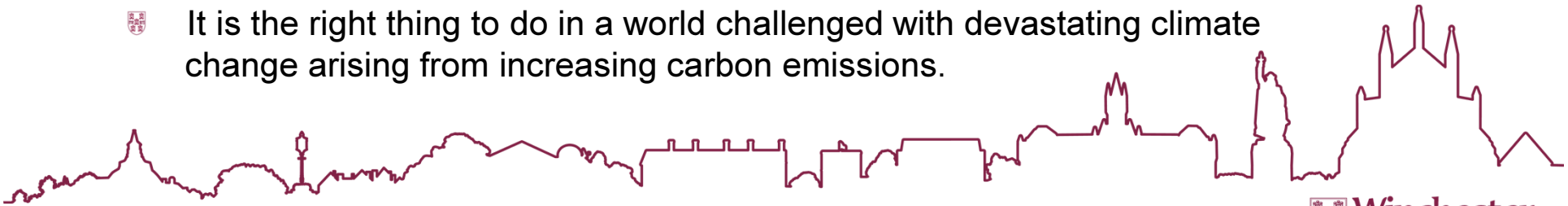
CAB3206
Options Appraisal for Delivery of an Electric Vehicle Charging Network

Winchester City Council

Background

Why are we delivery an EV infrastructure?

- It is a complimentary measure in the Council's Air Quality Action Plan adopted in 2017
- Having an EV network recognizes LA leadership role in seeding the uptake in EV technology in our community
- It supports the City Council's carbon reduction aspirations
- It seeks to support central government's 'Road to Zero' Strategy
  - End the sale of new conventional fueled vehicles by 2040
  - Almost all vehicles on the road will zero emission by 2050
- Winchester District socio economically receptive to EV uptake
- It is the right thing to do in a world challenged with devastating climate change arising from increasing carbon emissions.



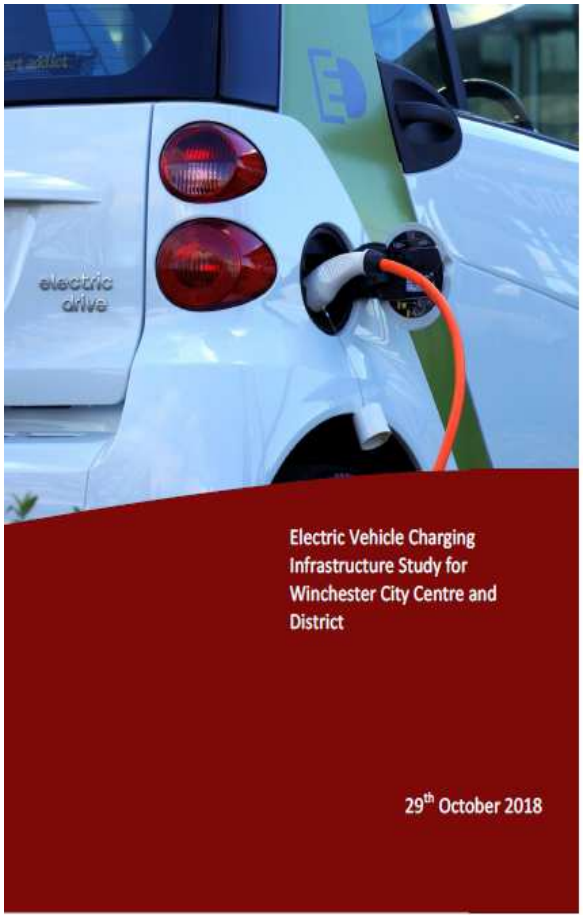
EV STRATEGY

- Horizon Power and Energy commissioned to write a strategy Oct 2018.

