

# How effective are local markets? Initial empirical feedback from the UKPN experience

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- 1 Context and presentation of UKPN call for tenders
- 2 Focus on 2021 secure call for tenders

# 1 Context and presentation of UKPN call for tenders

UKPN Presentation

Flexibility needs

Call for tenders presentation

# 2 Focus on 2021 secure call for tenders

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## UKPN Presentation

Flexibility needs

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# UKPN Presentation

UKPN is a Distribution Network Operator which

- serves 28% of the population
- is responsible for 3 major distribution networks: London Power Networks, South Eastern Power Networks and Eastern Power Networks (North London).



# 1 Context and presentation of UKPN call for tenders

UKPN Presentation

**Flexibility needs**

Call for tenders presentation

# 2 Focus on 2021 secure call for tenders

# Flexibility needs

- UKPN have announced a flexibility needs of more than 200 MW up to 2023.
- They have launched 4 call for tenders since 2018.

They have presented 3 products:

- **Secure** : Increase generation or decrease demand for HV to reduce peak loads with availability and utilisation payment.
- **Sustain**: Increase generation or decrease demand for LV to reduce peak loads with fixed service fee.
- **Dynamic**: Increase generation or decrease demand to meet a variety of network needs with only utilisation payment.

# 1 Context and presentation of UKPN call for tenders

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# Evolution of designs

Designed has evolved with:

- Fewer barriers to entry
- Better visibility

Call for tenders	Voltage level	Minimum volume (kW)	Maximum years of contract	Average activation by year	Revenue range by area
2018/2019	132 - 33 kV / 11 - 6 kV	50	5	No	No
2019	132 - 33 kV / 11 - 6 kV	50	5	No	No
2020	11- 6 kV / 400 V and below	10	7	Yes	Yes
2021	11- 6 kV / 400 V and below	10	7	Yes	Yes

# Maturity of tenders

Maturity of market has increased with:

- More and more areas proposed and finally contracted
- More and more capacity contracted
- More and more suppliers
- More and more financial volume involved

Call for tenders	Areas proposed	Areas contracted	Capacity auctioned (MW)	Capacity contracted (MW)	Suppliers	Amount (£)
2018/2019	28	4	94.7	18.1	-	450k£
2019	22	5	111	1.2	6	0.5m£
2020	115	57	170	123	19	14m£
2021	138	137	387	350	29	30m£

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This makes the 2021 tender the largest call for tenders for distribution network's flexibility in the world.

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Operation

What incentives to invest?

What savings for the network?

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# Data and Methodology

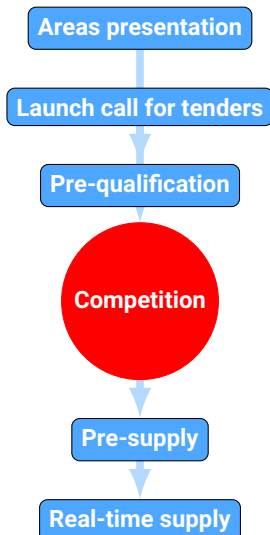
We focus on 2021 "Secure" tender with

- Payment of capacity (£/MW/h)
- Utilisation (£/MWh)
- Possible contract up to 7 years

. This call for tenders has the largest panel of data available and highest financial amount of contract.

Call for tenders	Number of areas	Tendered capacity (MW)	Number of years	Contract awarded	Total capacity awarded (on all years) (MW)
Secure 2021	32	432	6	532	403

# Process



## Areas presentation

6 months before competition

## Launch call for tenders

4 months before competition

## Pre-Qualification

2 months before competition

## Pre-supply

Specific tests for each location

## Real-time supply

Between 6 and 18 months after competition (with contract up to 7 years)

# How to measure efficiency ?

To measure the efficiency of the market we propose 2 mains criteria (which must be completed):

- **Incentive on investment** : It was described as one of the most important point in the literature (Stoft, 2006,Cramton, 2017).
- **Savings for the network**: It is the main objectives of this call for tenders for UKPN



