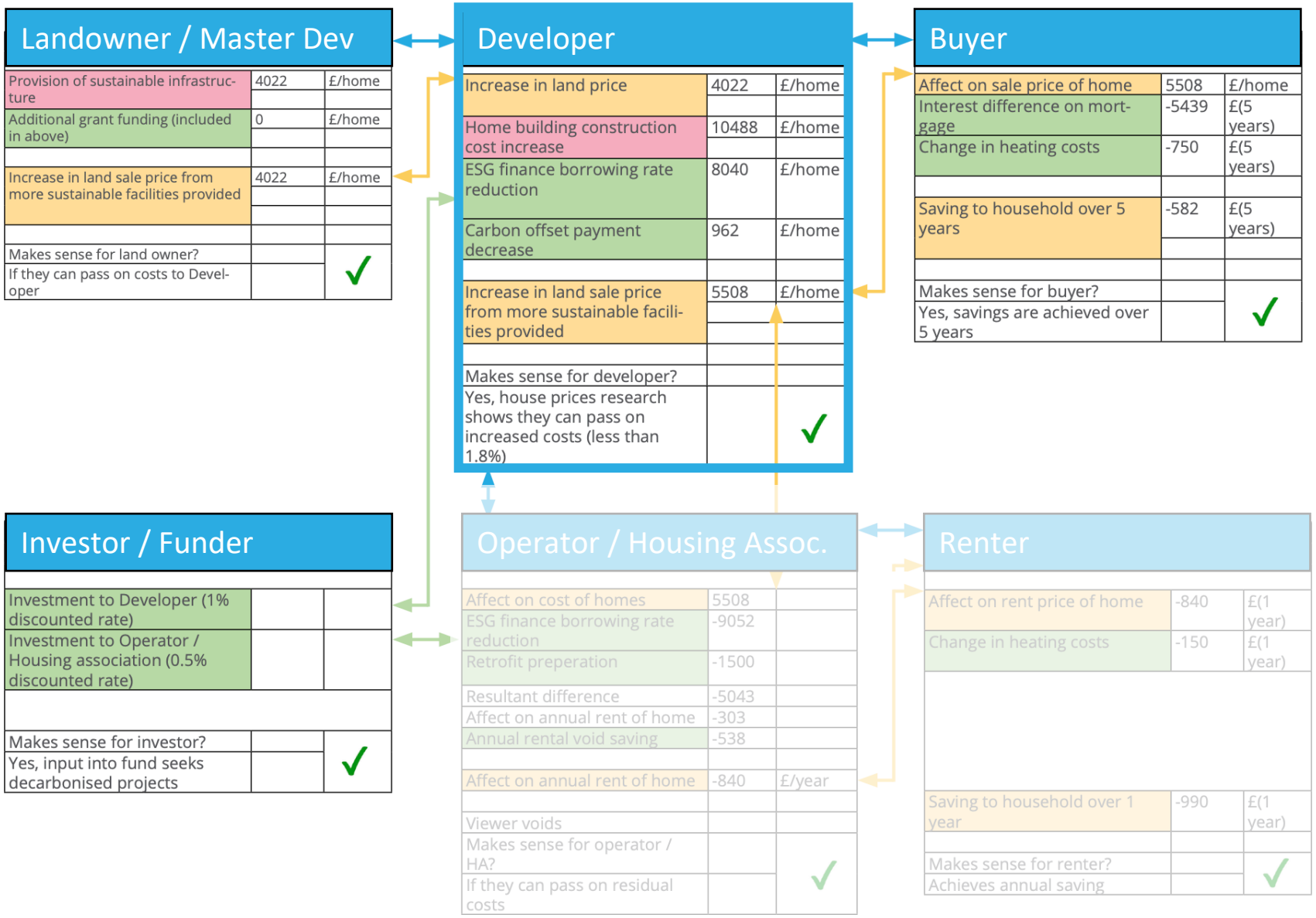
The Landowner / master developer prepares land with more sustainable infrastructure.

They passes costs onto the developer, recoups these costs.