- Remit, evidence based study to determine EV need for 5 and 10 year term on:
  - WCC public access estate (car parks).
  - Small pilot study for on street EV

- Recommended the following:
  - Taxi Charge Points 4 Bays (2 x 50kW CHAdeMO / CCS / Type 2 Chargers)
  - Winchester City Car Parks 25 Bays (23 x 7KW/20kW Type 2 Un-tethered Chargers)
  - Park and Ride Car Parks 13 Bays (7 x 7kW Type 2 Un-tethered Chargers)
  - Rural and Town Car Parks 12 Bays (11 x 7/11KW Type 2 Un-tethered Chargers)
  - On Street Parking in AQMA 3 Bays (3 x 3kW Type 2 Un-tethered Pilot Project Installs)
  - **Total 49 chargers**

- Est cost £250k (included 10% design & mgt fee)



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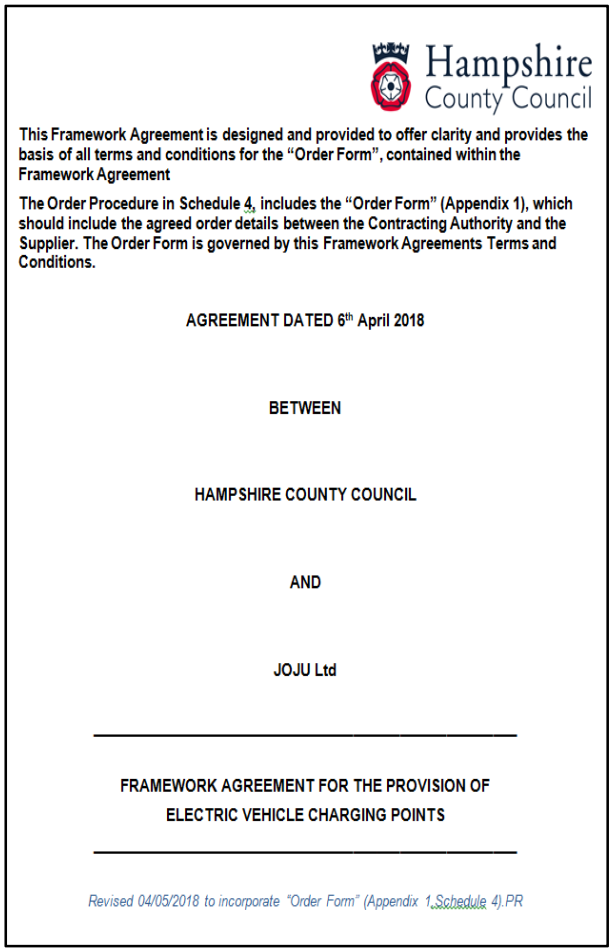
Procurement

Central Southern Regional Framework

- Framework between HCC and JOJU Ltd
- Allows access to all public sector bodies in the south counties Hampshire, Sussex, Surrey, Berkshire, Oxfordshire, Wiltshire, Dorset and Devon.
- Many LA's (including Soton) have signed up to the framework.
- JoJu undertook **2** feasibility studies for WCC for £1 ☺
  - 1 study to reflect the WCC EV Strategy
  - 1 study based on EV study but with JoJu recommendations



Hampshire County Council

This Framework Agreement is designed and provided to offer clarity and provides the basis of all terms and conditions for the "Order Form", contained within the Framework Agreement

The Order Procedure in Schedule 4, includes the "Order Form" (Appendix 1), which should include the agreed order details between the Contracting Authority and the Supplier. The Order Form is governed by this Framework Agreements Terms and Conditions.

