



APSE Energy – Terrific Tuesday Tutorials – Delivery of Energy Projects

Tuesday 03 June 2025, 10:00 – 11:30



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Step-By-Step Process For The Delivery Of Energy Projects

By Alan Barber and Mike Keating

APSE Energy Associates & Directors of Salvis

Agenda



- Project journey
- Contract considerations
- Efficient routes to market
- Installation and project management



Project Stages

Process

Site wide strategy to identify high priority buildings

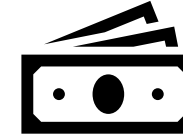
Feasibility studies

Detailed design

Installation of works on site

Post project monitoring

Available Funding



LCSF

LCSF

LCSF & PSDS

PSDS

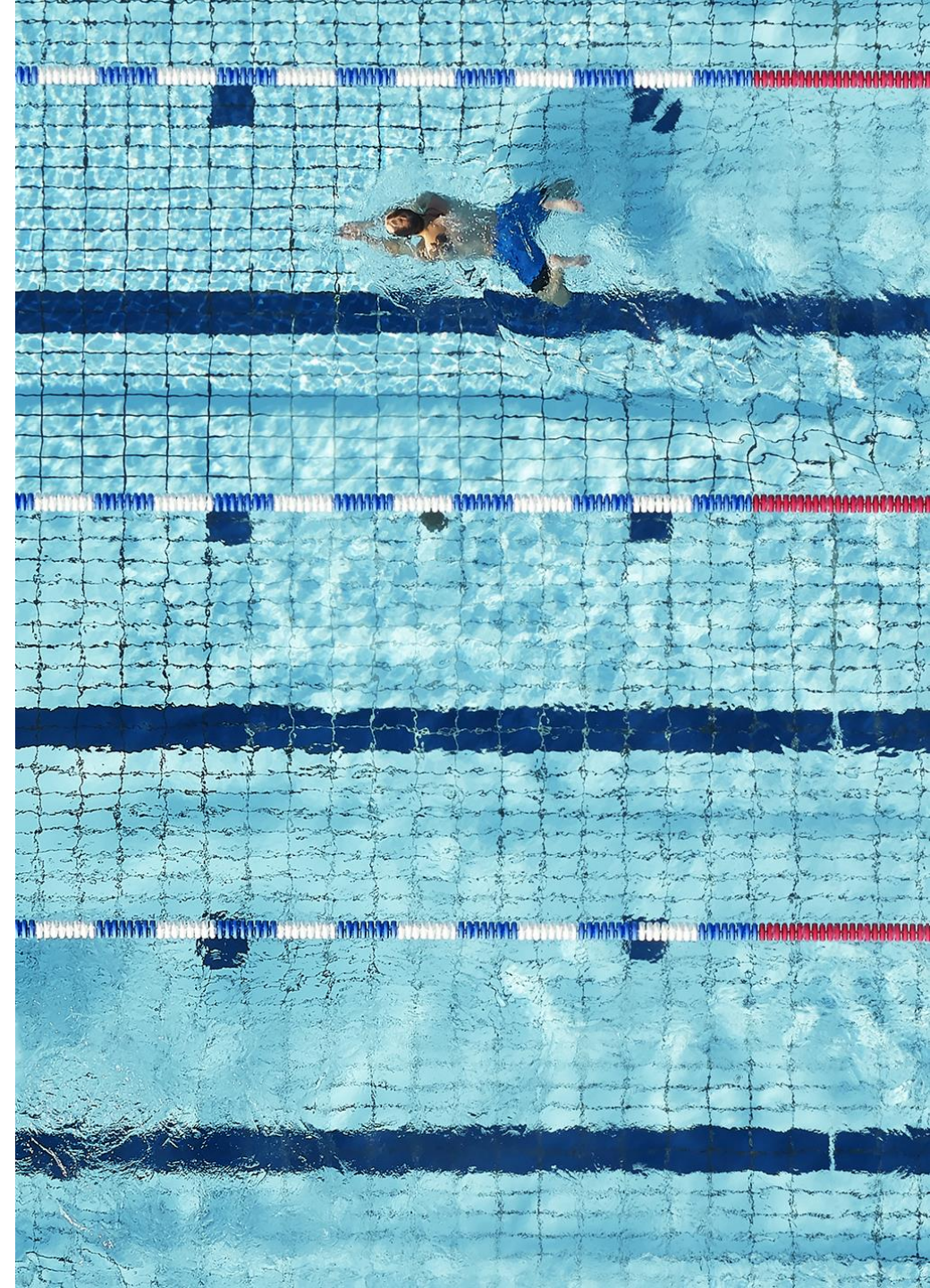
Not currently funded

Proposed Projects

Leisure Centre Example



Item	Recommendation	Annual Electricity Savings (kWh)	Annual Gas Savings (kWh)	Annual Saving (£)	Capital Cost (£)	Payback in Years	Carbon Saving (tCO ₂) per year
1a	Triple Glazing		74,771	£4,120	£137,730	33.4	13.7
1b	External Wall Insulation		22,739	£1,253	£191,280	152.7	4.2
2a	ASHP (Space Heating)	-166,681	933,400	-£25,180	£1,840,500	NA	136.2
2b	HT-ASHP (DHW)	-10,779	35,113	-£3,020	£258,500	NA	4.2
3	130.8 kWp Solar PV (used on site)	93,631	-	£43,035	£160,900	3.7	23.0
4	LED lighting	24,872	-	£11,432	£37,200	3.3	5.2
	Total	-41,712	1,066,023	£32,502	£2,626,110		186.4



Costing Detail: ASHP



Item	Description	Costs
1	Preliminaries	£19,000
2	ASHP and Plant Room	
	Construction Compound	£79,000
	Heating Air Source Heat Pump(s)	£239,000
	Acoustic Attenuation	£29,000
	Buffer Vessel(s)	£8,000
	Heating Primary Pump(s)	£26,000
	Heating Secondary Pump(s)	£32,000
	Pressurisation Unit(s) & Expansion Vessel(s)	£5,000
	Plant Room Pipework, Valves, & Ancillaries	£55,000
	Automatic Controls, Control Panel & BMS	£60,000
	Electrical Works	£24,000
	Interconnecting Pipework to Plant Room	£10,000
	Builders' Work	£27,000

3	HEATING DISTRIBUTION	
	Removal of Existing Building Plant & Equipment	£27,000
