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The domestic energy supply business model: why it should sell services rather than commodities

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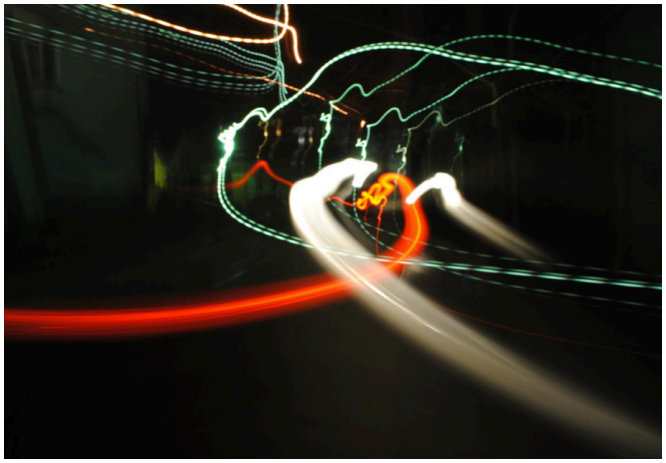


Background

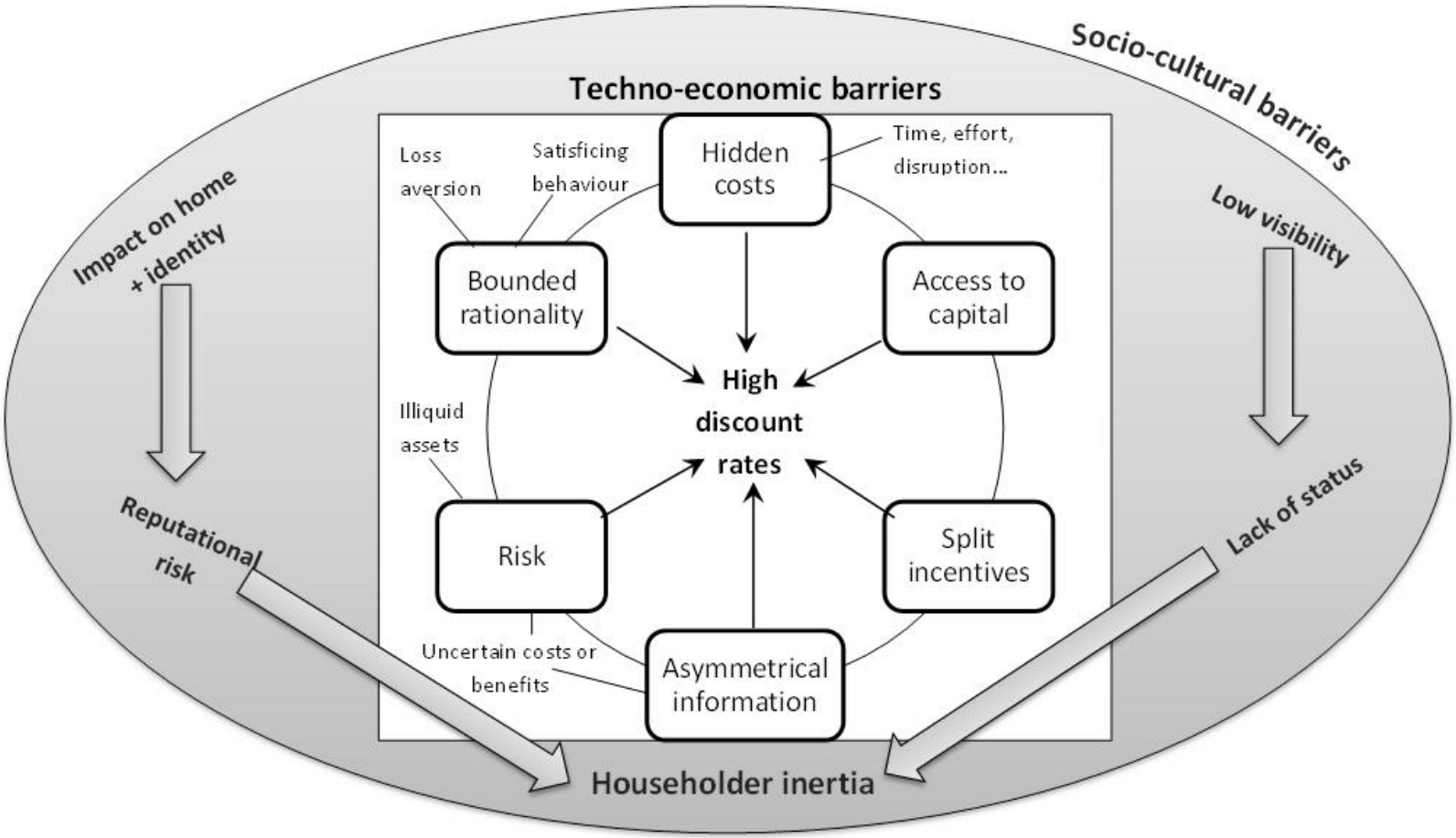
Commodity: a basic good …interchangeable with other commodities of the same type… often used as inputs in the production of other goods or services *