AGREEMENT DATED 6th April 2018

BETWEEN

HAMPSHIRE COUNTY COUNCIL

AND

JOJU Ltd

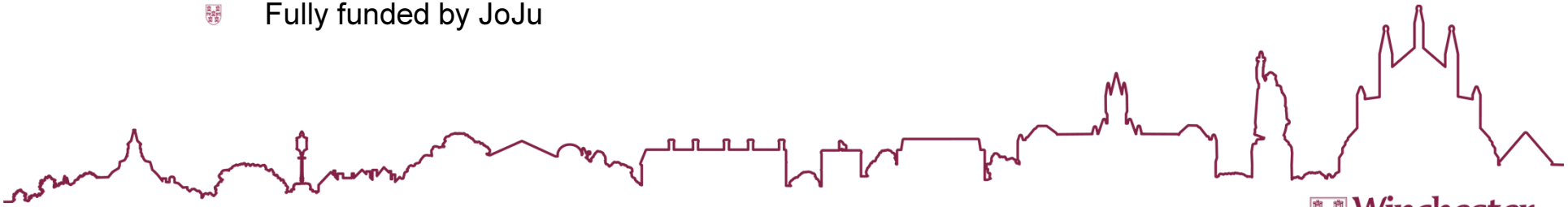
FRAMEWORK AGREEMENT FOR THE PROVISION OF ELECTRIC VEHICLE CHARGING POINTS

Revised 04/05/2018 to incorporate "Order Form" (Appendix 1 Schedule 4) PR

Winchester City Council

JoJu Feasibility Studies

- Feasibility Studies considered each location identified in the strategy and assessed its viability taking into account:
  - District Network Operator connection costs
  - EV hardware capital and installation costs
  - Repair/Maintenance/Replacement costs
  - Back office costs
- And assessed these ‘costs’ with influencers on likely return on investment:
  - Estimated usage in charging sessions and thereby electricity use
  - Local Parking provisions
  - Property profile in locality i.e. amount of off street parking
- 3 ‘options’ requested
  - Fully funded by WCC
  - Co funded by WCC to achieve a 60/40 profit share for fully funded sites and 50/50 profit share for co funded only sites
  - Fully funded by JoJu



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JoJu Feasibility Studies

EVCP Working Group convened to appraise the 2 studies and select a favoured option. (explain membership)

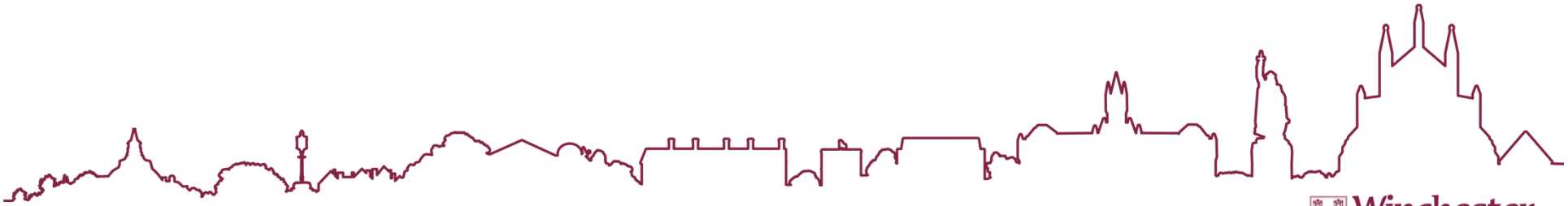
Study 1: Winchester EVCP Strategy

- The WCC EVCP Strategy recommended 49 Chargers of varying ratings according to the location's parking profile.

- Recommended the following:

Taxi Charge Points	2 x 50kW CHAdeMO / CCS / Type 2 Chargers
Winchester City Car Parks	23 x 7KW/20kW Type 2 Un-tethered Chargers
Park and Ride Car Parks	7 x 7kW Type 2 Un-tethered Chargers
Rural and Town Car Parks	11 x 7/11KW Type 2 Un-tethered Chargers
On Street Parking in AQMA	3 x 3kW Type 2 Un-tethered Pilot Project Installs

- JoJu estimated that if WCC were to fully fund this network it would cost £288,653 at the end of year 1 after which it would have to pay for 'on costs'



