Towards All-Electric Bus Operations

Identifying the Technical and Economic Challenges

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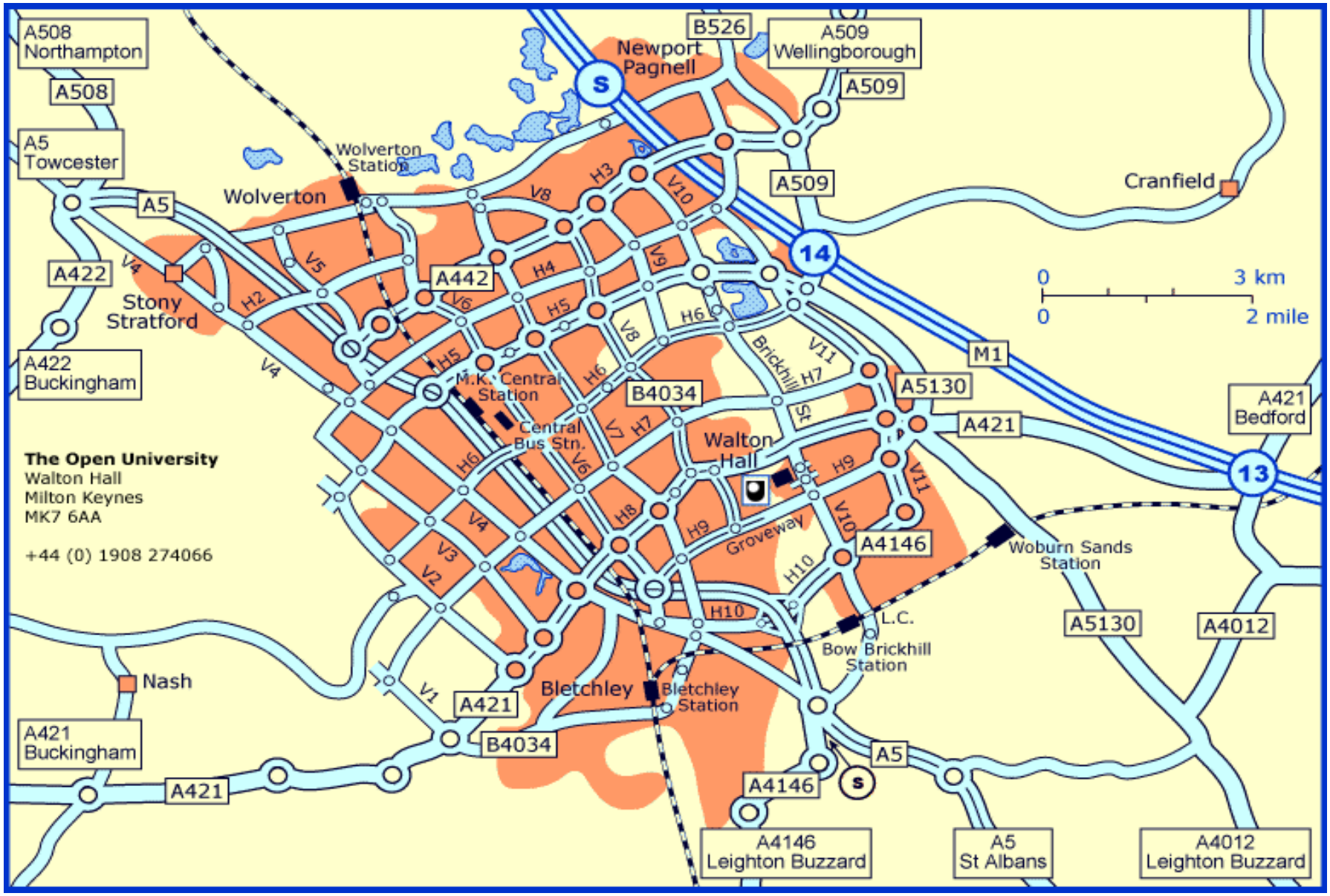
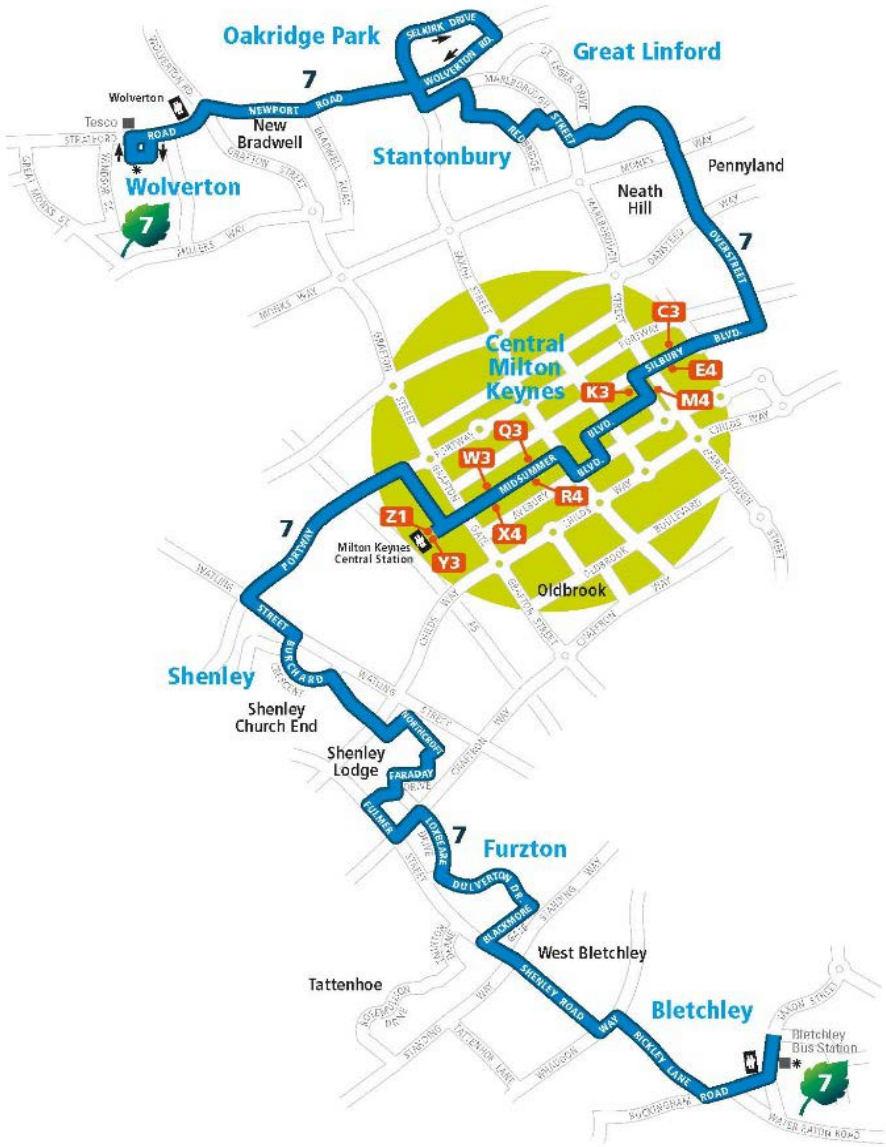
Milton Keynes – A City of 230,000 people