Service: an intangible commodity… where the buyer does not generally, except by exclusive contract, obtain exclusive ownership of the thing purchased **

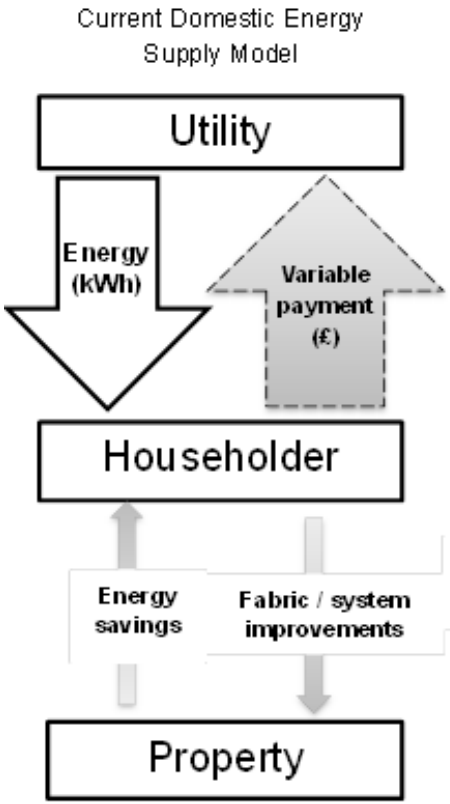
* http://www.investopedia.com/terms/c/commodity.asp

** http://en.wikipedia.org/wiki/Service_%28economics%29

Barriers to householder installation of energy efficiency measures



Current domestic energy supply model + DESCo guaranteed and shared savings models

