



GI Energy
Commercial GSHP Economics
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The consumption of energy is a cost – therefore the economics of energy consumption is driven by a comparison of cost (cash outflows)

How much does your energy solution cost?

- Investment cost of the system
- Heat, power, cooling energy consumption **+3.5% pa (DECC)**
- Climate control levy and carbon reduction commitment **+CPI / +RPI**
- Maintenance cost of the system **+RPI**
- Government subsidies – RHI Income **+CPI**

How do these ongoing costs change over time?



Commercial GSHP Economics The Renewable Solution Business Case

- ✓ Improved efficiency
 - Lower consumption cost **+ 3.5%**
 - Lower CCL / CRC charges **+ RPI / CPI**
- ✓ Government subsidies (RHI) **+ CPI**
- ~ System maintenance
- ✗ Higher investment cost **One Time**

A commercial GSHP solution will require an increased outlay but will deliver increasing benefits each year.

The financials will vary dependant upon the building requirements.



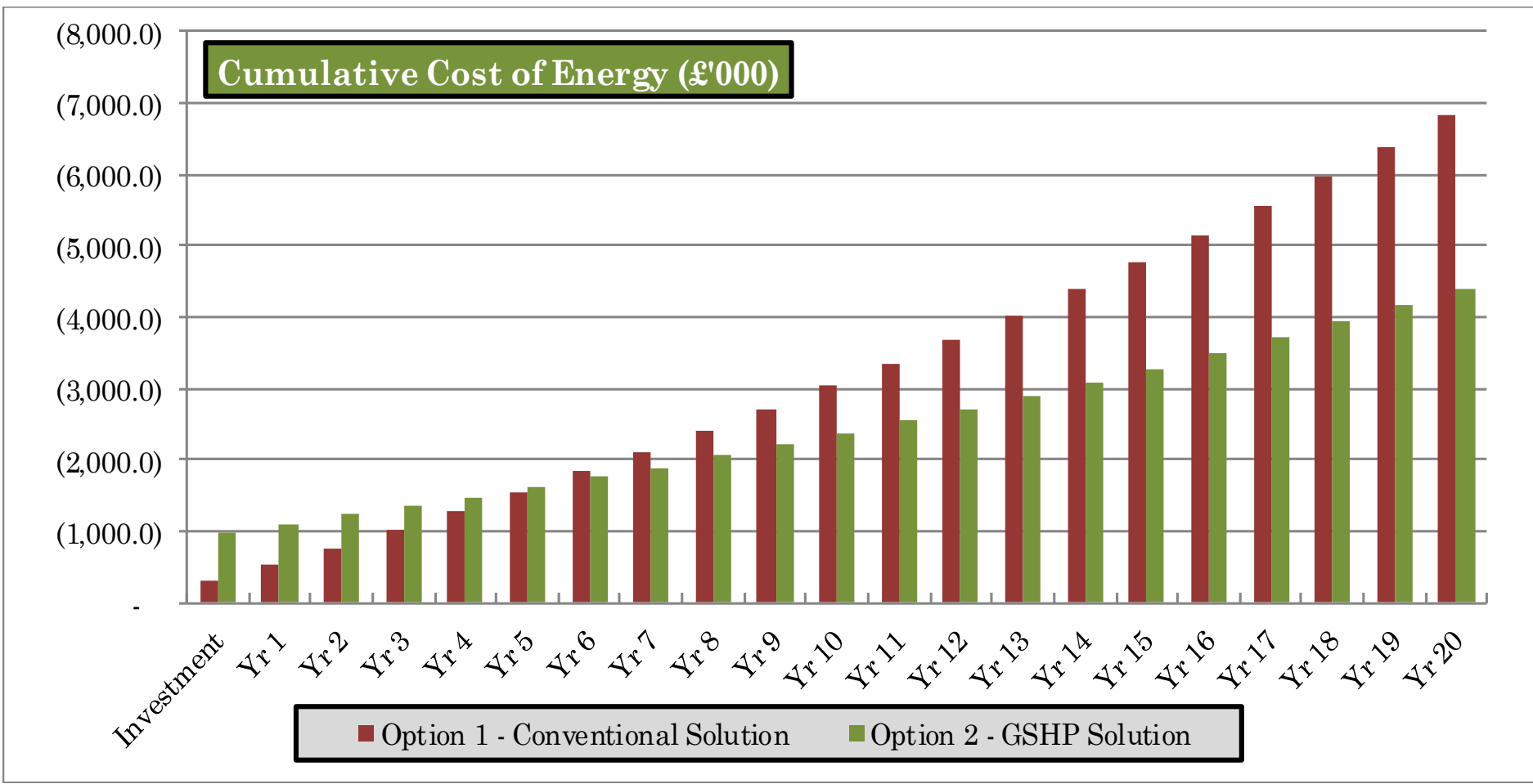
Commercial GSHP Economics Financial Example - Choices