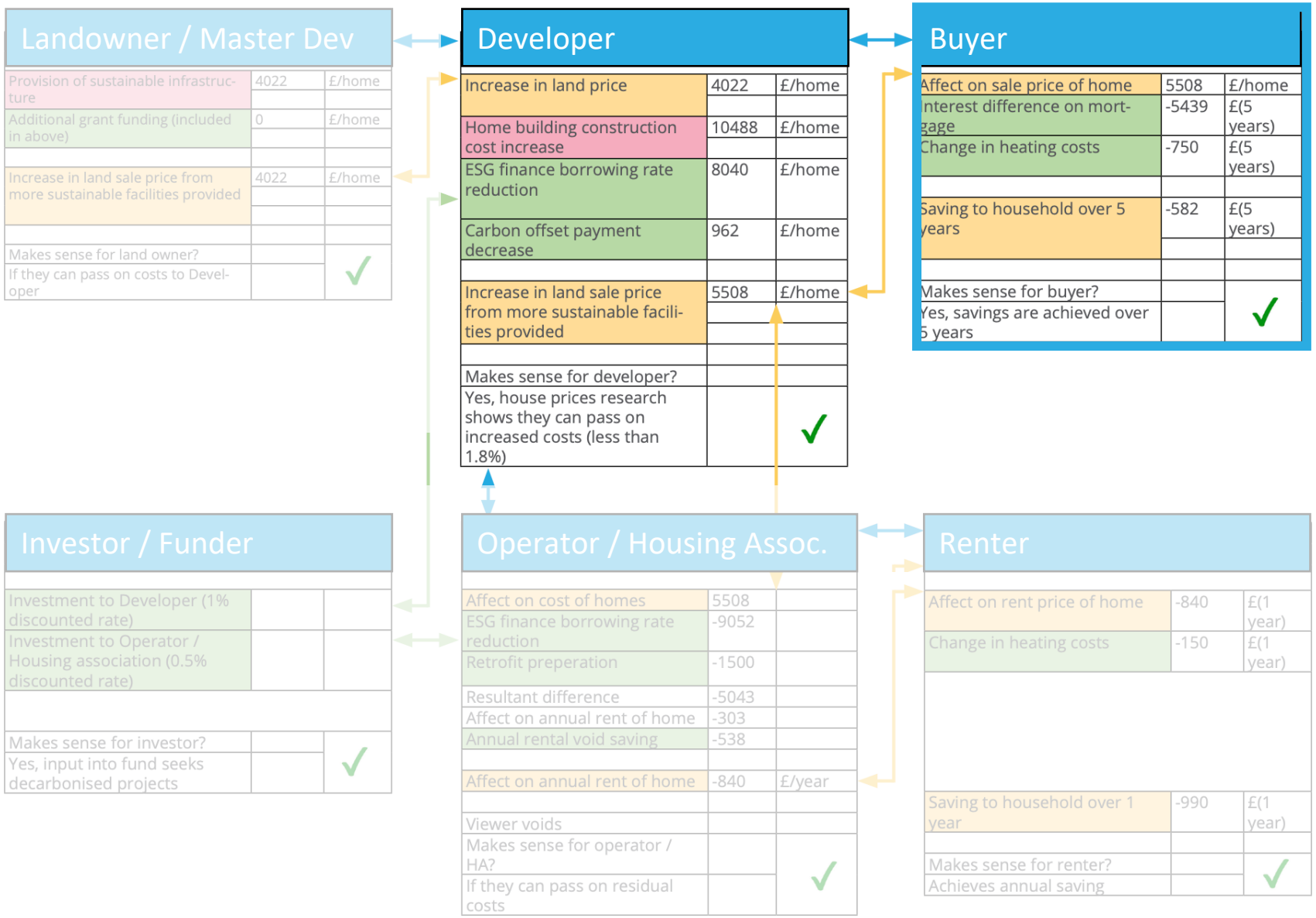
Home sales

The developer, helped by ESG lending, sells the home to the buyer, who can gain a reduced mortgage and get energy savings.



