Ener-Vate Consultancy Limited

ESCo Review for Ryde Business Park

A Techno-Economic Review of an ESCo option for Isle of Wight Council

SMARTKLUB
Empowering Communities

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Contents

	Glossary
ASHP	Air Source Heat Pump
ESCo	Energy Services Company
BSRIA	Building Services Research and Information Association
LA	Local Authority
IoW	Isle of Wight Council
D&B	Design & Build
O&M	Operations and Maintenance
M&B	Metering & Billing
EVCP	Electric Vehicle Charge Point
kWh	Kilowatt Hours
MWh	Megawatt Hours
GWh	Gigawatt Hours
NIA	Nett Internal Area
OPEX	Operating Expenditure
CAPEX	Capital Expenditure
REPEX	Replacement Expenditure
COP	Co-efficient Of Performance
IRR	Internal Rate of Return
NPV	Net Present Value

1 Introduction

1.1 The Project

1.1.1 Ener-Vate Consultancy Ltd and SmartKlub Ltd have undertaken a research project to examine the options for establishing an Energy Services Company (ESCo) at new developments in each of four Local Authority (LA) areas.

1.1.2 The LA's involved in the project are:

- Eastleigh Borough Council,
- Isle of Wight Council,
- Bath and North East Somerset Council, and
- Cornwall Council.

1.1.3 This report looks in more detail at the possibility of developing a Heat and Power ESCo for the forthcoming Ryde Business Park Extension and Pennyfeathers Development for Isle of Wight Council, minimising the use of fossil fuels as an energy source.

1.2 ESCo Commercial Structure

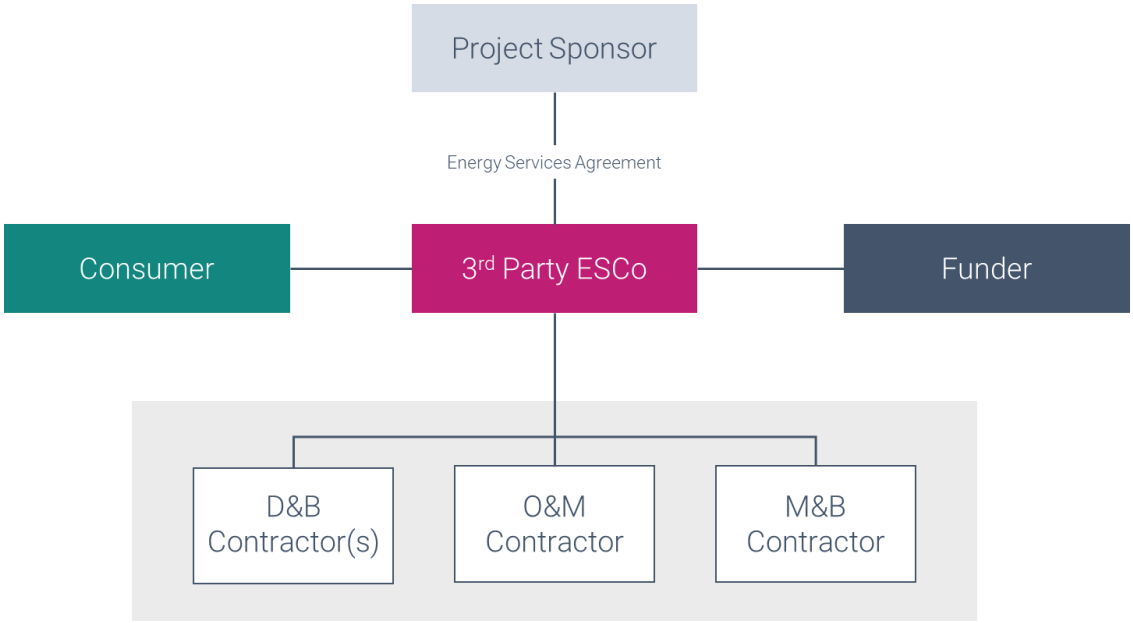
1.2.1 A business that sells an energy service adds value to the provision of energy as a commodity by meeting some additional aspect of the customer's needs.

1.2.2 In its most developed form, an ESCo provides a commitment to deliver the benefits of energy to a specified level of performance and reliability whilst providing the ESCo entity itself with long-term revenue streams.

1.2.3 This business model is of particular interest to LA's because an ESCo with a performance contract has a strong incentive to increase the energy efficiency with which it meets its contract, and thereby drive down carbon emissions.

Following the recent "Common Scope ESCO Report", published by Ener-Vate as part of this project, the "3rd Party ESCo" has been selected as the structure that underpins this report as IoW has little interest in forming an LA controlled ESCo.

2 3rd Party ESCo



2.1 Roles and Responsibilities

2.1.1 The Project Sponsor will procure a 3rd party ESCo entity to exclusively deliver energy provisions to the site in question through an Energy Services Agreement. A key element of this will be future guarantees over customer prices.

2.1.2 The 3rd party ESCo will be responsible for funding all associated plant and infrastructure capital costs related to the low carbon energy scheme proposed and will therefore own the asset.

2.1.3 The 3rd party ESCo will also be responsible for procuring the following:

- A Design and Build (D&B) contractor to design and build the low carbon energy scheme infrastructure and plant,
- An Operation and Maintenance (O&M) contractor to operate and maintain the low carbon energy scheme throughout a specified concession period, and
- A Metering and Billing (M&B) contractor to meter the energy provisions provided to the site and subsequently bill the consumers for the amount of energy consumed.

2.1.4 The Consumers can be given some consultation rights as to the goals and performance of the ESCO but this is likely to be limited as it will be seen to encroach on its financial performance during the critical early years. Once mature, a positive role can be found for incremental expansion of the ESCO to additional services.

2.2 Control, Risk and Reward

2.2.1 The Project Sponsor has no ongoing control over the 3rd party ESCo's contracted partners, future expansion of the low carbon energy scheme or heat and power tariffs.

2.2.2 The Project Sponsor will also see no direct financial reward from the success of the project other than costs avoided by procuring a 3rd party ESCo.

2.2.3 This does, however, mean that the Project Sponsor is sheltered from the risk of funding, constructing, operating and maintaining the low carbon energy scheme.