	Heat Emitters (Radiators)	£32,000
	Distribution Pipework	£74,000
	New AHU Heating Coils	£20,000
	Heat Exchangers for Pools	£28,000
4	Upgrading Main Incoming Electrical Supply	£122,810
5	Testing & Commissioning	£10,000
	Demonstration & Training	£2,000
	Record Information	£3,500
6	Contingency Sum	£94,000
7	Works Budget Total	£1,026,310
8	Design Fees	£93,000
	Project Management Fees	£47,000
9	Project Budget Total	£1,166,310

Contract Considerations

Pre-Designed

- Greater technical resources required pre-contract
- Investigation and design time required
- More control over the final design solution & greater confidence when entering into contract
- Greater financial certainty
- More design risk as design responsibility stays with the client or client's consultant

Contractor Design and Build

- Technical resources required pre-contract to produce the Employers Requirement/ Performance Spec
- Can be procured quicker
- Technical solution still to be fully detailed
- Budget risk if solution is not clearly defined
- Less design risk as design liability remains with the contractor
- Technical resources required to evaluate the contractor's design



Contract Performance Requirements



What System Performance Requirements are going to be included in the contract?

None	Contract is set up as an installation only project
KPIs	Energy, carbon, and financial saving targets Project delivery programme Success criteria
Guaranteed Savings	Guaranteed realisation of carbon reduction targets Financial incentives. Penalties for non-performance
Extended Handover	Monitoring, recommissioning, reporting requirements Soft Landings



Types of Contract



JCT

Minor Works (MW)

Minor Works with Contractor Design (MWD)

Design and Build (DB)

Intermediate (IC)

Intermediate with Contractor Design (ICD)

Standard (SBC)

Others

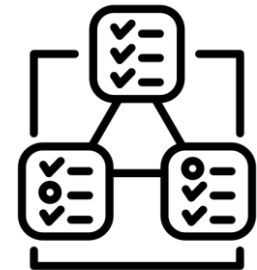
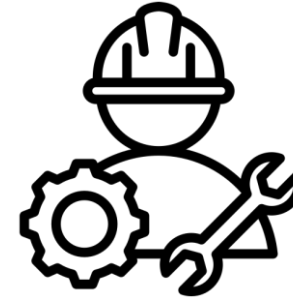
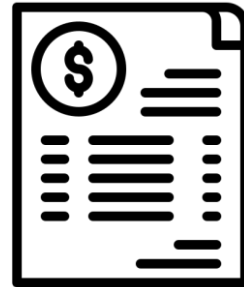
New Engineering Contract (NEC)