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JoJu Feasibility Studies

Study 2 – JoJu Proposal

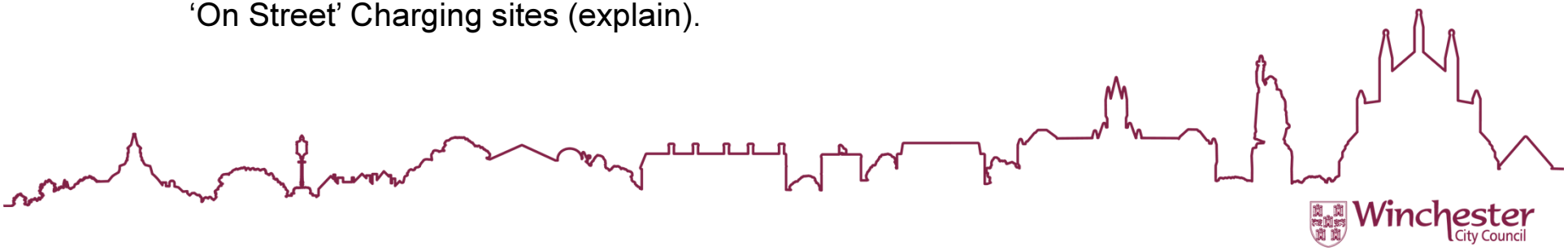
- Instead of adopting the WCC EVCP Strategy of deploying 49 Chargers of varying ratings according to the location's parking profile, JoJu's 2nd study recommended a consistent infrastructure using 36 higher rating 22kWh 'fast' chargers across the network plus 2 Rapid Chargers, at a total cost of Why?

- JoJu's options takes a longer term view.

  - Main costs of installation are in subterranean cabling;
  - In installing a higher wattage/rating cabling infrastructure which supports 22kWh chargers and better meet future demand;
  - JoJu expects EV demand to pick up quickly and this will enable additional chargers to be added cheaply, without compromising charge times.
  - Maintains EV customer confidence.

- The group agreed to favour the JoJu proposal for these reasons and because only 3 sites were considered 'non fundable' as opposed to 8 sites under WCC's strategy (see next slide).

- It was also agreed to exclude the P&R sites, the Leisure Centre and 'On Street' Charging sites (explain).



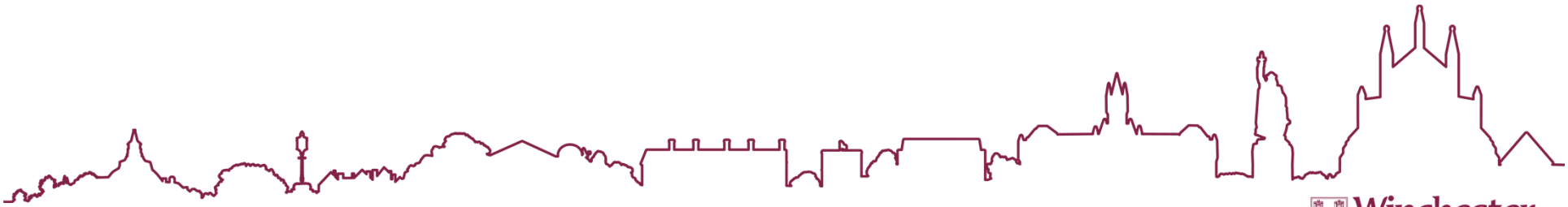
JoJu Feasibility Studies

WCC EVCP Strategy

Location	Car Park	EVCP Rating	No EVCPs	Funded
Winchester	Coach Park	50kWh	1	
Winchester	Guildhall Area	50kWh	1	
Winchester	St Peters	7kWh	2	
Winchester	Chesil	7kWh	4	
Winchester	Colebrook Street	7kWh	1	
Winchester	Tower Street	7kWh	5	
Winchester	Middle Brook Street	7kWh	1	
Winchester	The Brooks	7kWh	2	
Winchester	Friargate	7kWh	3	
Winchester	Worthy Lane	7kWh	3	
Bishops Waltham	Basingwell Street	7kWh/11kWh	2	
Bishops Waltham	Lower Lane	7kWh/11kWh	1	
Denmead	Kidmore Lane	7kWh/11kWh	1	
Wickham	Wickham Square	7kWh/11kWh	1	
Wickham	Wickham Station	7kWh/11kWh	1	
Alresford	Arlebury Park	7kWh/11kWh	1	
Alresford	Alresford Station	7kWh	2	
Alresford	Perins	7kWh/11kWh	1	
Harestock	Priors Dean Road	7kWh/11kWh	1	
			37	