2.2.4 Once the Energy Services Agreement concession period ends, the service provision provided by the 3rd party ESCo to the Project Sponsor will cease. As the Project Sponsor does not own the asset, and the 3rd party ESCo will have no further obligations to the Project Sponsor, the 3rd party ESCo can choose to do as they wish with the asset(s).

2.3 Exit Strategies

2.3.1 As mentioned, at the end of the ESA concession period the service provision to the Project Sponsor will cease and therefore there will be no further obligations on the Project Sponsor itself.

2.3.2 At this point, the Project Sponsor would typically do one of the following:

- Enter into a new ESA with the 3rd party ESCo,
- Buy the asset at a fair value (if this has been stated within the original ESA), or
- Evaluate an option for a more formal role for the community including ownership or part-ownership. This evaluation could be attractive to residents because there is a track record of performance established.

2.3.3 If neither of these options are exercised, the 3rd party ESCo will be responsible for the disposal of the asset(s).

2.4 Advantages and Disadvantages of a 3rd Party ESCo

Advantages	• Allows all technical and performance risks to be passed on to a 3rd party. • Leverages 3rd party expertise and skills. • Secures external funding.
Disadvantages	• The Project Sponsor will have limited control over how the low carbon energy scheme is delivered, operated or maintained, potentially making it more challenging for the Project Sponsor to achieve its strategic objectives.

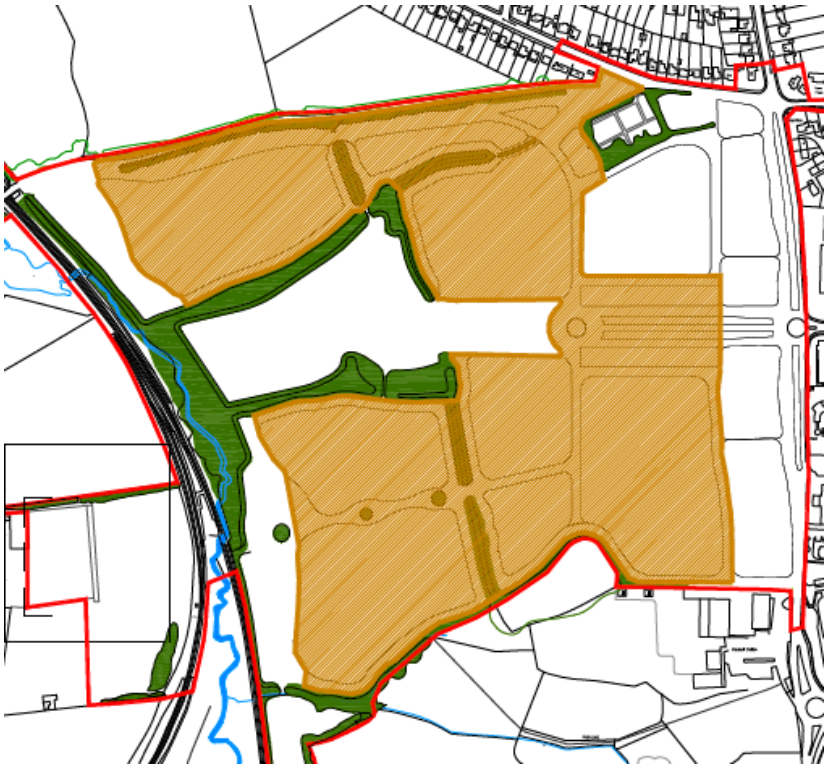
	• The scheme must meet the 3rd party's return on investment, which could result in higher heat and power tariffs. • Difficult to give communities a meaningful role at least initially.