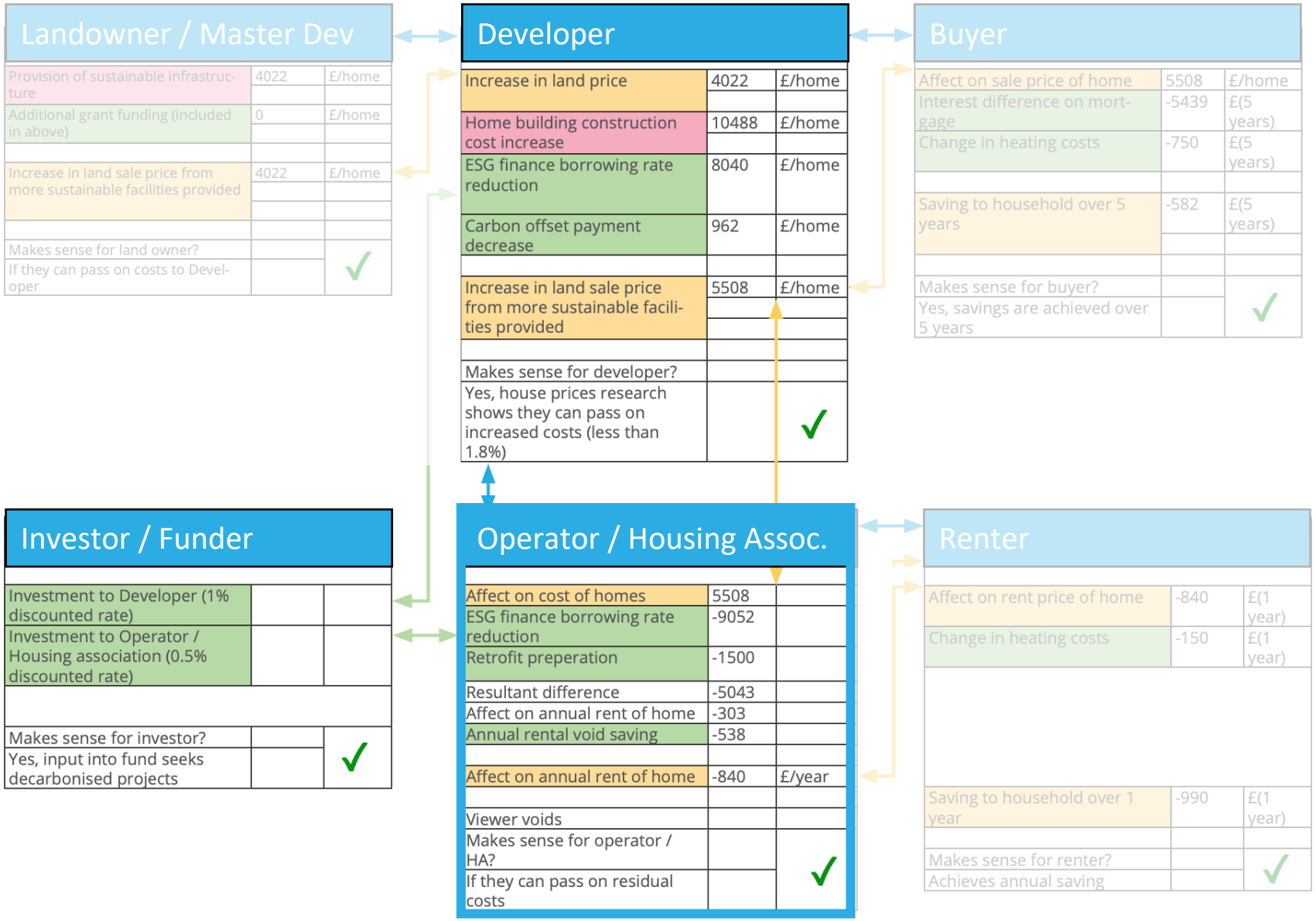
The Buyer

The buyer saves money with a green mortgage and lower energy costs



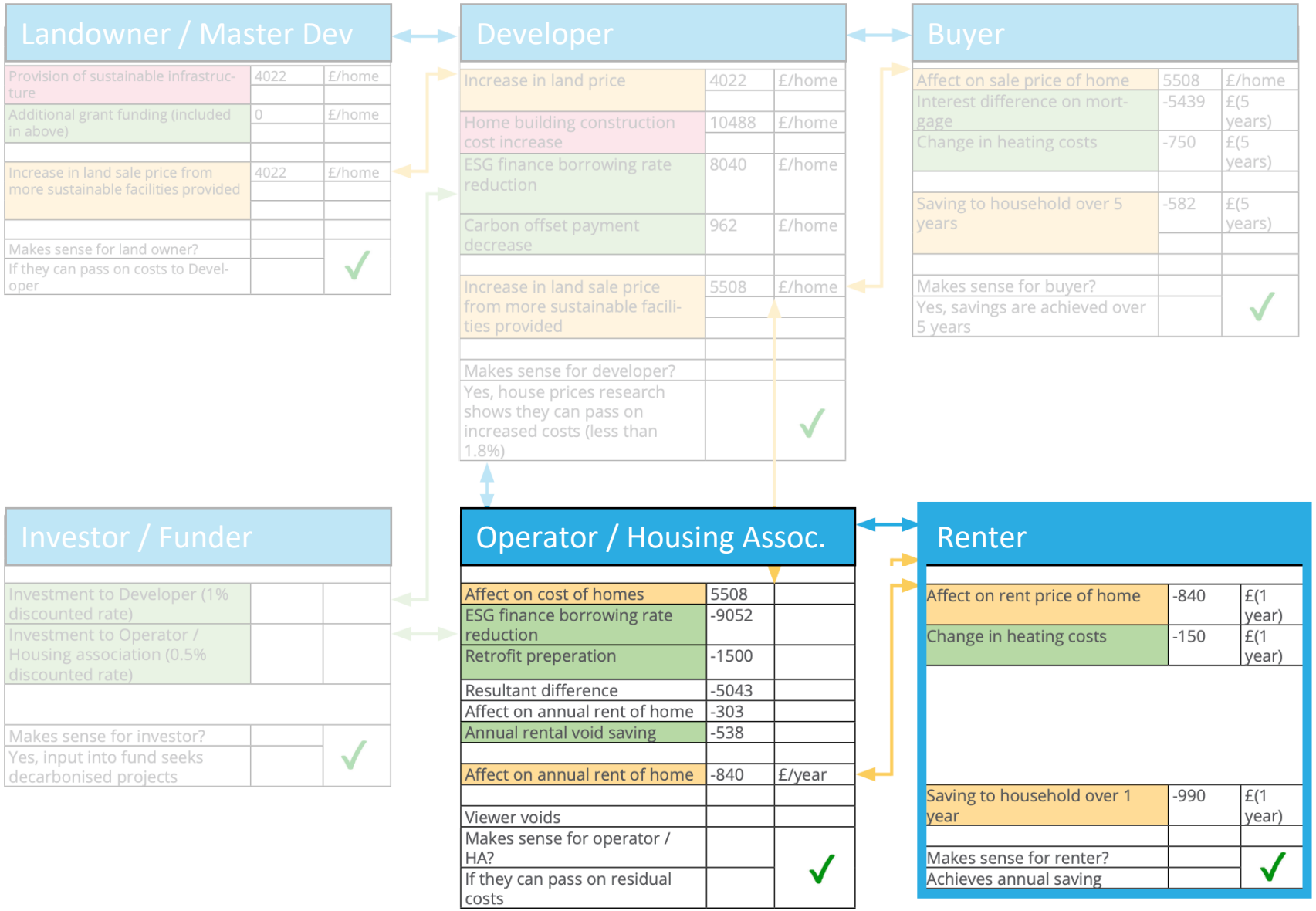
Asset purchase

The developer passes these costs on in the sale to the Operator or Housing Association, who makes savings primarily because of the discounted lending from the investor / funder.



Renting

The operator / housing association can now discount the rent, adding to the energy savings of the renter.