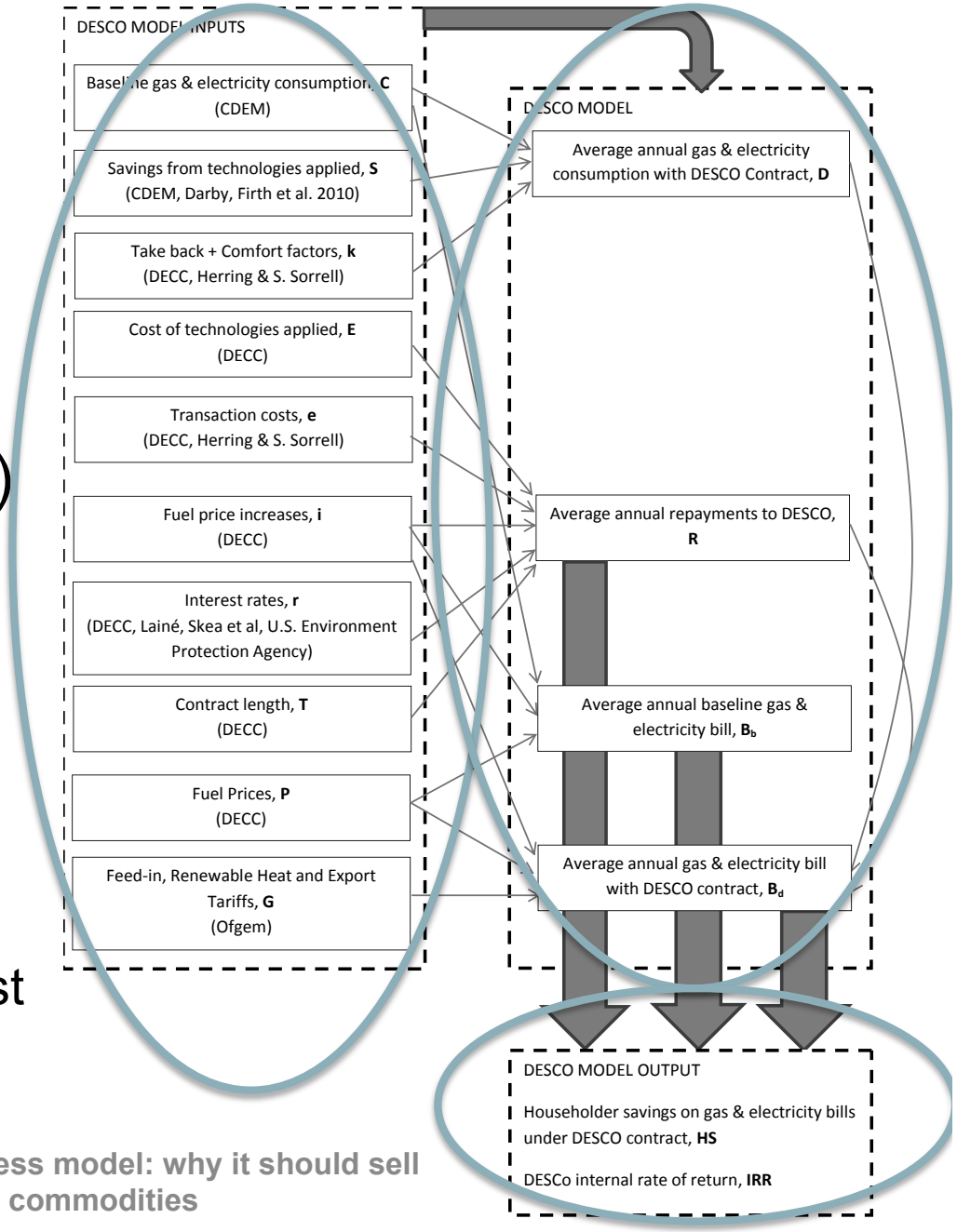


Energy-Finance Model

- Energy efficiency measures
- Single household

- Inputs (energy use, savings)
- Model (formulae)
- Outputs (savings, returns)

- Viable contract
  - Household savings≥ 0%
  - Internal rate of return ≥ interest rate (built into model)



Results: savings & returns under self-financed and DESCo-financed loft insulation

Household savings on baseline gas bill under self-financing, guaranteed savings and shared savings contracts for loft insulation, 0-270mm, Years 1-5 & Year n (n>5)

	Years 1-5 inclusive, Household savings		DESCo Internal Rate of Return
Baseline [a]	£0	0%	-
Self-financing [b]	£779	14%	-
Guaranteed savings [c]	£379	7%	20%
Shared savings [d]	£500	9%	15%