3 Assumptions

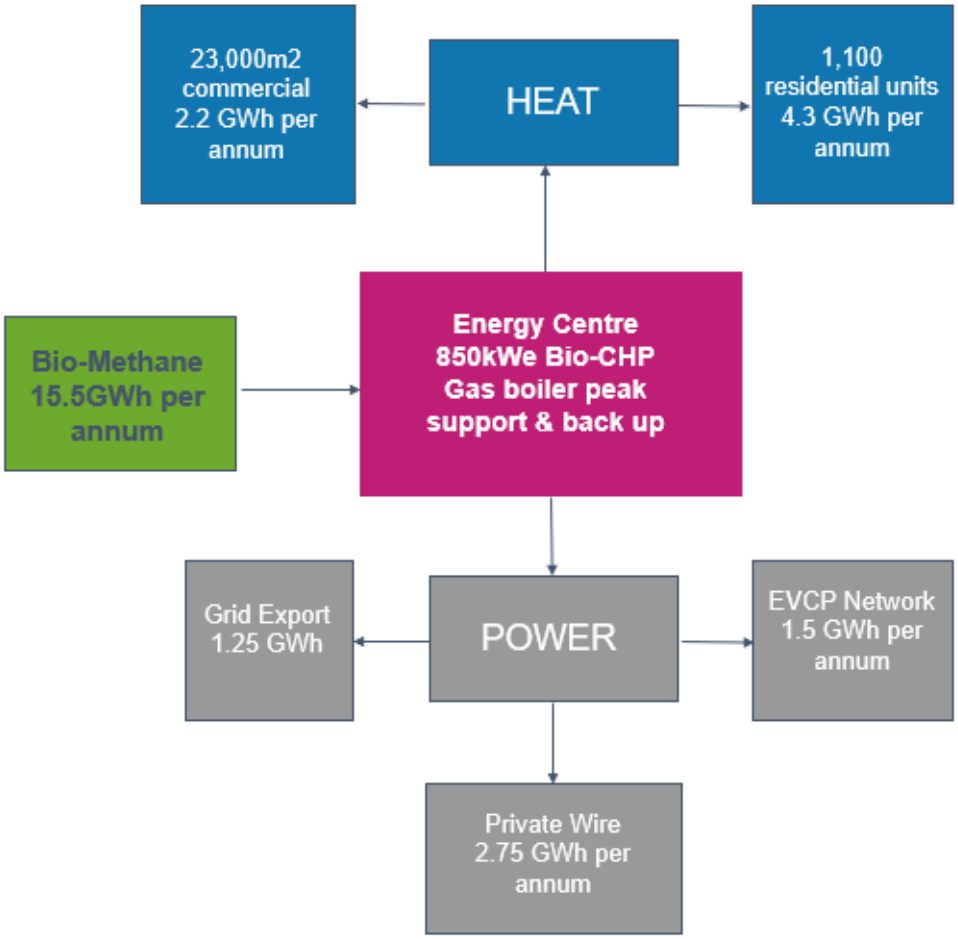
3.1 Masterplan

3.1.1 Ryde Business Park Masterplan c 27,000m2 development

3.1.2 Pennyfeathers Masterplan c. 1,100 new residential units + school, community & retail



3.1.3 Energy system schematic



- Energy values per annum at full build out

3.1.4 Accommodation schedule & phasing

Property	Qty	Construction assumptions
Flats	360	15 per quarter Jan-22 to Dec-27
Houses	740	35 per quarter Jan-22 to Dec-27
Pennyfeathers school & community	3,500	Jul-24 to Dec-26
Pennyfeathers retail & mixed use	1,500	Jul-25 to Dec-27
Commercial (m2 GIA)	9,818	Jul-23 to Sep-25
Industrial (m2 GIA)	11850	Jun-25
Community, Leisure & Retail (m2 GIA)	3,658	Jan-22 to Dec-24

Numbers from available Masterplans

3.2 Heat demand assumptions

3.2.1 Building demand is calculated by using BSRIA (Building Services Research and Information Association) demand assumptions in kWh/m2/yr for the different usage classes using Nett Internal Areas (NIA) as the multiplying factor:

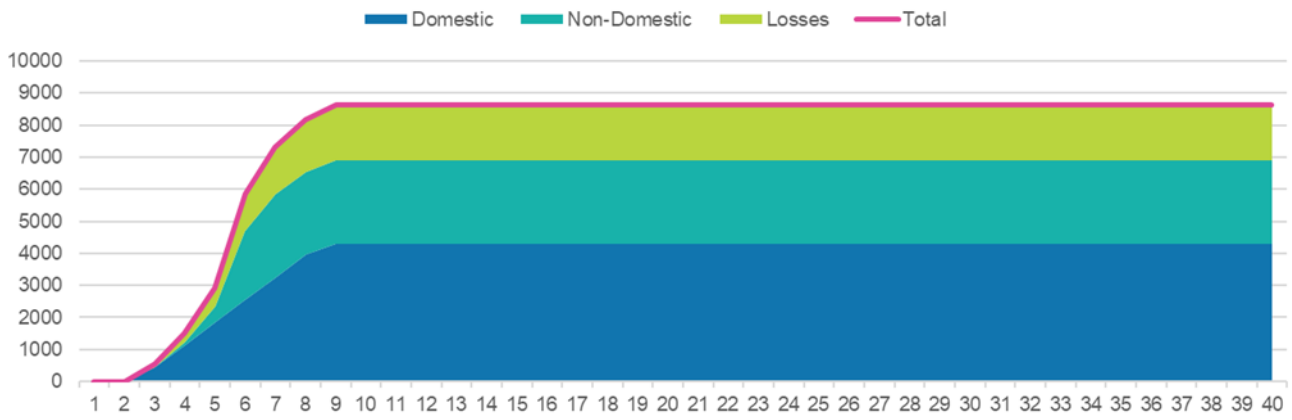
Property	Qty	kWh/m2/yr	TOTAL heat demand
Flats (60m2 average)	360	45	972,000
Houses (90m2 average)	740	50	3,330,000
Pennyfeathers school & community	3,150	105	330,750
Pennyfeathers retail & mixed use	1,275	140	178,500
Commercial m2 (NIA)	8,836	95	839,439
Industrial m2 (NIA)	10,665	92	981,180
Community, Leisure & Retail (NIA)	3,292	124	408,233
TOTAL (kWh/yr) at build out			7,040,102

3.2.2 Residential plots are assumed an average size as follows:

- Flats 60m2
- Houses 90m2

3.2.3 Commercial ESCo models are sensitive to the speed of construction whereby the earlier the demand comes on the better the financial performance of the scheme. However, from experience it is prudent to be conservative when forecasting in order to provide a more realistic picture and minimise the financial risks of possible delays.

3.2.4 Demand profile yr1 = 2022.



3.3 Power demand assumptions

3.3.1 At build out the CHP will generate 5,500,000 kWh of power per annum, these are the assumptions made on where the power is supplied:

Consumer	kWh per annum	% CHP generation
TESCO	2,000,000	36%
Other private wire	750,000	14%
EVCP network	1,476,000	27%
Export to grid	1,274,000	23%
Total	5,500,000	

3.3.2 Assumed 2 x 7.2kW twin EVCP are installed per quarter for the duration of build out with 50 in total. They are in operation for 4,100 hours per annum on average.

3.3.3 Tesco power demand is based on 8,000m2 store using an industry standard benchmark of 250kWh/m2/yr.

3.3.4 Other assumptions

- A discount factor of 3.5% has been applied to calculate return on investment for both ESCo options presented.
- The ESCo concession term used for this model is 40 years, typically ESCo concession terms range from 25 to 50 years and up to 80 in some examples.