JoJu Proposal

Location	Car Park	EVCP Rating	No EVCPs	Funded
Winchester	Coach Park	50kWh	1	
Winchester	Guildhall Area	50kWh	1	
Winchester	St Peters	22kWh	2	
Winchester	Chesil	22kWh	2	
Winchester	Colebrook Street	22kWh	2	
Winchester	Tower Street	22kWh	2	
Winchester	Middle Brook	22kWh	2	
Winchester	The Brooks	22kWh	2	
Winchester	Friarsgate	22kWh	2	
Winchester	Worthy Lane	22kWh	2	
Bishops Waltham	Basingwell Street	22kWh	2	
Bishops Waltham	Lower Lane	22kWh	2	
Denmead	Kidmore Lane	22kWh	2	
Wickham	Wickham Square	22kWh	2	
Wickham	Wickham Station	22kWh	2	
Alresford	Arlebury Park	22kWh	2	
Alresford	Alresford Station	22kWh	2	
Alresford	Perins School	22kWh	2	
Harestock	Priors Dean Road	22kWh	2	
			36	



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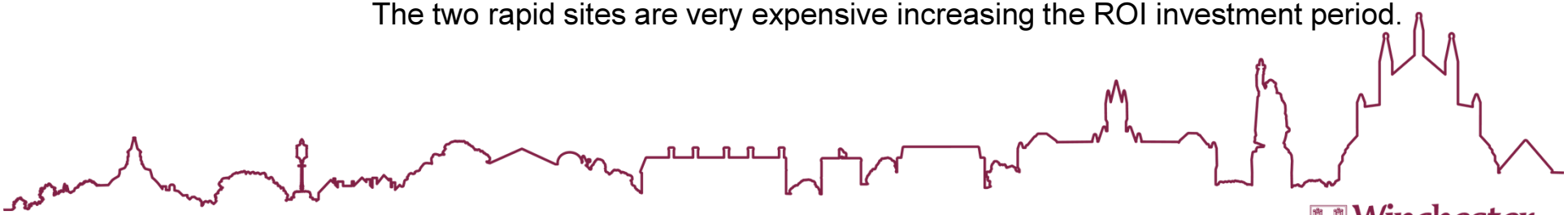
Funding Options

In the EVCP Working Group recommending that Cabinet consider JoJu's proposal there are 4 funding options which can be considered, as follows:

- Option 1 — The Council fully funds the entire EVCP Infrastructure as proposed by JoJu;
  - Pros: Council derives all the income
  - Cons: Council must pay for all installation costs assuming 100% of the risk.
    Council must pay all back office and maintenance costs

- Option 2a — The Council Co funds the 'Fully Fundable' sites to achieve a 60% profit share and 'Co Fundable' sites at a 50% Profit Share
  - Pros: Council needs to find less initial capital
    Council derives between 60% and 50% of the income
    Council shares the risk with JoJu/Vattenfall
  - Cons: Council must pay back office and maintenance/replacement costs after Year 1.
    The two rapid sites are very expensive increasing the ROI investment period.



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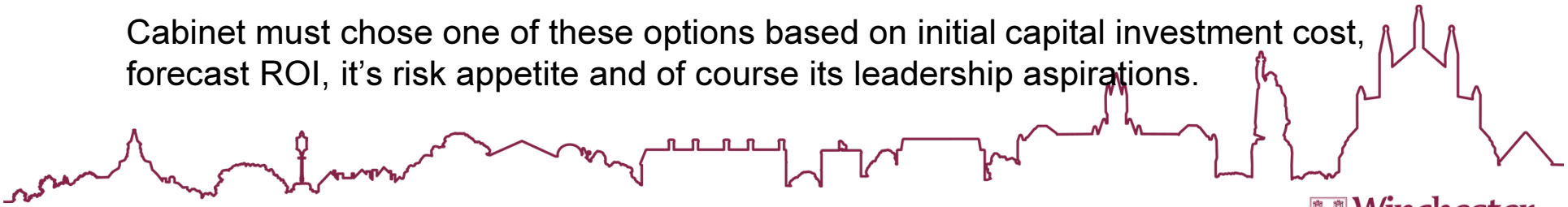
Funding Options