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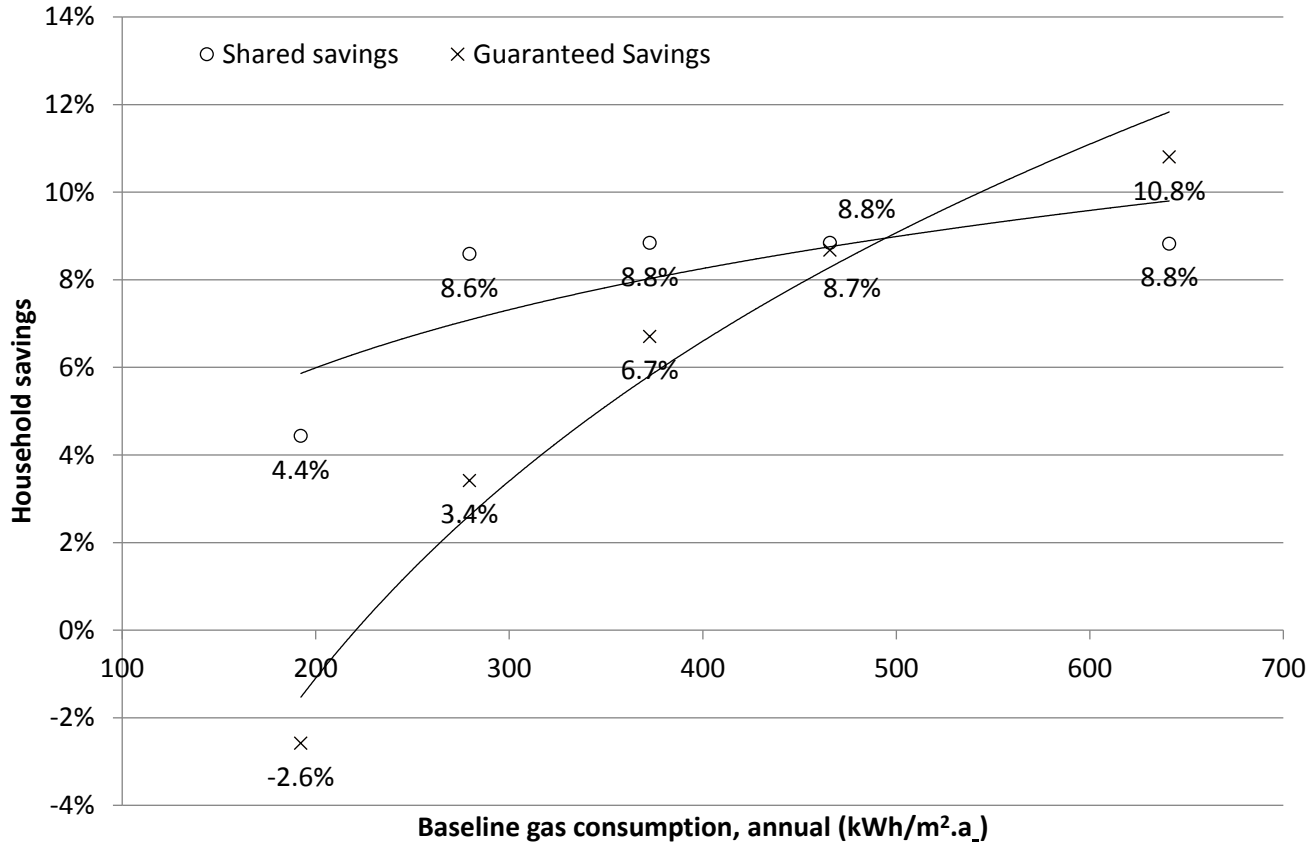
[a] no loft insulation
[b] the householder finances the loft insulation
[c] the householder takes out a 5-year guaranteed savings contract for loft insulation
[d] the householder takes out a 5-year shared savings for loft insulation

Results: …varying baseline consumption level

Household savings, as a percentage of baseline energy costs, against baseline gas consumption under guaranteed and shared savings DESCo contracts for loft insulation (270mm), 5-year contract



Conclusions

Service supply model:

- Households: deliver low-cost / part-subsidised measures at zero/ reduced upfront cost & zero / reduced risk
- DESCos: deliver reasonable rates of return
- Mitigate some of the barriers to domestic energy efficiency




Limitations

- Single house type
- Uncertainty:
  - Interest rates
  - Comfort take-back
  - Transaction costs
  - Energy saved