4 Heat & Power 3rd Party ESCo

4.1 ESCo structure

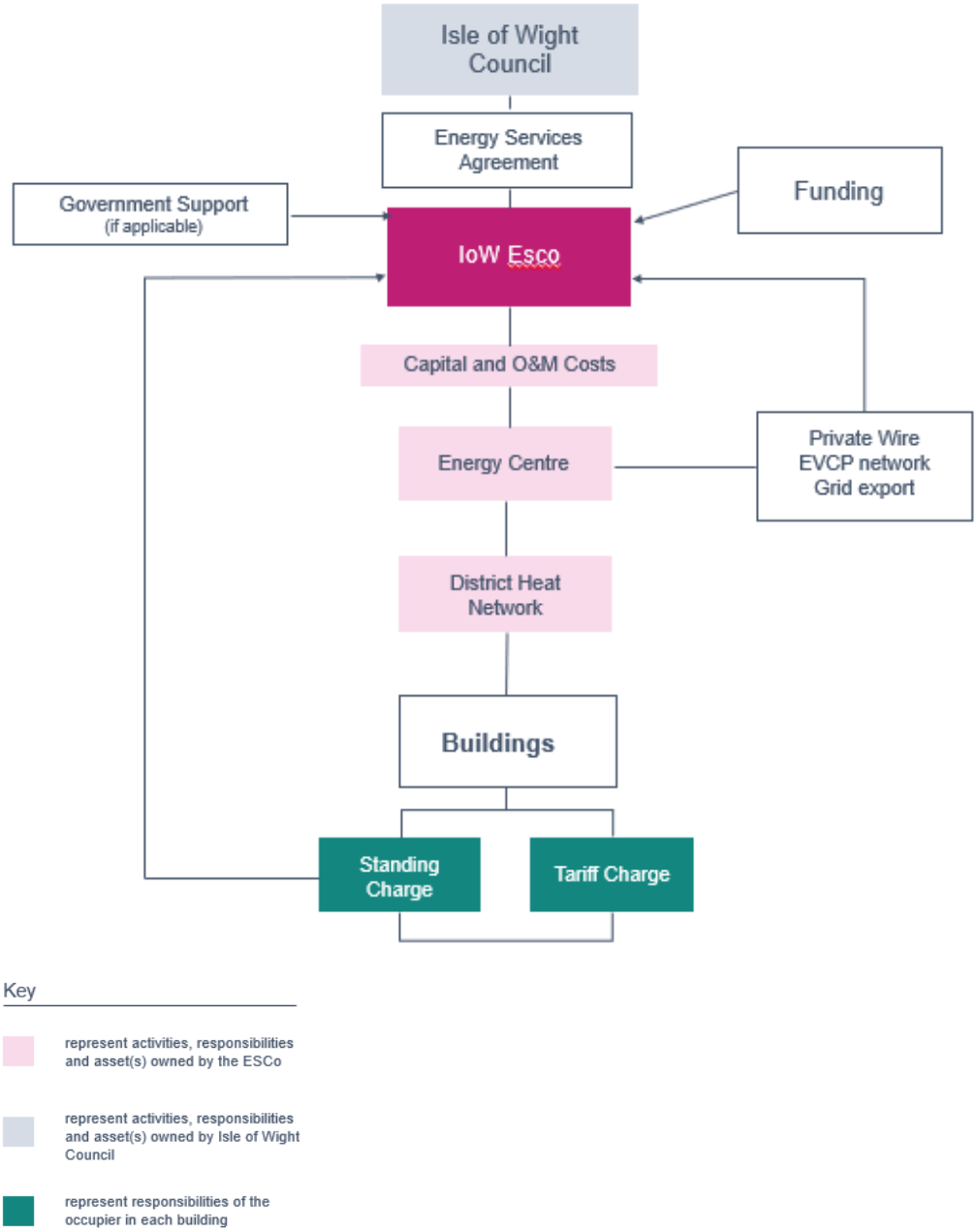


Image illustrates IoW ESCo asset ownership and the flow of the heat standing charge and various power revenues back to the ESCo.

4.1.1 IoW ESCo is responsible for the funding, design, construction and operation of the energy system:

- Energy Centre
- Heat Network
- Heat Interface Units in each residential and commercial connection
- Private Wire network and connections to commercial properties
- 7.2kW twin Electric Vehicle Charge Points (EVCP)

4.1.2 IoW ESCo will receive all revenues associated with the energy system, including but not limited to:

- Heat standing charge and consumption charges
- Electricity sales

4.2 Energy Concept

4.2.1 The design concept for this solution is a central energy centre located within the proposed development with lead generation plant as gas CHP, peak support and back up by gas boilers.

4.2.2 The gas used to supply the CHP and boilers is assumed to be bio-methane, this is purchased via a type of sleeving arrangement known as the Green Gas Certificate. This gas comes with a small premium to natural gas and +10% has been assumed in the modelling.

4.2.3 A low temperature heat network will carry the generated heat to each of the residential and commercial properties on the development and heat will be transferred to the properties via a Heat Interface unit (HIU).

4.2.4 Modelling assumes first heat on Jan-22.

4.2.5 Power generated by the CHP will be supplied to a local private wire network serving the nearby Tesco and other proposed new commercial buildings. A further portion of the power will serve a vehicle charging network on the Ryde Business park expansion. Balance of generation will be exported to grid as normal.

4.3 Financial model

4.3.1 Capital Expenditure (CAPEX) breakdown and assumptions made:

ITEM	£m	Notes
Energy Centre	1,500,000	1,000m2 approx
Energy Centre plant	1,430,000	3MW boilers + M&E
CHP	1,020,000	850kWe/872kWth
Heat Network	4,100,000	Pre-insulated plastic
HIU's	1,351,000	
EVCP	125,000	50 x 7.2kW twin
Prelims	1,120,000	PM & QS
Legal + set up	200,000	
TOTAL	**10,846,000**	

- Capex phased in line with construction & heat/power demand.

4.3.2 Operations expenditure (OPEX) breakdown for project life and assumptions made:

ITEM	£m lifetime (uninflated)	Notes
Domestic HIU	1,735,875	£45/HIU/yr servicing & spares
Non-Domestic HIU	220,938	£250/HIU/yr servicing & spares
Bio-Gas Boiler	296,400	3% capex
Bio-Gas CHP	564,781	1.1p/kWe servicing assumption
EC lease	20,000	Hire temporary initial gas plant for 4 mnths
Energy Centre	281,063	0.15% capex
Network	643,188	0.5% capex
Metering and Billing	2,893,125	£75/HIU/yr
Business Rates	3,448,363	2.2% EC&DHN capex
Commodities	43,049,108	BioMethane for CHP & boilers
Staffing	1,550,000	1 x FTE
Bad Debt	463,766	1% revenue
TOTAL	**55,166,605**	

4.3.3 Operations expenditure (OPEX) annual breakdown at build and assumptions made:

ITEM	£m annual 2030 (uninflated)	Notes
Domestic HIU	49,500	£45/HIU/yr
Non-Domestic HIU	6,500	£250/HIU/yr
Bio-Gas Boiler	7,800	3% capex
CHP	16,174	1.1p/kWe
Energy Centre	7,523	0.15% capex
Network	11,745	0.5% capex
Metering and Billing	82,500	£75/HIU/yr
Business Rates	68,227	2.2% EC&DHN
Commodities	773,194	
Staffing	40,000	1 x FTE
Bad Debt	11,594	1% revenue
TOTAL	**1,074,756**	