	<u>Inflation</u>	<u>Conventional</u> <u>Boiler / Chiller</u>	<u>Renewable*</u> <u>GSHP</u>	<u>Difference</u>
Investment cost		(300.0)	(1,000.0)	(700.0)
<u>Annual running costs</u>				
Consumption	3.50%	(200.0)	(150.0)	50.0
CCL / CRC	RPI	(7.0)	(5.0)	2.0
System Maintenance	RPI	(20.0)	(25.0)	(5.0)
RHI subsidy	CPI	-	70.0	70.0
		(227.0)	(110.0)	117.0

***There will often be multiple renewable options**



Commercial GSHP Economics Cash Flow Comparison





Decisions based on capital outlay will benefit lower cost conventional systems

Funding can help:

- Removes / reduces the upfront investment
- Spread cost across the period of benefit

Funding solutions can be designed to be flexible:

- Deposit
- Term
- Rate
- Steps
- Payment holidays
- Residual / balloon payments
- On / off balance sheet



- Every case on its merits based on project appraisal
- Customer's financial position
 - Strength of balance sheet
 - Trading history
 - Risk profile
 - Type of business (what are others doing in this sector?)
- Technology
 - Most renewable technology well supported by banking sector

Funding decision linked to project potential rather than asset values

Will the funder get their money back?