Second question

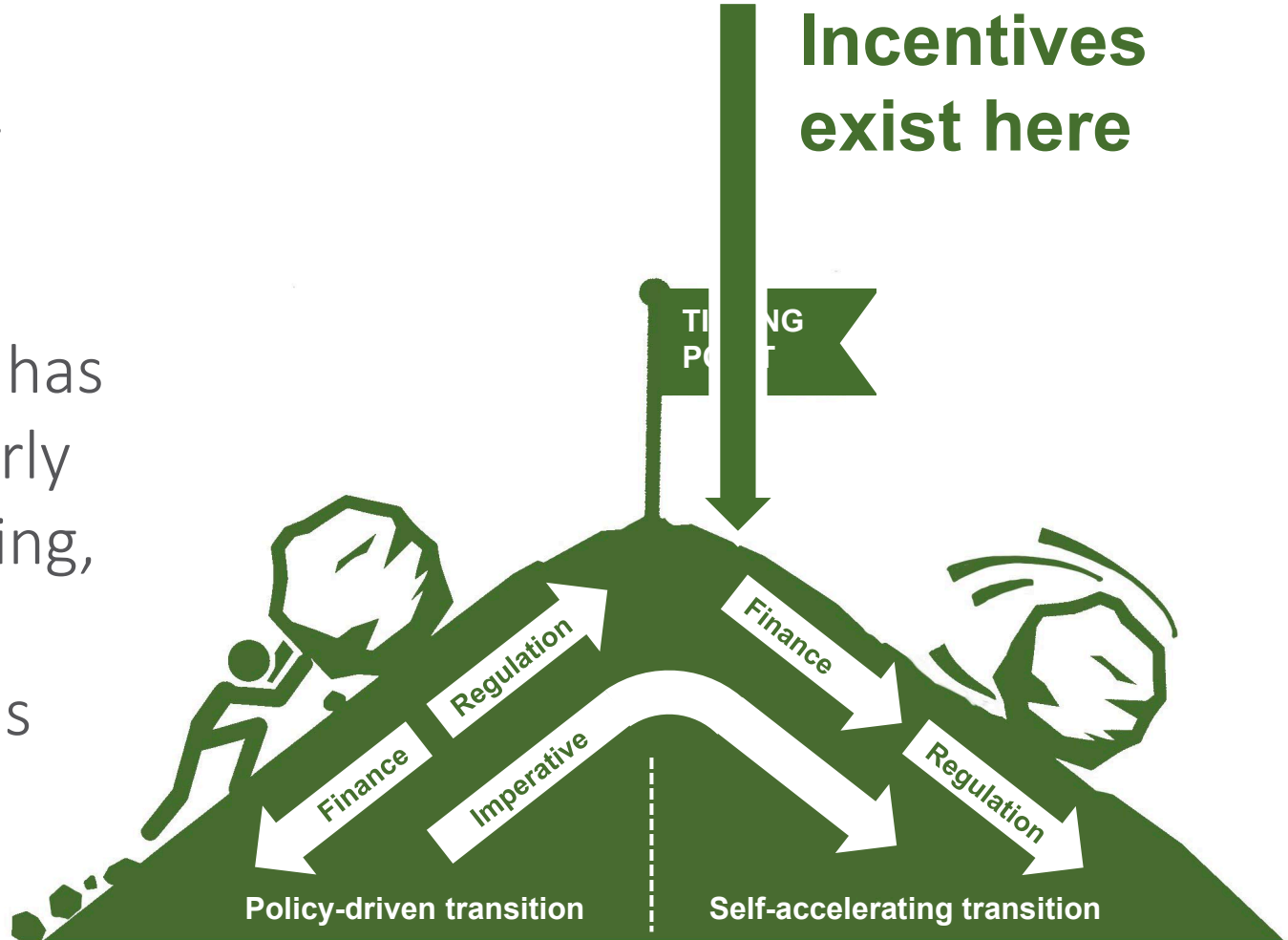
Do the incentives need to work in an eco-system of stakeholders, or can they operate for each stakeholder on their own?

Yes, they work as an interconnected ecosystem working together.
No incentives work just for one stakeholder in isolation. Most work by because of a relationship between three or four stakeholders.

Part 3: Conclusion

So, has a ‘Tipping Point’ been reached, where financial incentives support environmental imperatives and regulations to increase the speed of change?

Yes, this illustrates the tipping point has been reached for knowledgeable early adopters, who have the understanding, motivation and the connection to likeminded stakeholders to make this connected ecosystem work.