In the EVCP Working Group recommending that Cabinet consider JoJu's proposal there are 4 funding options which can be considered, as follows:

- Option 2b — The Council Co funds all the sites as per Option 2a, with the exception of the 2 rapid charger sites, which have a much higher capital investment requirement and are therefore present a higher risk and longer ROI period.
  - Pros: Same as 2a
    Excludes the two Rapid Sites therefore less risk on ROI
  - Cons: Same as 2a
- Option 3. — The Council Co funds all the sites as per 2b and fully funds some of these considered 'non fundable' by JoJu/Vattenfall.
  - Pros: Same as 2b
    Provides EVCPs in areas not served by option 2b
  - Cons: Costs more and at full risk to WCC

Cabinet must chose one of these options based on initial capital investment cost, forecast ROI, it's risk appetite and of course its leadership aspirations.



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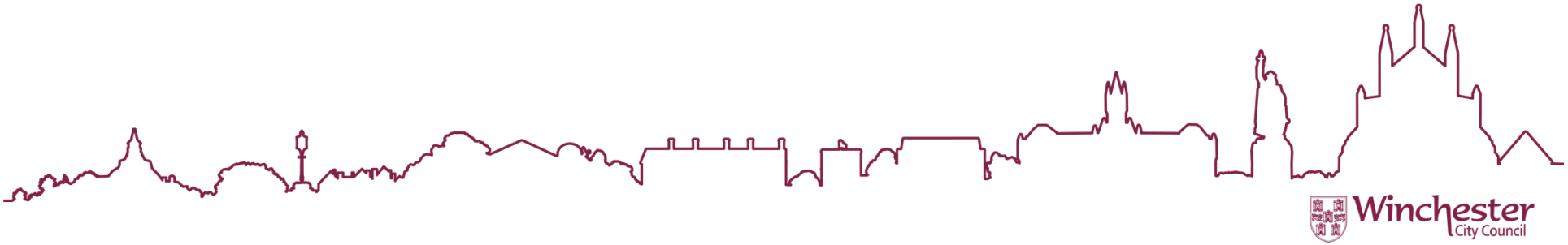
Capital Expenditure Costs

The following are the capital costs of funding the EV network depending on the option:

Option 1	WCC fully funds the EV network	£288,653
Option 2a	WCC Co funds the EV network	£160,125
Option 2b	WCC Co funds less rapids	£106,261
Option 3	Same as 2b but includes 3 unfunded sites	£150,445

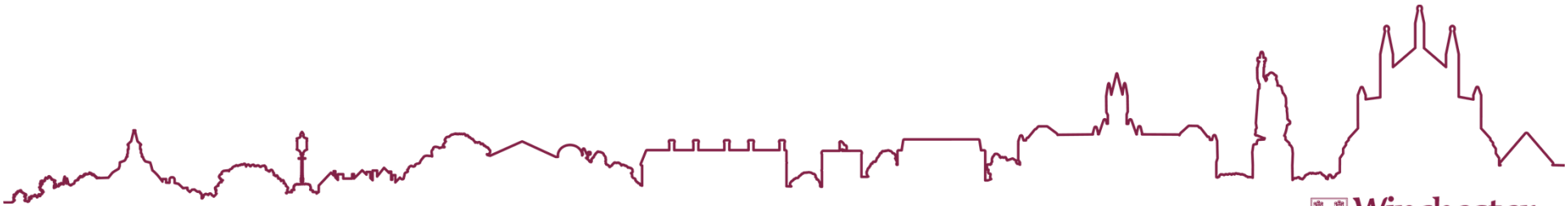
This Cabinet Paper is recommending that the Council chose either Option 2b or Option 3, noting that additional EVCP sites can be considered in the near future i.e. the Park and Rise sites and off street parking on the Council's housing estate.