4.3.4 Replacement expenditure (REPEX) breakdown and assumptions made:

ITEM	£m lifetime	Notes
Domestic HIU	715,000	65% 10yr lifecycle
Non-Domestic HIU	125,500	65% 10yr lifecycle
Gas Boiler	130,000	50%yr20
CHP	2,040,000	50% yr20
Thermal Store	100,000	100% yr20 lifecycle
TOTAL	**3,110,500**	

4.3.5 Pricing assumptions

ITEM	Residential	Commercial
Connection fee (one off)	£4,250	£13/m2
Fixed Heat Tariff (per annum)	£325	£4.1/m2
Variable Heat Tariff (p/kWh)	6.9	5.3
Private Wire Electricity (p/kWh)		13.55
EVCP network (p/kWh)		10.0
Grid Export (p/kWh)		5.0

- Residential connection fee is considered a reasonable developer contribution for a Low Carbon solution.
- Residential Standing Charge is an annual payment to the ESCo for the maintenance and replacement of the Energy System for the duration of the concession.
- Commercial Standing Charge includes both heat energy system (£3.1/m2/annum) and a power availability charge (£1/m2/annum)

4.3.6 Heat Pricing counterfactuals

For the purposes of heat pricing comparison individual Air Source Heat Pumps (ASHP) have been selected, the comparisons include all lifetime costs:

- Variable and fixed energy costs
- ASHP insurance & maintenance costs
- ASHP replacement amortised over lifecycle

Individual ASHP

Elec Volume	1800	kWh

Heat Volume	4500	kWh

	Tariff p/kWh	Daily Standing Charge p	Total Tariff	Total Standing Charge	Total Elec Cost	Annual Maint.	Annual Repex Accrual	Total	Equivalent Heat Price Tariff p/kWh
Igloo	14.45	22.64	£260.10	£82.64	£342.74	£200	£291.67	£834.40	18.5
OVO	15.050	19.19	£270.90	£70.04	£340.94	£200	£291.67	£832.61	18.5
EDF	15.152	18.64	£272.74	£68.04	£340.77	£200	£291.67	£832.44	18.5
								Average	**18.5**

DHN Equivalent

	Tariff p/kWh	Daily Standing Charge p	Total Tariff	Total Standing Charge	Total Heat Cost
IoW Heat	6.9	N/A	£310.50	£325	£635.50

Total	Heat Price Tariff p/kWh
£635.50	**14**
SAVING	**24%**

- Heat volume 90m2 property x 50kWh/m2/annum
- Electricity tariffs from Go-Compare 27/10/20 PO33 postcode
- ASHP REPEX accrual based on £3,500 cost with 12 year plant life
- ASHP COP assumed @ 2.5

4.3.7 CO2 analysis

Analysis based on 1st year at full build out and Bio-Methane being used from day 1.

CO2 summary	kWh/p.a.	kgco2/kWh	TOTAL CO2 t/pa
CHP Bio-Gas used	13,709,663	0.062	850
Boiler Bio-Gas used	2,585,251	0.062	160
Energy Centre power used	137,880	0.233	32
CHP elec generated	5,881,445	0.233	-1,370
TOTAL CO2 emissions			-328

Lifetime CO2 analysis

Lifetime CO2 summary	kWh	kgco2/kWh	TOTAL CO2
CHP Bio-Gas used	478,729,328	0.062	29,681
Boiler Bio-Gas used	91,426,392	0.062	5,668
Energy Centre power	4,833,077	0.233	1,126
CHP elec generated	205,374,882	0.233	-47,852
TOTAL CO2 emissions			**-11,377**

This shows a significant carbon offset achieved by the scheme to the extent that the district heating scheme could be run on mains gas for the first 8 years (44GWh gas consumption) and still achieve carbon neutrality:

CO2 summary	kWh	kgco2/kWh	TOTAL CO2
Natural Gas	43,532,299	0.210	9,142

4.3.8 Financial outputs on base case assumptions

BASE MODEL ASSUMPTIONS		Notes
Residential properties	1,100	30% flats, 70% houses
Commercial property	30,000m2	As per masterplan
Discount Factor	3.50%	
Concession Term	40 years	
Connection Fee Income	£5,837,403	
Variable Heat Tariff Income	£31,454,433	
Fixed Heat Tariff Income	£32,586,846	
Electricity export	£40,320,517	Split as per 3.3.1
CAPEX (uninflated)	£10,721,000	Low Temp plastic pipework
OPEX (inflated)	£74,666,053	Inc commodities (100% Bio-methane @10% premium)
REPEX (uninflated)	£3,110,500	
IRR	11.52%	
NPV	£7,103,517	

Sensitivity	NPV £	IRR
Base Case	7,103,517	11.52%
Capex + 10%	4,928,725	8.12%
Capex - 10%	9,063,573	17.46%
Opex + 10%	6,238,935	10.76%
Opex - 10%	7,968,099	12.26%
Private wire + 10%	8,461,352	12.65%
Private wire - 10%	5,745,683	10.35%

4.4 Advantages and Disadvantages of a 3rd Party ESCo

Advantages	• A lower cost scheme for customers vs ASHP counterfactual • Carbon neutral/negative scheme • Further localism achieved if a Thermal Purchase Agreement for Bio-Methane via Green Gas Certificates can be achieved with IoW Anaerobic Digestion facility
Disadvantages	• Minimal direct involvement in ESCo performance although can influence through Energy Services Agreement and planning. • The scheme must meet the 3rd party's return on investment, which could result in higher heat and power tariffs.

5 Procurement

5.1 Introduction

5.1.1 The procurement of a third party ESCo partner should be carefully considered in the way that this is approached. There are three critical advisory roles that will be needed to support a client on the journey of appointing an ESCo partner; Commercial, Technical and Legal. Depending on the desired commercial structure there could be a need for Project Management and Quantity Surveyor roles in addition, this is explored later in this document.

The process of appointing a third-party ESCo partner can be summarised across six key stages.

- Stage 1 Outline Business Case
- Stage 2 Business Case
- Stage 3 Procurement
- Stage 4 Contractual
- Stage 5 Design & Build
- Stage 6 Operations & Maintenance

A more detailed description of the six stages is contained in the report below.