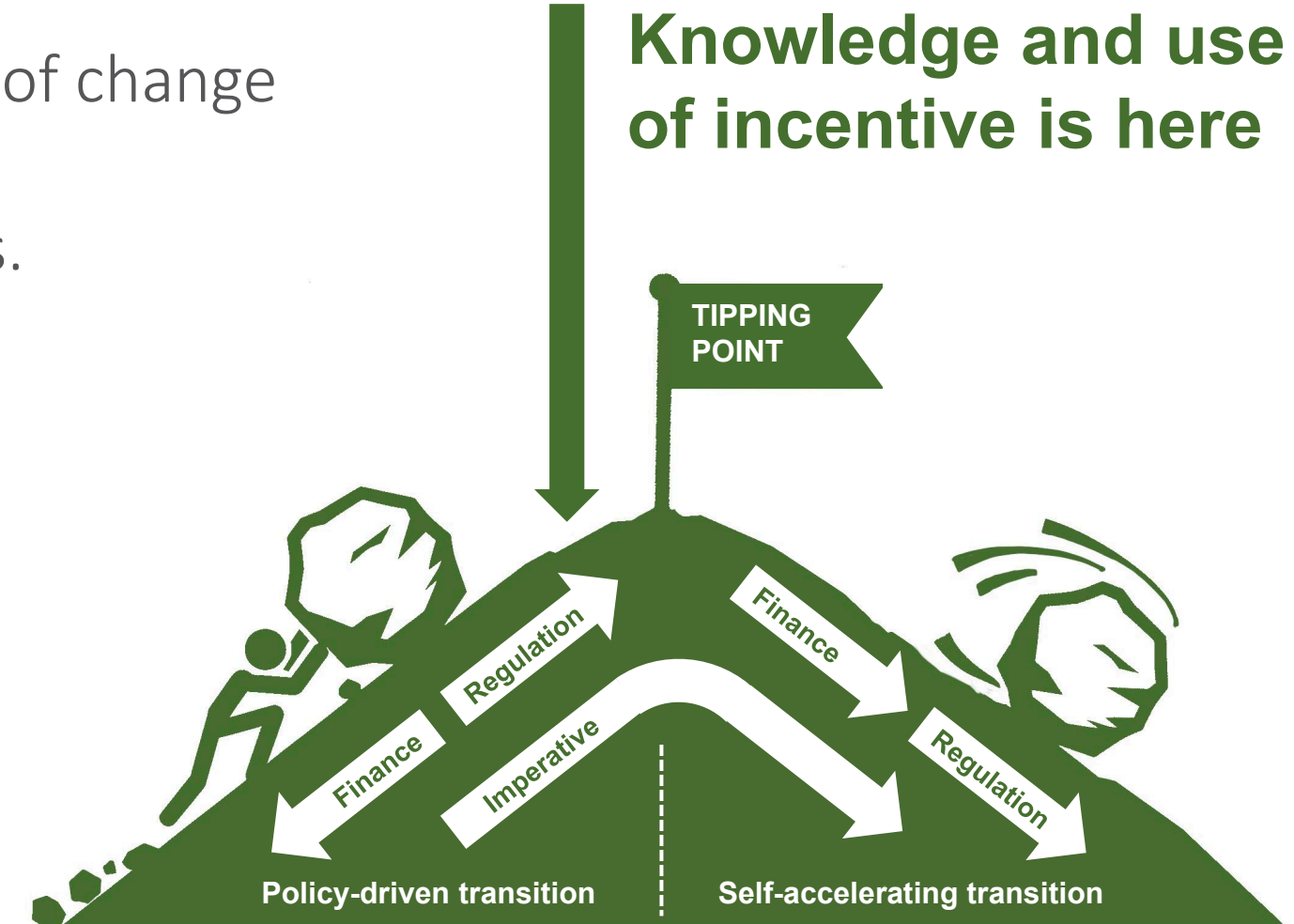


Third question

But, although its starting, the knowledge and use of these incentives are not widely distributed.