Route 7



Fully electric service; heavy duty timetable, operating between 06:00 and 23:00; 5 year demonstration period

8 x 9.5m buses

46 passengers per bus

56,250 miles per bus p.a.

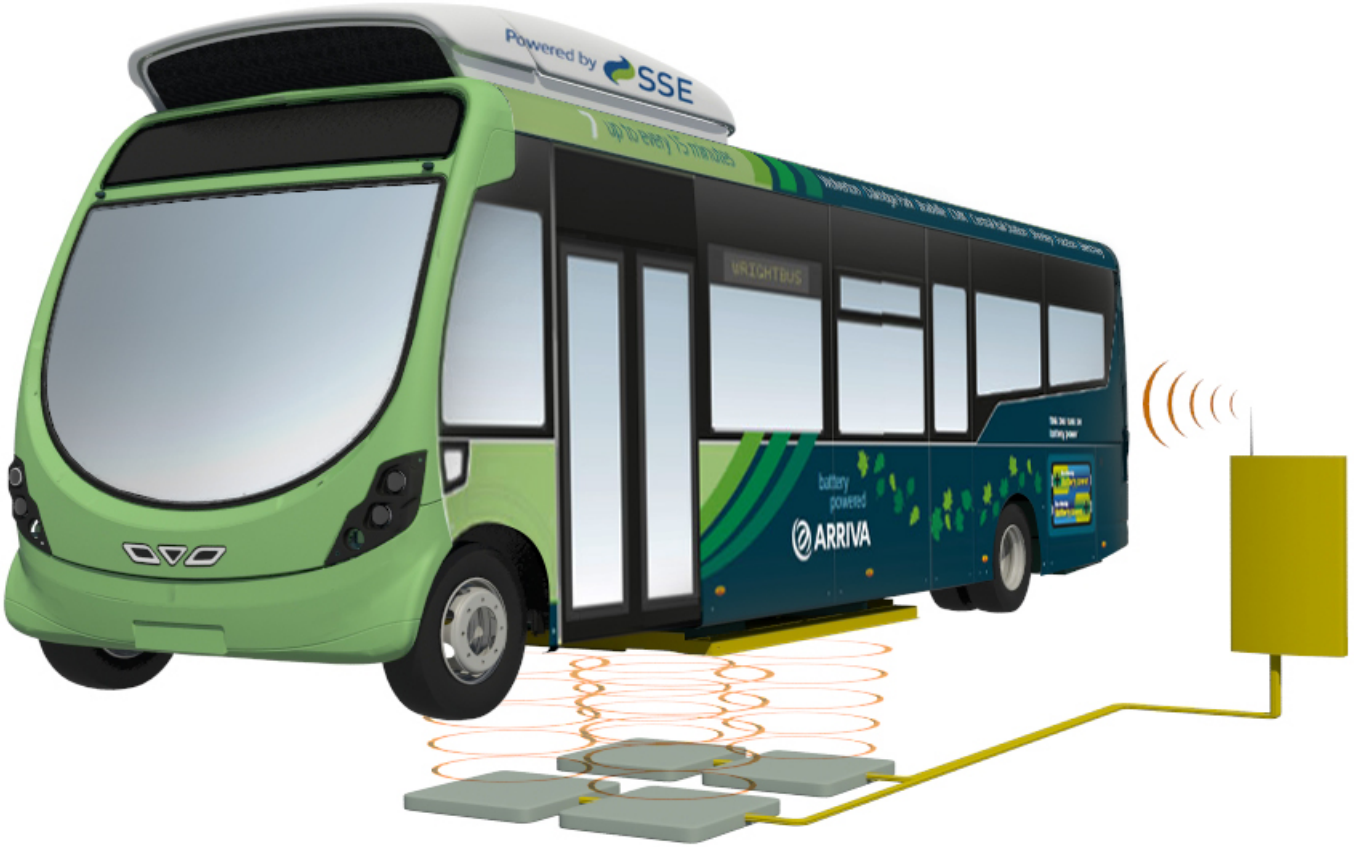
450,000 fleet miles p.a.

775,000 passenger journeys p.a.

15 miles each way

16.3mph average speed

Our Chosen System

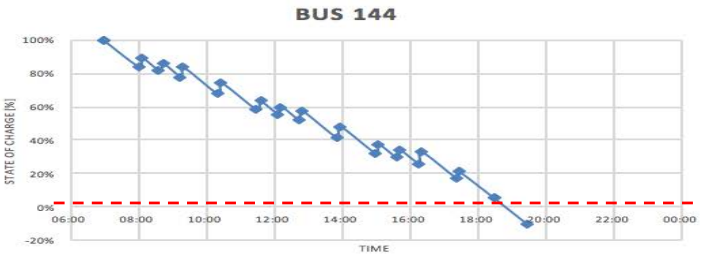


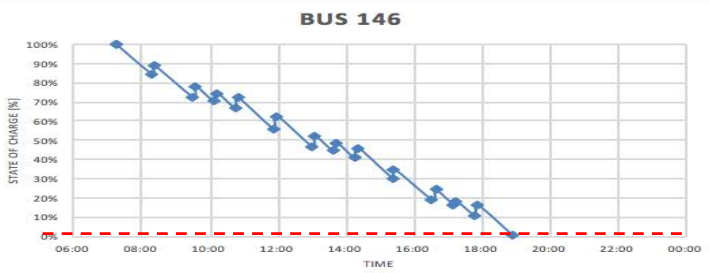
IPT-Tech (Conductix-Wampfler)