Each of the three key advisory disciplines will be needed across the six key stages, however the timing when these disciplines are engaged will not be all concurrent. All too often the initial reaction is to engage a technical designer to develop the project concept. Whilst this is not necessarily the wrong thing to do, from our experience within the industry this can sometimes lead to a highly engineered technical solution that is often unaffordable to deliver and ultimately gets simplified to suit the commercial budgets and return on investment criteria.

Managing the timing when the disciplines are engaged is also key to managing costs for developing a project. Whilst this is an up-front capital commitment to developing a project, these costs can be recovered from the commercialised project if this is engineered in the right way from the outset.

5.1.2 In the event a private developer set up an ESCo and then decided he wanted to exit – he has a few options :-

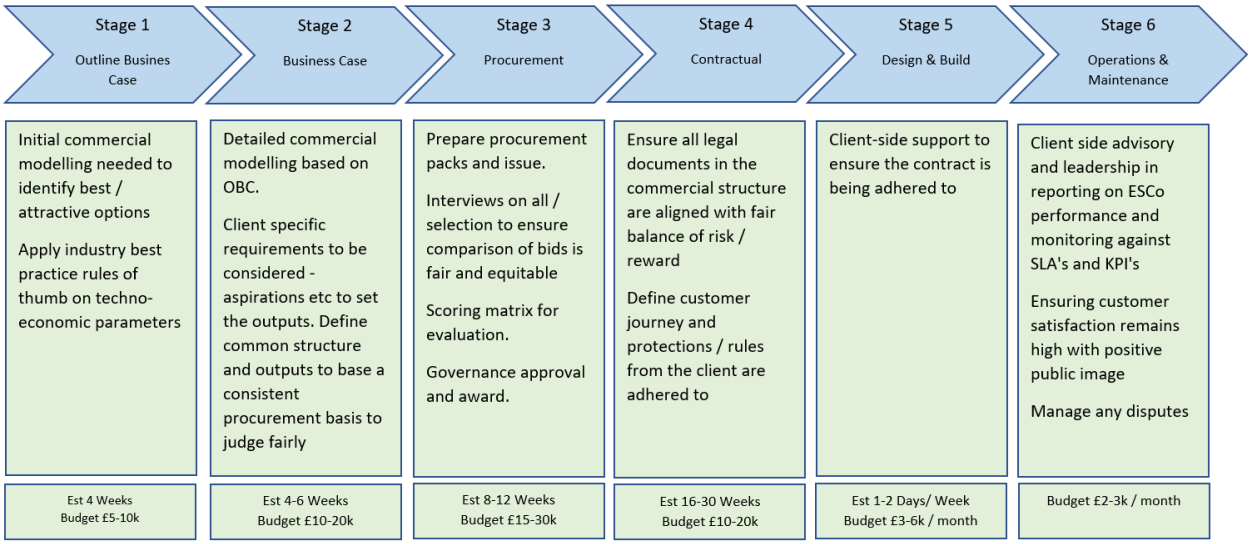
- Retain the ESCo entity and depart – the reason a separate legal entity is created is to make sure it survives beyond the build phase. Just because the developer has left the site it doesn't mean he cannot continue with the ESCo
- He can sell the ESCo entity
- He can appoint a Management Company to manage the ESCo on his behalf and still retain the asset

Depending on the appetite of the developer, if he knows that his plans are always to depart once the site is complete – you could argue why be the ESCo in the first place…. procure an ESCo entity from the outset – this is what the larger developers

tend to do. If the appetite is there then continue to be the ESCo, de-risk it by completing the build phase and look to either sell the remaining concession for which exclusive supply is retained. Otherwise retain it and manage (or procure to manage) it.

Should the developer sell the ESCo they would still be counterparty just have no involvement in day-to-day operations or ongoing risks post construction. They usually pay a specialist a nominal annual fee to ensure ESCo continues to meet its obligations.

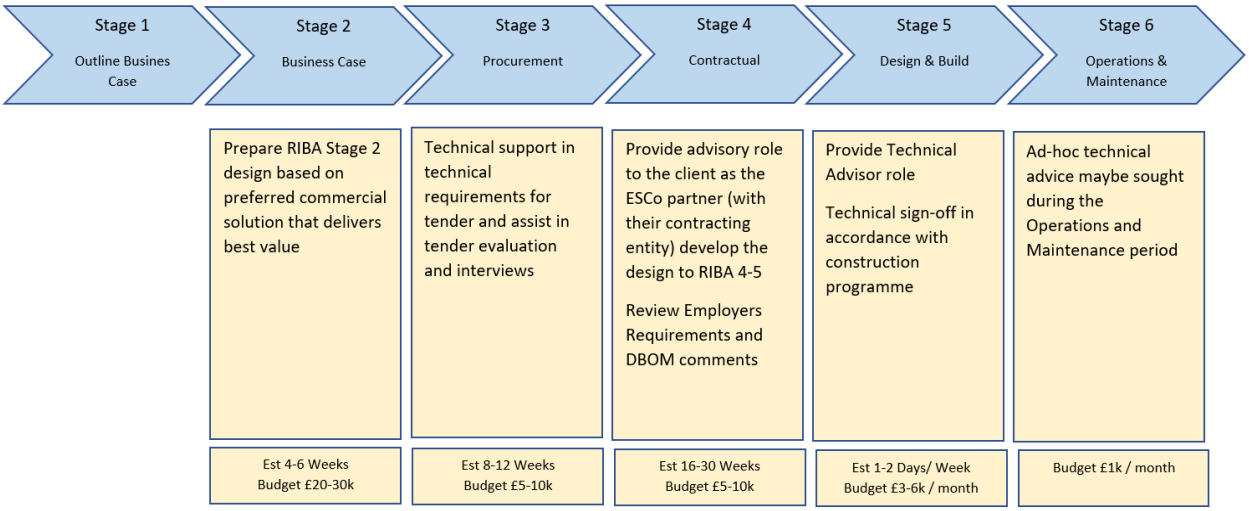
Commercial Advisory Role in ESCo Partner Appointment Capacity for a Client



The graphic above is a summary of the roles in which a Commercial Advisor will support a client in the journey across the six key stages. Below each of the stages in an estimation on the time and financial budget that should be considered for this service.

