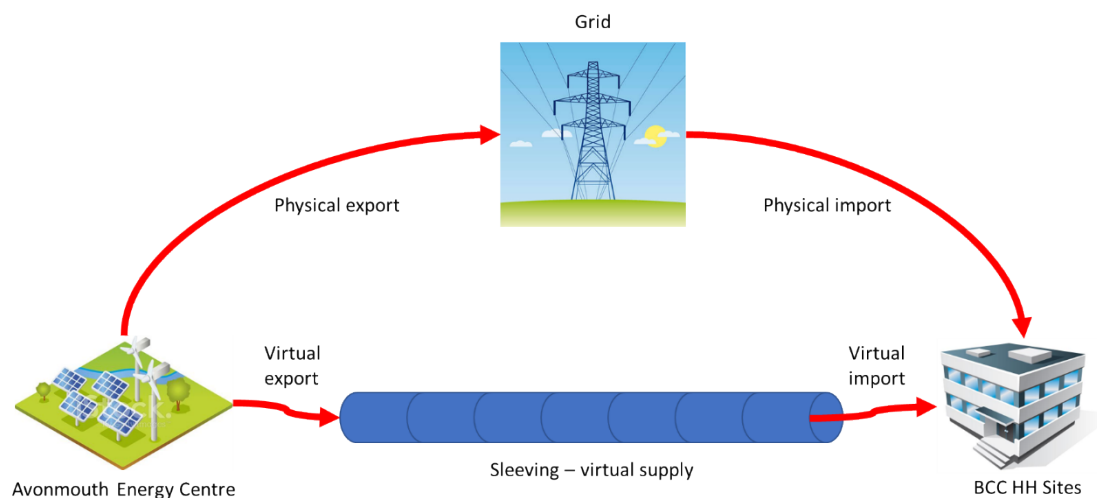


## Electricity sleeving and supply extensions – Appendix A

### Background

Prior to April 2022, BCC gas and electricity supplies were contracted on a fixed price basis. With the increased volatility of the energy market, this approach exposed the Council to the risk of significant price changes on contract renewal, and a risk of locking in Council energy supplies at extraordinarily high prices. The former Energy Service<sup>1</sup> recommended changes to the procurement strategy for gas and electricity, moving to flexible procurement for most supplies, whereby the price is set by multiple purchasing decisions, rather than the market price on a single day.

The Energy Service had also been developing proposals to ‘sleeve’ electricity from early 2021. Sleeving involves the virtual supply of zero-carbon electricity from renewable energy systems to certain specified sites. These are not directly connected to the renewable energy system, instead each unit of power exported from the renewable energy system is deemed to be the same as one entering a nominated building. Although the electricity is physically routed via the grid, a virtual ‘sleeved’ supply can be set up so that demand at each site is matched to generation:



Initially the proposal was to sleeve electricity from the Council’s own renewable generation assets to BCC sites, with the intention of looking to expand this to a wider pool of local renewable energy generation. Attempts to tender for an operator of the sleeving arrangement in early 2022 were severely impacted by the unprecedented turmoil in the energy markets at the time, so a compromise arrangement was agreed with the [Laser](#) Public Sector Buying Organisation. Laser were at that point also providing flexible contracts for BCC gas and small electricity supplies. The compromise agreement enabled sleeving between the Council’s renewable energy generation assets and its largest electricity using sites (172 ‘Half-Hourly’ sites<sup>2</sup>), using Laser’s Framework Power Purchase Agreement (Sleeved PPA).

The Sleeved PPA operates as a pair of linked contracts, one covering the import of electricity to BCC sites and the other covering the export of electricity from BCC’s renewable generation assets<sup>3</sup>. Both import and export prices track monthly market average prices, with the intent of achieving a cost neutral electricity supply (bought and sold at the same price). Differences in demand and generation timing mean that a completely cost neutral supply has not been possible, but the Council has benefitted from electricity being supplied at a low price. Based on average generation it was anticipated that there would be a small shortfall between electricity our assets are generating and demand from Council sites (c.15%) and the Sleeved PPA provides for a top-up from the grid to cover this gap. The Sleeved PPA was intended as an interim bridging arrangement until a wider Sleeved Pool model could be developed, in conjunction with the City Leap Partner once they were appointed.