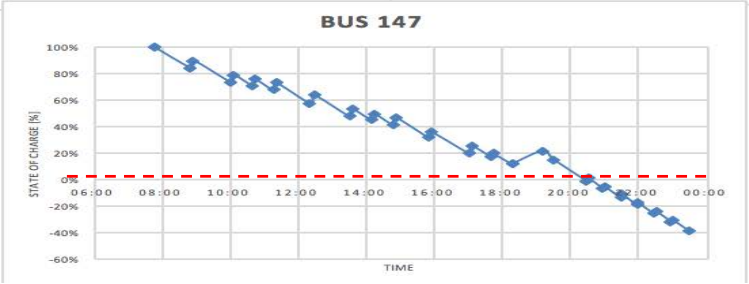
4x30kW = 120kW

20kHz, liquid cooled

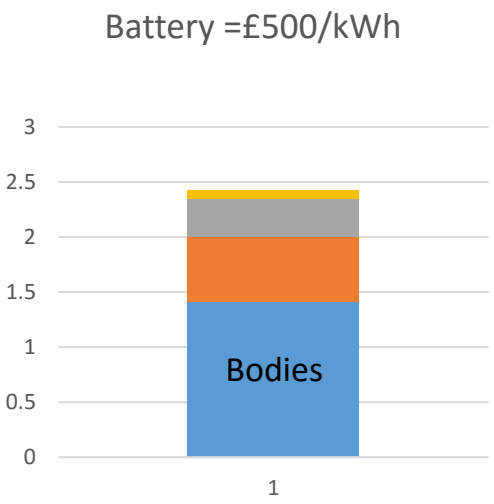
Battery SoC's (7 buses)