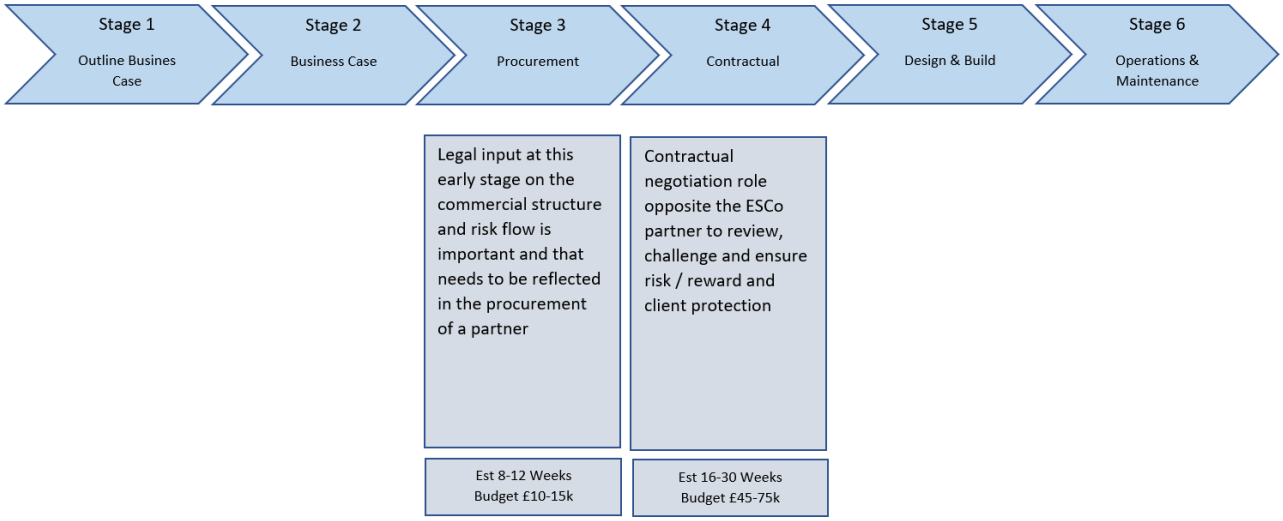
Technical Advisory Role in ESCo Partner Appointment Capacity for a Client

The key roles for a Technical Advisor in supporting a client across the six key stages is shown in the graphic below.



Legal Advisory Role in ESCo Partner Appointment Capacity for a Client

The key roles for a Legal Advisor in supporting a client across the six key stages is shown in the graphic below.



5.2 Stage 1 – Outline Business Case

Prior to embarking on a technical solution, appointing a Commercial Advisor who has a strong technical background within the sector can help limit initial technical expertise requirements and shape the project, within tolerances, that suit the investment budgets and the returns on investment that are acceptable within the market. During this initial process the commercial structure is also developed that should be based on their previous working experiences and provide a foundation on which all parties' roles, responsibilities, risks and rewards are mapped accordingly.

This initial process we define as an Outline Business Case (OBC) This stage will take onboard any initial high-level feasibility studies that have been undertaken to date and, after interviewing all interested stakeholders allow the commercial advisor to shape a project and offer some scenarios to consider. The output of this process would result

in a ranked preference of models, based on commercial returns, to progress to the next stage.

The methods of finance for the scheme should also be given some consideration at this stage. A high-level options appraisal can be provided based on the outputs of the Outline Business Case that reflects what is acceptable in the commercial markets as well as self-financing routes.

Depending on the scale and complexity of the scheme, the estimated time to conclude this process is approximately 4-weeks with an estimated budget range of £5-10k.

5.3 Stage 2 – Business Case

The next stage in the process is to take the Outline Business Case and further develop this into a more robust and tested model. To do this, at this stage a Technical Advisor should be sought to develop the concept design. Working collaboratively, both the Technical and Commercial advisory team will be able to refine the commercial cost assumptions within the model with regards to Capital, Operational and Replacement costs (Capex, Opex and Repex) based upon a RIBA stage 2 design approach.

The commercial structure will then be refined based upon any key stakeholder requirements with clear benefits identified in taking this approach. The Business Case output will also include a market appraisal for the next step in the process, procurement.

The route to funding the scheme will at this stage also be better understood. The Commercial advisor will be able to provide scenarios and the options for funding and routes to where this can be sought, including the identification of any grants, loans or other funds that can be attracted to the scheme.

Depending on the scale and complexity of the scheme, the estimated time to conclude this process is approximately 4-6 weeks with an estimated budget range of £30-50k across the Commercial and Technical disciplines.

5.4 Stage 3 – Procurement

The procurement stage is the right time to consider introducing a client Legal Advisor to the team. Collectively, as a client advisory team, a procurement strategy will be developed that ensures the market engagement pack / tender pack is aligned, robust, structured and above all provides a basis on which all respondents can be equally and fairly assessed.

By approaching the procurement process in this methodological manner, with the prior stages leading to this point, will ensure all respondents to the tender are on a level playing field on which to judge. Rushing into a market engagement process that doesn't have a defined scope and is wide in its requirements will lead to respondents offering different solutions making it difficult to judge best value properly and fairly.

Well defined scopes based on the Business Case, RIBA Stage 2 design and cost plan along with the preferred contractual / commercial structure will make it clear what respondents are being asked to provide. Variations to the tenders can be considered

as added value which may allow respondents to put in an additional bid alongside their compliant tender.

A well-designed scoring matrix should be developed with an appropriate weighting mechanism that reflects the stakeholders' requirements. This should be transparently shown within the tender pack.

Respondent interviews should be undertaken to allow them to present their proposition and provide time for the client and the advisory team to question and seek clarifications on any responses. Depending on the number and quality of the respondents, a decision to score the tenders and produce a short-list prior to interviews should be considered.

At the end of the procurement exercise, a preferred bidder will be identified. At this stage, the outputs of the procurement process should be reflected in the commercial model to update the business case, which may now include for a base-case, low-case and upper-case scenario with some tolerances on any key sensitivities / inputs.

Time within the procurement process should be allowed for all internal governance to seek approvals to proceed – or not as the case may be.