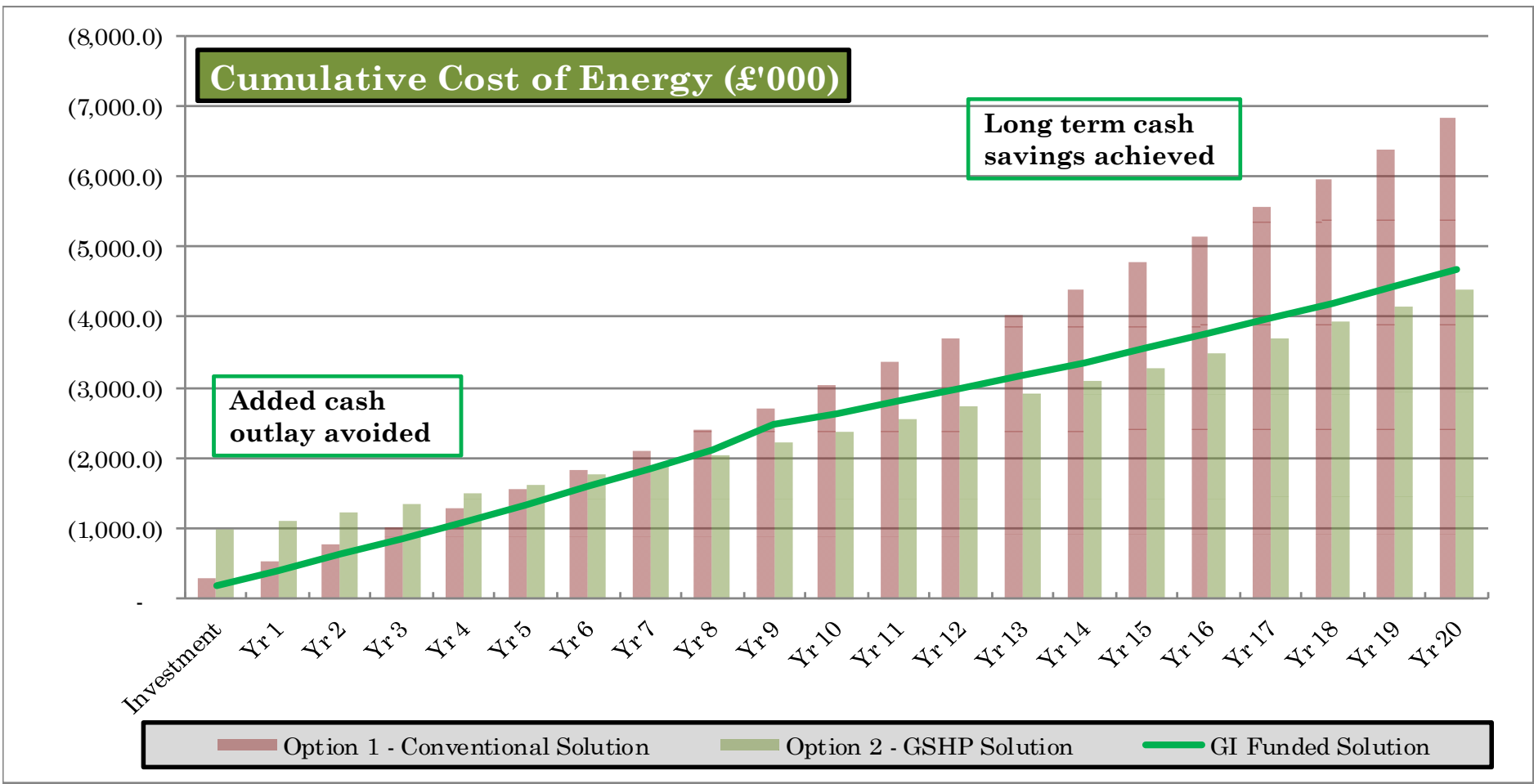
Commercial GSHP Economics Funded Solution Example

- Funder requires 6% return
- 20% deposit
- Stepped quarterly repayments over eight years
- 20% residual / balloon payment

	<u>Now</u>	<u>Yr 1</u>	<u>Yr 2</u>	<u>Yr 3</u>	<u>Yr 4</u>	<u>Yr 5</u>	<u>Yr 6</u>	<u>Yr 7</u>	<u>Yrs 7 - 20</u>
Renewable Funded Inflation									
Funding payments	(200)	(98)	(100)	(105)	(108)	(111)	(113)	(116)	(316)
Energy consumption 3.50%		(155)	(161)	(166)	(172)	(178)	(184)	(191)	(3,183)
CCL / CRC 2.00%		(5)	(5)	(5)	(5)	(6)	(6)	(6)	(86)
Maintenance 2.00%		(26)	(26)	(27)	(27)	(28)	(28)	(29)	(430)
RHI subsidy 2.00%		71	73	74	76	77	79	80	1,204
Net Cash Flow	(200)	(212)	(219)	(229)	(237)	(245)	(253)	(261)	(2,811)
Cumulative Cash Flow	(200)	(412)	(632)	(861)	(1,098)	(1,342)	(1,595)	(1,856)	(4,667)



Commercial GSHP Economics Cash Flow Comparison





- Strength of financial case dependent upon building / client needs
- Renewable solution will give ongoing savings but requires increased system investment
- Financial benefits will increase over time
- Technology is fundable
- **Funding can unlock the long term benefits of renewable solution**
- **Funding is flexible and can be adapted to suit your needs**