Therefore, the most effective lever of change remains:

- communicating these incentives.
- increasing regulation



Other Conclusions

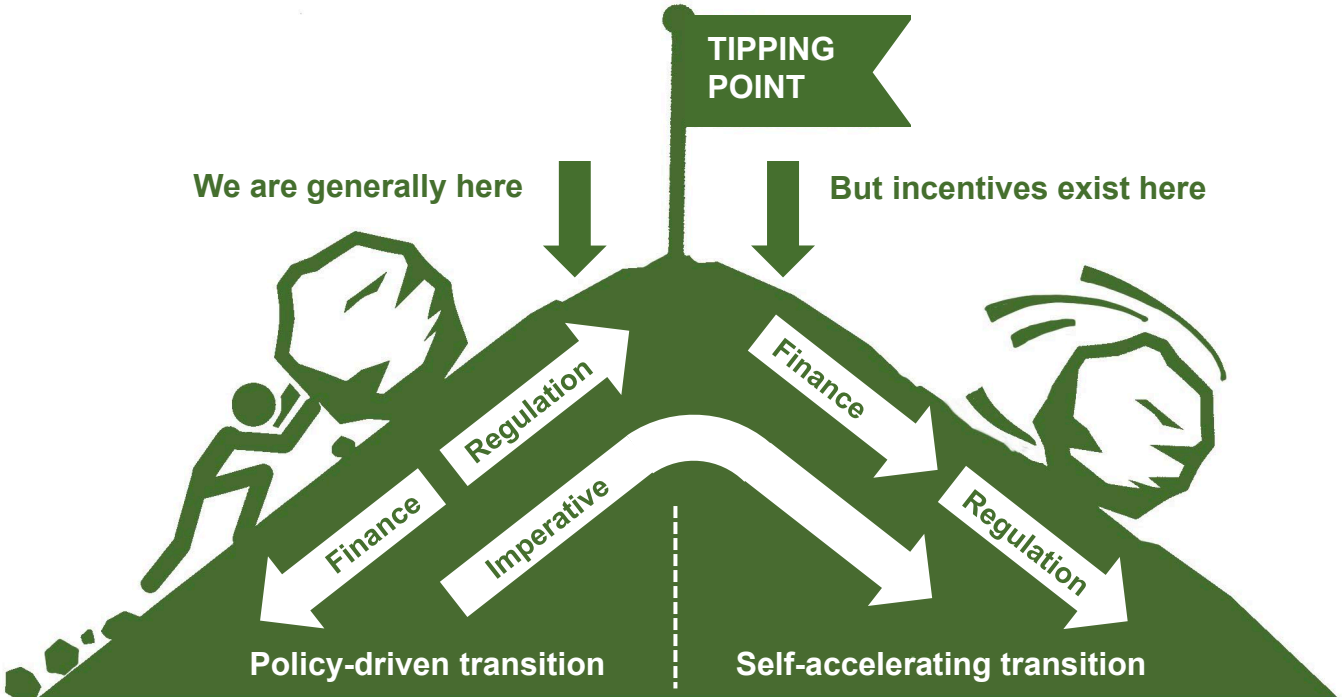
Viability Assessments

For ambitious Local Plans, financial viability is not a barrier to increased performance. For those accessing this ecosystem, this increased performance asked for is more viable, not less.

Business planning

We hope this can feed into

- funding proposals
- business cases and plans
- financial models and business justifications.
- Public Value and other wider economic, social and environmental appraisals.



Some recommendations

- **Spread knowledge of these incentives -** So all stakeholder know what is available, so ecosystems of connected stakeholders evolve forming a market that performs well. More marketing, advertising and forums?
- **Keeping consistency** – for those providing them, keeping these initiatives and scaling them
- **Stronger incentives** - would scale this more rapidly
- **Clearly defined ESG guidance** – well defined criteria using widely adopted metrics set at a level beyond regulatory minimums.
- **Stronger regulation** – eg. Embodied carbon and net zero roll out, working with the knowledge of these growing incentives we would get closer to achieving building net zero at large scale.

Part 4: Next steps

Repeat as an annual review of environmental incentives – and aim to expand…

- To including Retrofit of existing buildings
- Going beyond direct financial benefits to wider social & environmental value & how economics increasingly incorporates externalities
- Looking also at future incentives
- Beyond just market sale and rent tenures.
- Beyond just two scenarios? Include super low embodied carbon scenarios, incorporate Net Zero Building Standard? Less ambitious baseline?
- Beyond just six stakeholders
- Engaging more with viability experts and cost consultants.
- Enhance data collection

Please get involved

- Email us at greenshift@goodhomes.org.uk
- Send us what you know https://forms.office.com/r/dLKasa93sj
- Join our LinkedIn group https://www.linkedin.com/groups/12901702/
- Share the link to GHA website