=> *Open source*

=> *Results are indicative*

Domestic 'energy service' contracts: UK examples

Staywarm e·on

- Fixed price, 12 month
- Access to advice + grants*
- HS= 0%
- 10% transferred due to excessive use**

British Gas **Fixed price**

- 1- 3 year gas + electric
- HS=-2-3%

npower **Fixed price**

- 3 year
- Free survey + credit for equipment (cost spread over term of contract)***
- HS=0%

GREEN DEAL **Green Deal**

- 25 year
- Loan for energy efficiency measures
- No price guarantee
- HS= ?%****

DESCo 'Greenwarm' Guaranteed

- 5 year
- Free loft insulation
- HS= 0-7% (guaranteed)
- High consumption

DESCo 'Greenwarm' Shared

- 5 year
- Free loft insulation
- HS= 6-9% (not guaranteed)
- Low/ med consumption

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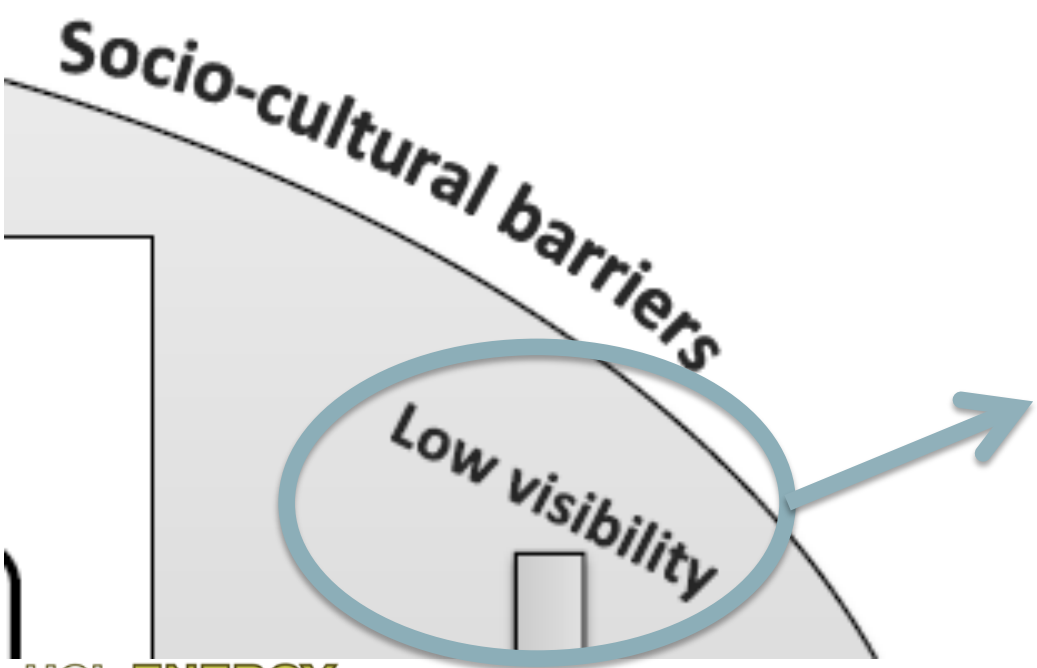
* http://www.eonenergy.com/campaigns/StayWarm-FAQs
** Boait, P., 2009. Energy Services and ESCos–their benefits and implications for regulation and the consumer
*** Littlechild, S., 2006. Residential energy contracts and the 28 day rule. Utilities Policy, 14(1), p.44-62. .
**** Morris-Marsham, C., 2012. Delivering energy efficiency in the UK through Domestic Energy Service Companies

Future research

- Low visibility of heat loss and efficiency measures

- *Attention*
- *Attitudes*
- *Agency*



Points for discussion

- Is a DESCo fundamentally different from an ESCo?
- What are the key barriers to this business model?
- Are the rates of return adequate in relation to the risks?

Thank you!

- Contact: c.morris-marsham@ucl.ac.uk

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