Estimated income over the contract 'Term'

The contract 'Term' is which ever is shorter of

- 15 years; OR
- The period required to achieve a x6 ROI.
- **CAVEAT OF CAUTION**: Predicted income is based on very broad assumptions in the absence of any available long term EV usage data and must be considered in this context when trying to forecast the future uptake and use of EVs in the next 5 to 10 years.
- JoJu assumes that after the first year there is an expected increase year on year of 50% for years 2 and 3, 33% for years 4 and 5 and then 25% for year 6 whereupon 20 weekly charges are expected thereafter.
- Option 2b is, after accounting for borrowing interest rates, predicted to achieve a ROI in year in year 13 and an estimated income of **circa £50k** over the 15 term.
- Option 3 is, after accounting for borrowing interest rates, predicted to achieve a ROI in year in year 15 and an estimated income of **circa £1k** over the 15 term.



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What EVCP's will look like?

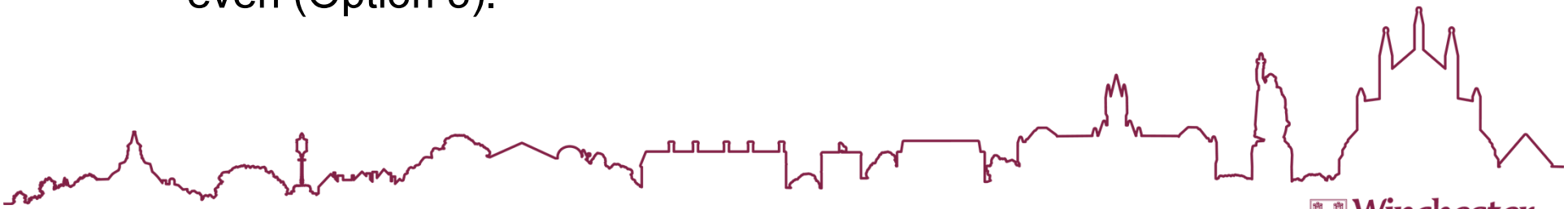
Alphen ICU
Double 22kW
Socket

Terra 54 CJG
Rapid Charger

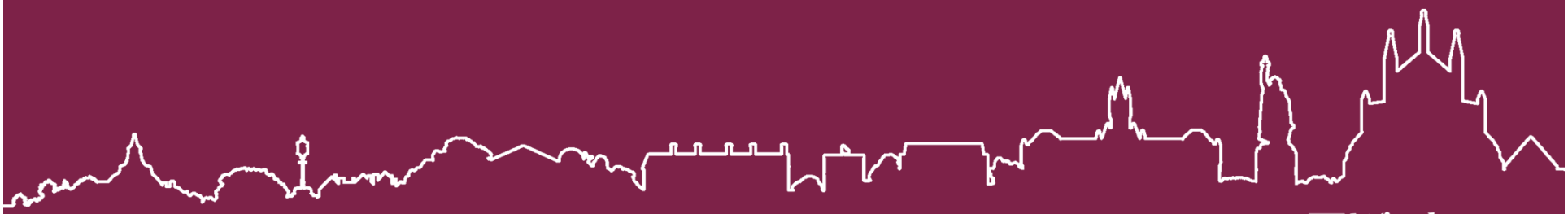
Winchester City Council

Summary

- It is a complimentary measure in the Council's 2017 Air Quality Action Plan
- Having an EV network recognizes LA leadership role in seeding the uptake in EV technology in our community;
- Supports the Council's Climate Emergency aspirations
- Recommends adopting JoJu's proposals for a 22kWh EV network
- Recommends Option 2b or Option 3 at an initial investment of £106.2k or £150.5k
- Based on broad estimates, the net return after borrowing, over the 15 year term is circa £50k (Option 2b) or circa £1k break even (Option 3).



Questions



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