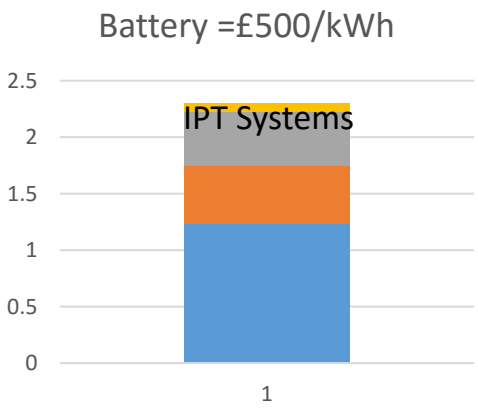


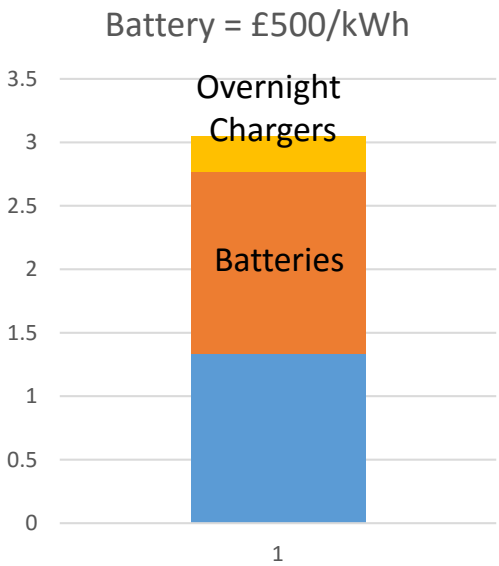




Options Study: Milton Keynes Route 7







CASE A
- **8 Buses**
- **150kWh Batteries**
- **120 kW IPT Chargers**

CASE B
- **7 Buses**
- **150kWh Batteries**
- **200 kW IPT Chargers**

CASE C
- **8 Buses**
- **410kWh Batteries**