Depending on the scale and complexity of the scheme, the estimated time to conclude this process is approximately 8-12 weeks with an estimated budget range of £30-55k across the Commercial, Technical and Legal disciplines.

5.5 Stage 4 – Contractual

If it is decided to continue with the project, the next stage is to officially appoint an ESCo partner and enter into the Contractual phase. This is often an intense collaborative process, which can be protracted depending on the scale and complexity of the commercial structure.

The ESCo partner will now be responsible for developing the commercial model, detailed design to construction level (RIBA 4-5) and the legal suite of documents to enter into contract.

To support this process and to ensure the client is protected, it is important for both the Commercial and Technical advisors to remain on the team alongside the Legal partner to ensure the Business Case doesn't deviate radically from what has been approved and committed to. The detailed nature of ESCo's is finely balanced. A minor amendment on one level can have a significant impact on associated levels within the commercial / legal structures.

The retention of the Commercial and Technical advisors at this stage is important to challenge and flag impacts and test the ESCo's model by retaining the Business Case model in shadow.

Negotiating the contracts should not be underestimated. Depending on the complexities of the scheme, the layers of legal documents can be significant. The time taken at this stage can be protracted depending on the commercial sensitivities and end-user connection and supply agreements that need to be secured to a high degree.

Depending on the scale and complexity of the scheme, the estimated time to conclude this process is approximately 16-30 weeks with an estimated budget range of £60-105k across the Commercial, Technical and Legal disciplines. Clearly, at this stage, the Legal costs are by far the highest budget.

5.6 Stage 5 – Design and Build

Retaining both the Commercial and Technical advisory roles during the Design & Build stages is very important. From a commercial perspective, it is imperative the contract is adhered to and any changes or variations are managed with minimal commercial impact to the structure of the scheme and / or end users.

At this stage on the project, depending on the commercial and contractual structure, there may be a need for a Project Manager and Quantity Surveyor role. The D&B risk should clearly rest with the ESCo entity, however, in some circumstances, it can be the case that the client / developer is responsible for the D&B element and the ESCo adopts the built asset. Managing the contractor is challenging and risky with regards to managing programme delays and variations.

On the basis that the D&B element is wrapped with the ESCo partner and they manage the risks, depending on the scale and complexity of the scheme, the estimated time to conclude this process is approximately 1-2 days per weeks for each of the Commercial and Technical advisor roles with an estimated budget range of £6-12k per month.

5.7 Stage 6 – Operations and Maintenance

From our experience, maintaining client Commercial advisory throughout the Operations and Maintenance period is essential to ensure the ESCo partner is delivering and maintaining the agreed Service Level Agreements (SLA's) and Key Performance Indicators (KPI's). These agreed metrics within the Contractual period of the project are the regular dip-tests to measure customer satisfaction and over efficiency and performance and that all objectives and targets set out initially in the Business Case are being met across the stakeholders.

The Commercial Advisor will have been intrinsically involved with the project from the concept stage. This continuous knowledge is priceless to a client. Whilst only a relatively light touch, the advisory role during this phase will pragmatically monitor the ESCo performance, challenge where necessary and ensure industry standards are being met with excellent customer servicing.

From time to time, during the Operations and Maintenance period there may be a need for ad-hoc Technical advisory services to challenge any discrepancies with the ESCo's approach / recommendations to planned preventative maintenance and reactive maintenance issues. It is advisable to retain a Technical advisor during this period.

The Commercial advisory role is only required on an average of 2-3 days per month. During this time, the agreed reporting templates for ESCo monitoring and reporting will be collected, reviewed, challenged, and tested. The outputs of the monthly reports will be summarised to the client with a summary on any commercial impacts of the project and returns on investment. Typically, a more detailed quarterly report will be developed for distribution with investors / governance boards.

A budget allowance for the Commercial Advisory role is £2-3k per month. Retaining a Technical Advisor is also recommended with a charge agreement on an ad-hoc basis and fixed day-rates.

5.8 Procurement Summary

The client advisory team are fundamental to the success of an ESCo partner procurement. Selecting your advisors should be carefully considered from the outset. They should have the capability, skills and demonstrable experience in taking a project from concept to operation and have the in-depth knowledge across the many disciplines.

Maintaining the advisory team is also important for consistency, which will deliver efficiencies in time and resource to effectively manage changes as the project evolves with the deep understanding of the impacts this can have across the contractual relationships and customers.

6 Summary

6.1 Summary

There is a case for a 3rd Party Heat & Power ESCo however there are a number of simple next steps to ensure an investable scheme can be progressed:

- Commercial and residential developers need to be engaged as early as possible to ensure they properly understand the long term benefits and financial implications vs the counterfactual for this scheme.
- Tesco to be engaged to understand appetite for private wire power. Experience of this type of engagement is almost always positive as there are clear CO2, CSR and financial benefits to the consumer.
- Scoping work for Energy Centre location
- Engage local AD plant operator to understand if and when a long-term Green Gas arrangement can be made
- Further design and model review to support a soft market test for ESCo procurement, Energy system needs to be designed to RIBA stage 2 and system costed before engaging ESCo suppliers/partners.

6.2 Tender Compliance

The Isle of Wight brief remit requested responses to the following two points. This report has modeled a scheme from which these respective conclusions can be drawn as set out below:

a. "***Appraise the options for third party investment in the energy systems at new development sites as part of the ESCO delivery model.***"

With an IRR of 11.52% and a NPV of £7.1m with a robust sensitivity analysis, there are options for third party investments. As a rule of thumb LAs needing to undertake a necessary project to solve a costly problem or for compliance reasons may be happy financing with a zero IRR if there's a positive NPV (meaning it pays back); an LA wanting to achieve a policy objective (with tangible and identifiable benefits for its citizens) will finance projects with an IRR of 3% and above.

An LA wanting to take the construction risk on a scheme that it wants to dispose of at a future point, will be looking for an IRR of 6% and above, that will likely create a return for the LA; to get a private investor on board an IRR of between 8 to 12% is normally required. However, given the current financial climate with ultra low interest rates (and negative commercial rates on deposits), an institution's appetite for investment at lower than standard IRRs may be higher depending on their leverage and cash on hand.

b. "Devise a procurement route to deliver a low carbon ESCO for new developments that can be used by public and private sector developers."

Please refer to Section 5.