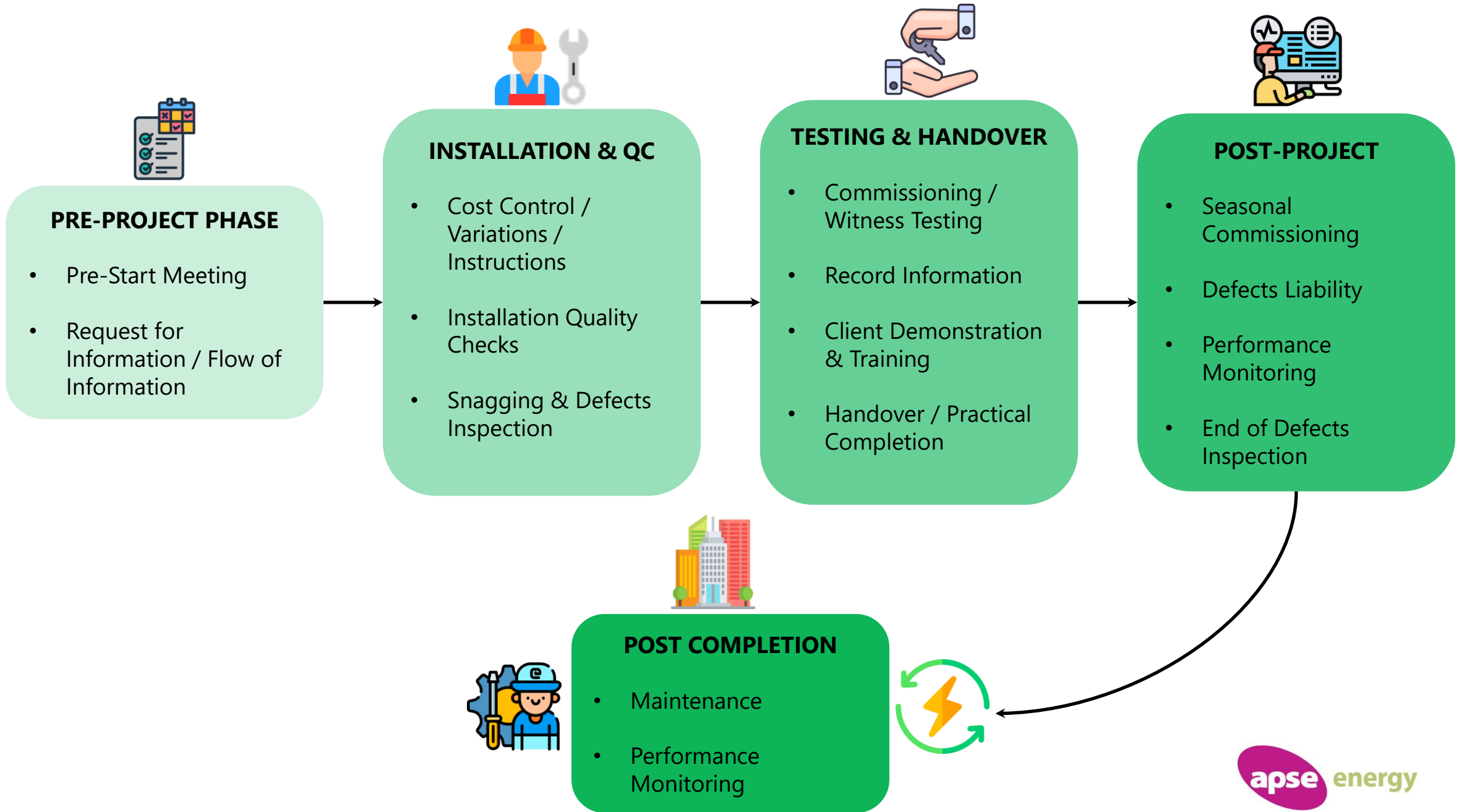
Time and Material

Guaranteed Maximum Price

Routes to Market

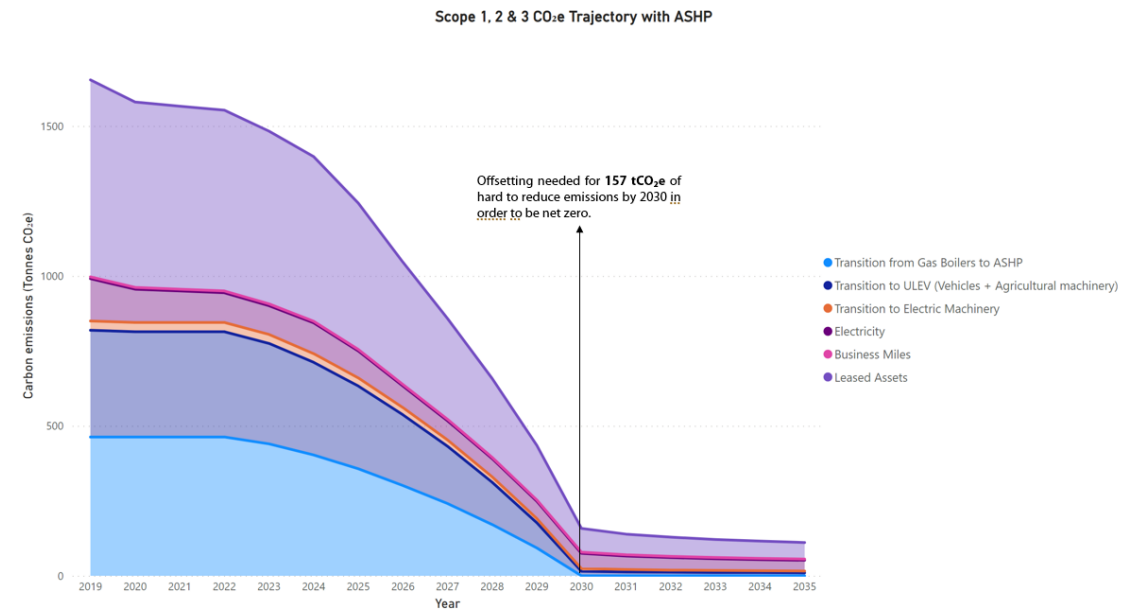
- Quotes
- Tender
- Framework
 - Established Frameworks
 - Client Framework
 - Direct Award
 - Mini Competition
- Maintenance Contractor
- Energy Performance Contract
- Direct Award





The Net Zero Journey Summary

- Get your **Data** & estate in order
- Calculate **Baseline Emissions** & **Set Net Zero Targets**
- Do a **Net Zero Trajectory**
- Carry out **on-site Energy Audits**
- **Engineering Design**
- Procurement
- Installation
- **Measure & Optimise** for *Continuous Improvement*



Guide to Historic Buildings



Improving Historic Buildings with reference to 'Adapting Historic Buildings for Energy and Carbon Efficiency' (Historic England)



Contact Details



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Next Steps

Ready to take action?

Contact Phil Brennan for further details on delivery of projects

Phil.Brennan@apse.org.uk



GB 11409



GB 11132



GB 14074

1.

Other councils who deliver project management in house - have you found your projects to be cost effective?

2.

If there was modelling used as part of the project planning stage, was this found to be accurate on completion?
and if this is relevant for this webinar..... with housing projects, what engagement was used and were there any refusals?
was this then accepted and the property left in its current state, or were the works enforced? if so how were they enforced?

3.

Making tender process less onerous for suppliers and tips to simplify tender evaluation criteria and questions - to maximise rate of returns/
submissions;