- **No IPT Chargers**

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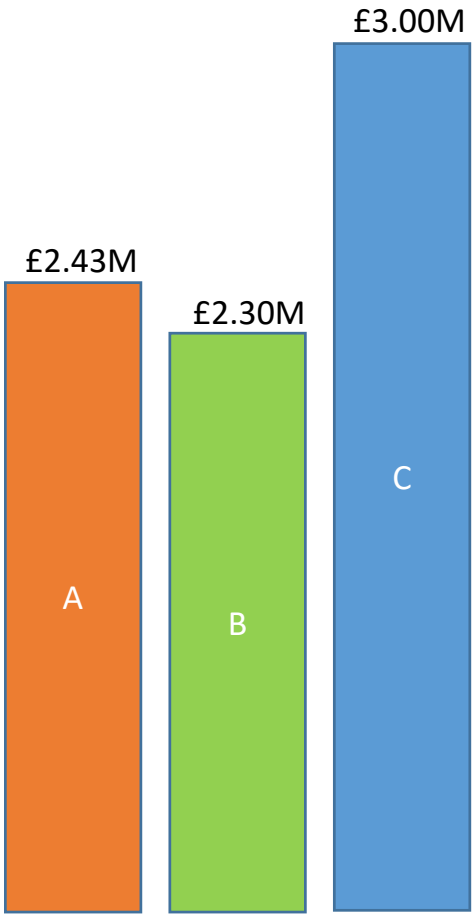
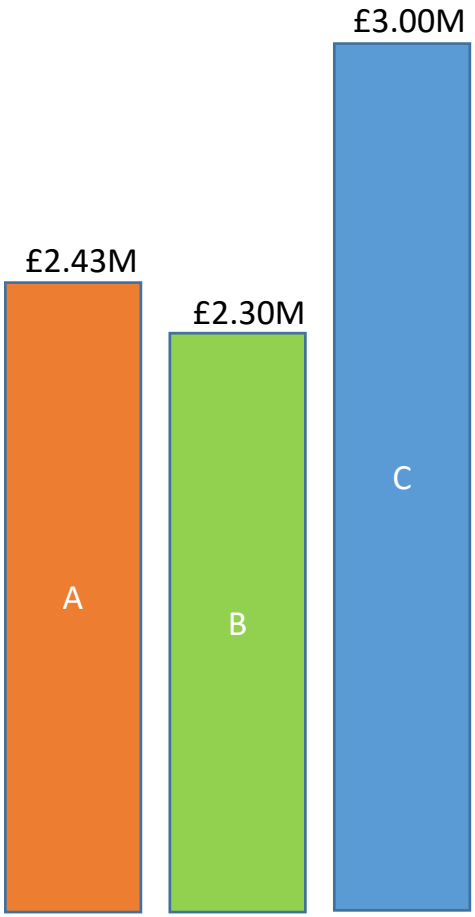


Battery Price = £500/kWh

Options Study: Milton Keynes Route 7



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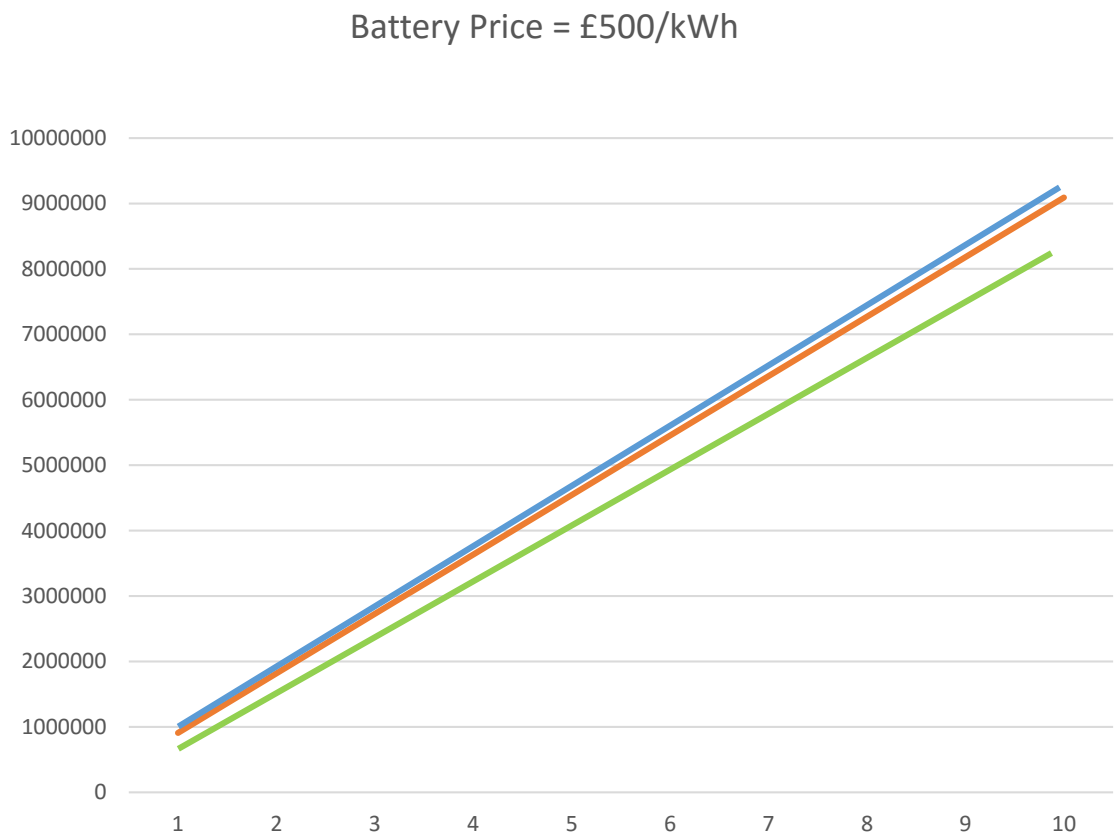