Electricity at our lower demand sites and the Council’s streetlighting are provided through separate contracts with Laser/nPower.

<sup>1</sup> Energy supply responsibilities of the former Energy Service have now been absorbed in to the BCC City Leap Client Function within the Property Assets & Infrastructure Directorate.

<sup>2</sup> Profile Class 00 sites, ie sites with more than 100kW demand that are required to be measured in half-hourly intervals for grid settlement purposes

<sup>3</sup> Two 2.5MW onshore wind turbines and a 1.8MW solar farm, located at the Avonmouth Energy Centre.

The current contracting position for BCC electricity supplies is:

- Large electricity (half-hourly supplies) – Sleeved PPA (Laser/TotalEnergies)
- Small electricity (non-half-hourly supplies) – Laser/nPower Flexible procurement (Purchase in Advance)<sup>4</sup>
- Streetlighting (unmetered supply) – Laser/nPower Flexible procurement (Purchase in Advance)

These contracts all expire on 30<sup>th</sup> September 2023.

## Options

In order to maintain an electricity supply to BCC sites at competitive rates, new contracts are required to be in place with effect from October 2023<sup>5</sup>. The following four approaches have been considered:

**End the Sleeving arrangement.** If the Council does not renew or extend the Sleeved PPA after it expires, the sleeving arrangements would end. Instead, the Council would revert to a standard electricity supply arrangement, initially from the [Laser Electricity flexible framework](#), which runs to September 2024 (12 months extension<sup>6</sup>), and then re-tender for a new supply after that. This would mean that all of BCC's electricity supply would be on a Flexible procurement basis. This option would still reduce BCC exposure to market prices (due to the flexible procurement), but would compromise on delivering a low-cost low-carbon<sup>7</sup> electricity supply. This would also involve setting up an export-only PPA for the sale of electricity still being generated by the Council's renewable assets. An export-only arrangement would achieve a lower price, so would reduce the income from these assets. A move away from sleeving would significantly reduce support for the City Leap Smart Local Energy System, degrading City-wide decarbonisation KPIs. BCC is already gaining a positive reputation for its innovative supply arrangements, and abandoning the sleeved pool arrangements now would cause significant reputational damage. This option is not recommended.

**6 month extension of existing Sleeved PPA.** Early discussions with the newly appointed City Leap Partner have indicated that a full Sleeved Pool arrangement (which would allow significantly more generation and significantly more demand to be accommodated) cannot be set up before the current supply contracts end, so an extension to all the current BCC contracts would be required. This option would have gone for the shortest viable extension, but it is not thought likely that the Sleeved Pool arrangement can be delivered by April 24, so this approach is not viable.

**Extend Sleeved PPA by 12-18 months with a limited expansion.** The current sleeving arrangement has allowed BCC to introduce a degree of sleeving, but does have some limitations. Discussions with Laser and their appointed supplier have indicated that some changes could be made to the current Sleeved PPA arrangement if a longer extension was being considered. In particular, there could be scope for additional generation to be included in the sleeving, which in turn would allow limited additional BCC electricity demand to be met from other local zero-carbon electricity generation. This depends on when additional generation might be available to incorporate into the sleeving arrangement. BCC has been in discussion with local renewable energy groups, and options are also being considered with City Leap to expand BCC's Avonmouth energy centre, with additional solar generation installed there. A modified Sleeved PPA with some additional generation from these sources could allow additional targeted elements of the Council's electricity supply to be moved from current arrangements to the Sleeved PPA, increasing demand met by zero carbon electricity.

**Extend Sleeved PPA by 18 months with full expansion.** The current Sleeved PPA arrangement only incorporates the larger (half-hourly) BCC electricity supplies. With sufficient additional generation, larger elements of the Council's electricity demand could be incorporated, but these have different metering arrangements. During the Council's tenders for a sleeving arrangement certain suppliers expressed doubt over whether unmetered supplies (Streetlighting) and small sites (non-Half-Hourly) could be incorporated in to sleeving. Laser's own supplier (TotalEnergies) is comfortable with incorporating unmetered supplies (streetlighting), but would require a minimum of a 12 month contract in order to include BCC's streetlighting supply. But to meet additional demand from

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<sup>4</sup> A 'Purchase in Advance' strategy spreads the purchase of electricity required over the 12 months preceding a supply period. The price is effectively fixed at the contract start, but the risk has been spread over multiple purchasing decisions.