Use of Frameworks to speed up procurement timeframe.

Use of Lots to speed up procurement timeframes.

Tips for managing contractors when could be responsibility of more than one team in council to be involved e.g. Energy team/ Estates team

Are many councils using or plan to procure Energy Performance Contracts?

4.

Could you please lay out a stand order of operations for developing a project, for example, should you get a system design in place first so then you can take it to planning?

When should you approach the DNO?

What is the first step?

5.

Do other member authorities have allocated revenue budgets to cover staffing and professional services, feasibility studies and surveys, monitoring and verification, project delivery costs, compliance and reporting, Behavioural change campaigns, Insurance and legal?

If so, how much, on average P.A.

With growing pressures on already overstretched budgets, we are finding it increasingly difficult to secure the required revenue subsequently slowing progress. I would be interested to hear how colleagues in other areas secure this funding, business cases etc.



Upcoming APSE Energy events

APSE Energy Webinar – ‘Cleaner council, greener future’

Tuesday 10 June 2025, 10:00 – 3:30

Venue – Galgorm Hotel, Antrim

APSE Energy's Terrific Tuesday Tutorials – ‘Decarbonisation of Heritage Buildings’

Tuesday 24 June 2025, 10:00 – 11:30

Venue – MS Teams

APSE Energy Webinar – ‘Pathways to net zero’

Thursday 3 July 2025, 10:00 – 2:00

Venue – MS Teams

APSE Energy Summit – ‘Energy and net zero – policies, projects, perceptions and progress’

Tuesday 21 and Wednesday 22 October 2025

Venue – Marriott Hotel, Glasgow