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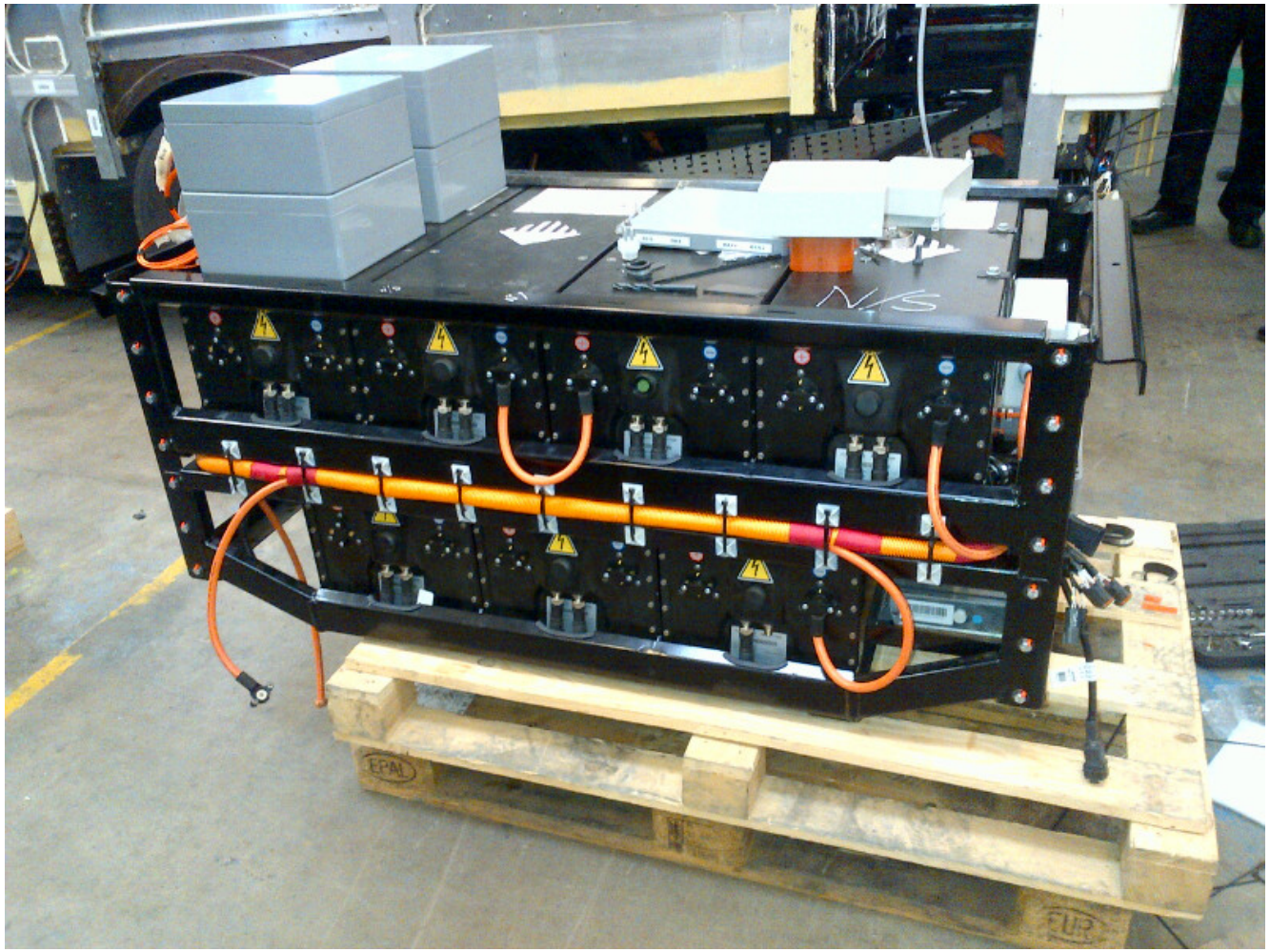