<sup>5</sup> If no action at all is taken, BCC supplies would move on to considerably more expensive 'deemed' rates.

<sup>6</sup> This would include a 12-month extension of the Import contract in the linked Sleeving contracts

<sup>7</sup> The Laser contracts are not 100% grid renewable supplies – this would need to be addressed in any re-tender

streetlighting, significant additional generation would also be required<sup>8</sup>, which is thought unlikely to be available until April 2025 (so would require a contract term ending March 2025).

### Cost envelopes

The value of the proposed contracts comprises two elements, the gross cost charged to the Council for the imported electricity supply, and the net cost after taking in to account the value of export sales.

For the three viable options, these would be:

Option	Gross Cost	Net Cost	Comments
End sleeving, revert to conventional contracting	£17.4M	£15.8M	For comparison
18-month extension all contracts	£18.3M	£15.4M	
12-month extension for sleeving, 18-month extension for remaining contracts	£15.1M	£13.2M	Preferred option <sup>9</sup>

### Recommended option

Overall, the recommended approach is to extend the current sleeving arrangement with Laser/TotalEnergies by 12 months (plus an option for six month contingency), with some improvements to the workings of this arrangement and a limited increase in generation and demand, in anticipation of the Sleeved Pool being available by October 2024. The contract value for this option would be £15M gross, £13M net of export sales. However, the Decision Pathway paper is requesting £18M gross/£15M net to include approval for six months contingency on the sleeving contract, should this be required.

It is anticipated that the initial Sleeved Pool would not have sufficient generation when it first goes live to accommodate all BCC electricity requirements, so the remaining contracts (streetlighting and NHH smaller sites) should be extended by 18 months, in anticipation of joining the Sleeved Pool from April 2025. This approach is also considered less risky as it will allow the novel arrangements of the Sleeved Pool to be limited to an initially small number of sites (<200), allowing the processes to bed down before the generation and demand sides are expanded.

### Sleeved Pool

The intention is that any extension would be followed by a migration to the Sleeved Pool. This mechanism, which is now being developed in conjunction with the City Leap Partner, would create a virtual pool of locally generated zero-carbon electricity. BCC's own generation, along with City Leap, community groups, and other local generators, would supply electricity in to this pool, at an agreed export price. BCC and (in time) other customers would then draw electricity from the pool at an agreed Pool price. Current discussions centre on the contractual mechanisms required to set up the Pool, and in mapping out the available generation including new City Leap generation.

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<sup>8</sup> Streetlighting electricity demand is falling as a result of energy efficiency initiatives under way, but is still a significant part of BCC demand

<sup>9</sup> Note that this does not include costs for the HH sites from Oct 24 – Mar 25, this would be included in a separate approval to migrate these sites to the Sleeved Pool

**Contract Timelines (subject to agreement, subject to contract)**

Group	Summer 23 (Apr 23 – Sept 23) <i>(already contracted)</i>	Winter 23 (Oct 23 – Mar 24)	Summer 24 (Apr 24 – Sept 24)	Winter 24 (Oct 24 - Mar 25)	Summer 25 (Apr 25 – Sept 25)
Large (HH)	<i>Laser/TotalEnergies Sleeved PPA</i>	Modified Laser/TotalEnergies Sleeved PPA (12 months) Some additional generation & demand		Sleeved Pool (Oct 24)	
Small (NHH)	<i>Laser/nPower Flex</i>	<i>Laser/nPower Flex 18-month extension. EVCP &amp; larger NHH migrated to Sleeved PPA</i>			Sleeved Pool (Apr 25)
Streetlighting (UMS)	<i>Laser/nPower Flex</i>	<i>Laser/nPower Flex 18-month extension</i>			
Clients	<i>Sleeved PPA/Laser Flex/AFRS</i>	Sleeved PPA/Laser Flex 18-month extension AFRS incorporation? (tbc)			
Generation	<i>BCC only</i>	BCC renewables, Community solar			BCC renewables, Community wind and solar systems, City Leap CHP & new renewables