# **Appendix**

# 1. List of key sites in an energy performance contract with Vital Energi

1.Guildhall Complex	8. City of London School	14. London Metropolitan Archives
2. Barbican Arts Centre	9. City of London School for Girls	15. Tower Hill Car Park
3. London Central Market	10. Walbrook Wharf	
(Smithfield)	Cleansing Depot	
4. Central Criminal Court	11. Tower Bridge	
5. New Spitalfields Market	12. Mansion House	
6.City of London Freemen's	13. GSMD (inc. Milton	
School	Court and Sundial Court)	
7. Billingsgate Market		

### 2. Centre of Excellence roles

Centre of Excellence roles					
Sustainable Investment Property Specialist	Heat Decarbonisation Engineering Support				
- Arcadis (in place)	- Arcadis (in place)				
Resilience and Sustainable Design –	Energy Project Services (Housing) – Etude				
Arcadis (in place)	(in place)				
<b>Building Management Systems Operations</b>	Monitoring and Targeting – Team Energy				
- Schneider (in place)	Auditing (in place)				

# 3. Whole Life Carbon Assessments – Pilot projects

	Project Name	Areas (m²)	RIBA Stage	Project Type
1	15-17 Eldon Street & 1st-5th/6 Broad Street Place	10,000	RIBA 3	Office
2	Brewery Road - Refurbishment & Extension	3,931	RIBA 5	Office
3	Finsbury Garden Pavilion and Landscaping	600	RIBA 4	New Build
4	CoL Junior School Expansion	2,400	RIBA 4	School
5	COLPAI - CoL Primary Academy & Islington	8,500	RIBA 5	School

### 4.Key Risks

Risk	Mitigation
Delays in securing resource impacts project delivery.	Review of Centre of Excellence completed to address this issue.  Use of flexible frameworks for Project Management resource.  Utilising Lead Consultancy with backup resource available.
Funding gap emerges following investment grade proposals.	Existing funding allocation to be complemented with grant funding applications. Investigate energy performance contracts option to minimise capital investment.
Carbon grid factors adversely affected.	Keep in review BEIS grid factors and their impact on reach the 2026/27 Targets. Use PPA benefit and report Market based emissions as well as location based.
Major projects/programmes:  The proposed further review of operational properties as part of the MTFP and Net Zero Budgeting.	Major programmes and projects may impact the decisions on CAS interventions or reduce the payback period if a decision is made to dispose or refurbish a building. In all cases full consideration should be made within the decision-making process. Additional carbon emitted from new developments limited by NZC design standards introduced and any subsequent asset disposals.

#### 5. Indicative Project delivery timescales

	jeet delivery timescales									
Site	Project		Outline Design	IPG final	GW3/5 approval	Enter contract	Permissi ons Granted	Design Approve d	Install Start	Install Complet e
	Pumps upgrades	Complete	Complete	Jun-23	Jun-23	Jul-23	N/A	Jul-23	Aug-23	Aug-23
	Ventilation EC Fans	Complete	Complete	Jun-23	Jun-23	Jul-23	N/A	Aug-23	Sep-23	Nov-23
Barbican Arts	Lighting - Back of House	Complete	Complete	Jun-23	Jun-23	Jul-23	N/A	Aug-23	Sep-23	Nov-23
Centre	Specialist Lighting	TBC	TBC	TBC	TBC	TBC	TBC	TBC	TBC	TBC
	Lighting upgrades	Complete	Complete	Jun-23	Jun-23	Jul-23	N/A	Aug-23	Sep-23	Nov-23
Guildhall	GYE EC Ventilation Fans	TBC	TBC	TBC	TBC	TBC	TBC	TBC	TBC	TBC
Tower Hill Coach & Car Park	Lighting and ventilation	Complete	Complete	May-23	May-22	Jun-23	Jul-23	Aug-23	Sep-23	Nov-23
Multiple	BEMS Optimisation	Jun-23	Jun-23	Jul-23	Aug-23	Sep-23	N/A	Dec-23	Dec-23	Jun-24
London Metropolitan Archives	LMA Solar PV Range of M&E upgrades, incl.	Apr-23	Apr-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Jan-24	Mar-24
Mansion Hse	ASHP	Jun-23	Jul-23	Jul-23	Jul-23	Aug-23	Oct-23	Dec-23	Feb-24	May-24
Epping Forest - Warren	Biomass boiler, pumps, lighting	Jun-23	Jul-23	Jul-23	Jul-23	Aug-23	Oct-23	Dec-23	Feb-24	May-24
Walbrook Warf	Range of M&E upgrades, incl. ASHP	Jun-23	Jul-23	Jul-23	Jul-23	Aug-23	Oct-23	Dec-23	Feb-24	May-24
3 no. Open Spaces s	Solar PV and other measures	Jul-23	Aug-23	Aug-23	Sep-23	Oct-23	Dec-23	Dec-23	Feb-24	May-24
GSMD (Silk St & Milton Ct)	Range of M&E upgrades	TBC	TBC	TBC	TBC	TBC	TBC	TBC	TBC	TBC

# 6. Anticipated energy and cost savings from energy conservation measures implemented/planned

Project	Total Energy savings	Annual cost savings (23/24 energy prices)	
	kWh/yr	£	
PSDS Programme			
PSDS RA-W Barbican Arts Centre	2,838,978	£443,518	
PSDS RA-W Silk Street (GSMD)	644,064	£105,848	
PSDS RA-W Milton Court (GSMD)	540,326	£95,884	
PSDS RA-W Sundial Court (GSMD)	257,836	£53,196	
PSDS RA-W John Hossier Anexe	20,057	£4,814	
PSDS RA-W Guildhall Complex	584,700	£122,929	
PSDS Guildhall Ventilation	2,445,371	£341,040	
PSDS Guildhall Chilled Water Mods	160,551	£38,532	
PSDS LMA Ventilation	62,410	£14,978	
TOTAL	7,554,292	£1,220,738	

### 7. CAS Phase 1 Capital Programme – Indicative Cost, Energy and CO<sub>2</sub> Savings

Site	Project	Energy savings (kWh/yr)	Energy savings (£/yr)	2027 Projected carbon savings (tCO2e/yr)
	Pumps upgrades	434,717	7,928	43
	Ventilation EC Fans	206,123	49,470	28
Barbican Arts	Lighting - Back of House	152,227	36,534	21
Centre	Specialist Lighting	87,185	20,924	18
	Lighting upgrades	130,677	31,363	32
Guildhall	GYE EC Ventilation Fans	60,585	14,540	67
Tower Hill Coach &				
Car Park	Lighting and ventilation	230,724	55,374	5
Multiple	BEMS Optimisation	395,334	53,699	23
London Metropolitan Archives	LMA Solar PV	39,511	9,483	12
Mansion Hse	Range of M&E upgrades, incl. ASHP	999,411	99,026	8
Epping Forest - Warren	Biomass boiler, pumps, lighting	26,723	11,120	180
Walbrook Warf	Range of M&E upgrades, incl. ASHP	375,476	42,768	20
	Solar PV and other measures	112,134	26,912	66
GSMD (Silk St & Milton Ct)	Range of M&E upgrades	166,411	39,939	15

Total	3,417,238	499,079	538
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#### 7. Waterfall chart showing the impact of interventions (including grid decarbonisation) on achieving the 2027 Scope 1 & 2 target