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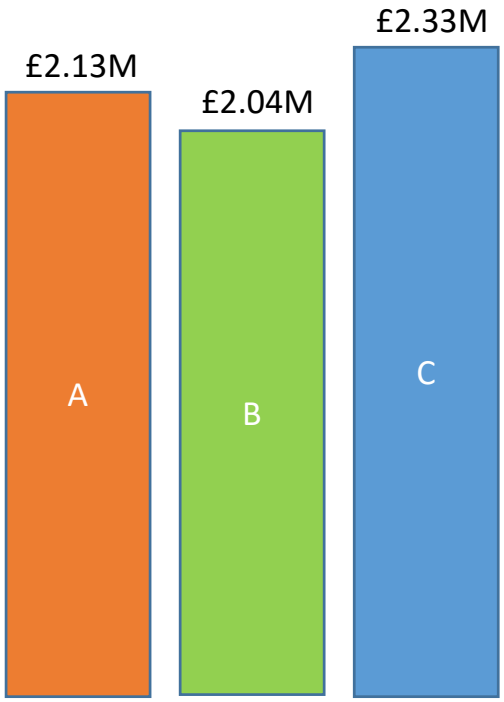
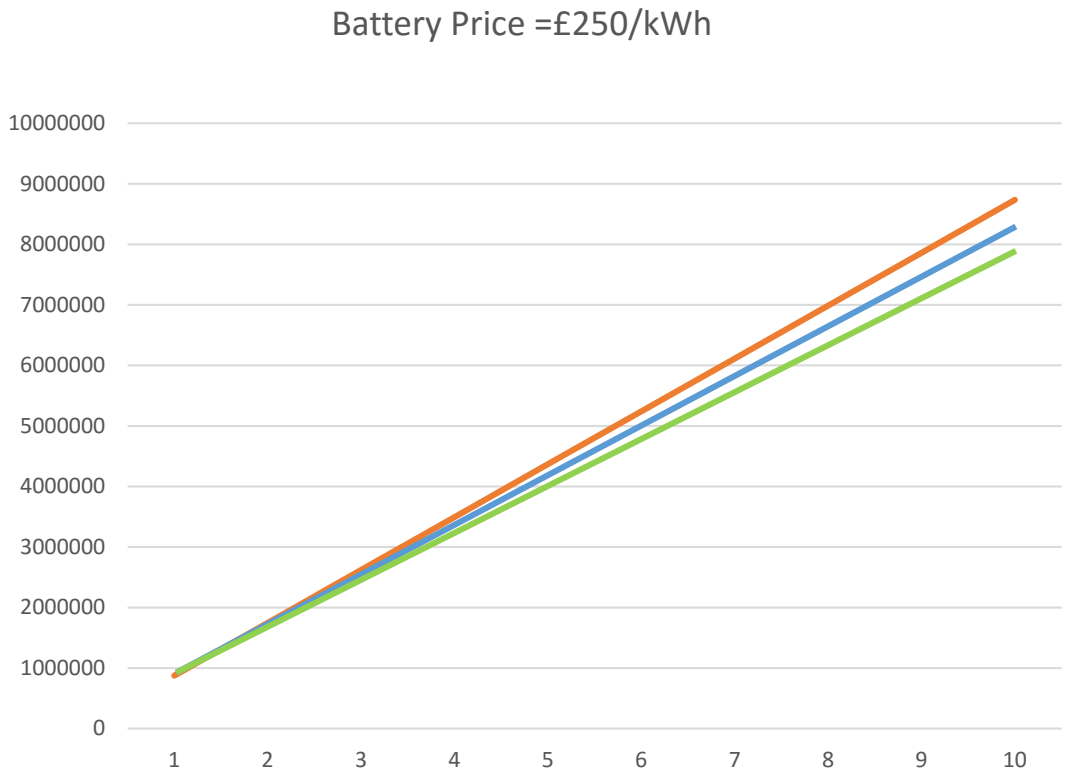


Battery Price = £250/kWh



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