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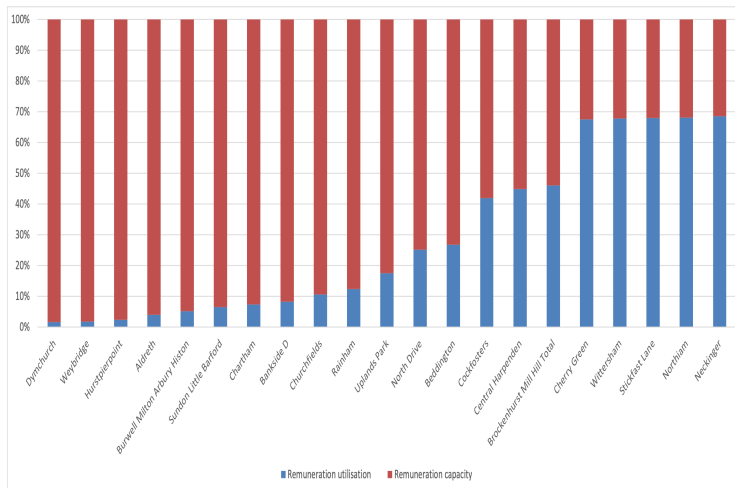
2 Focus on 2021 secure call for tenders

Operation

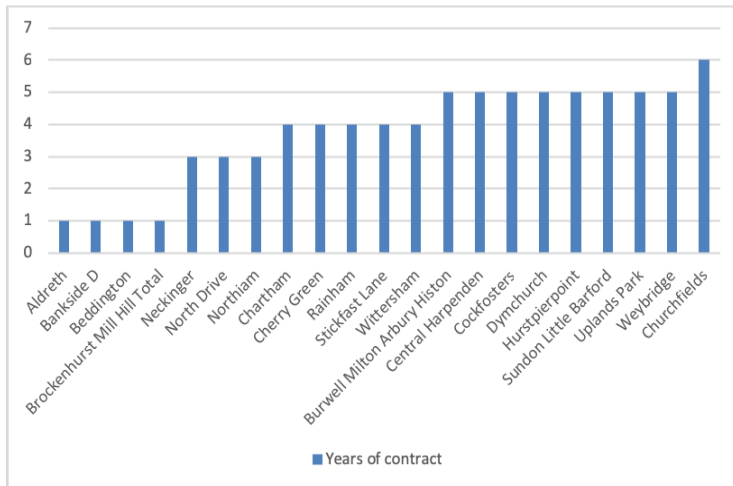
What incentives to invest?

What savings for the network?

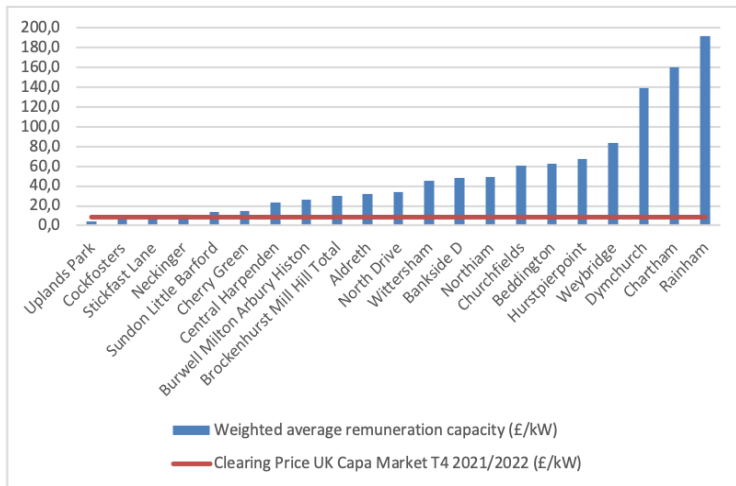
# What incentives to invest : a capacity based remuneration



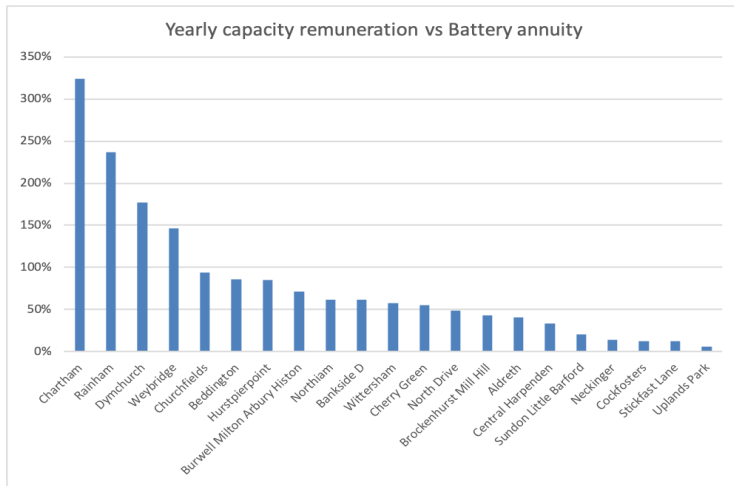
# What incentives to invest : a commitment on several years



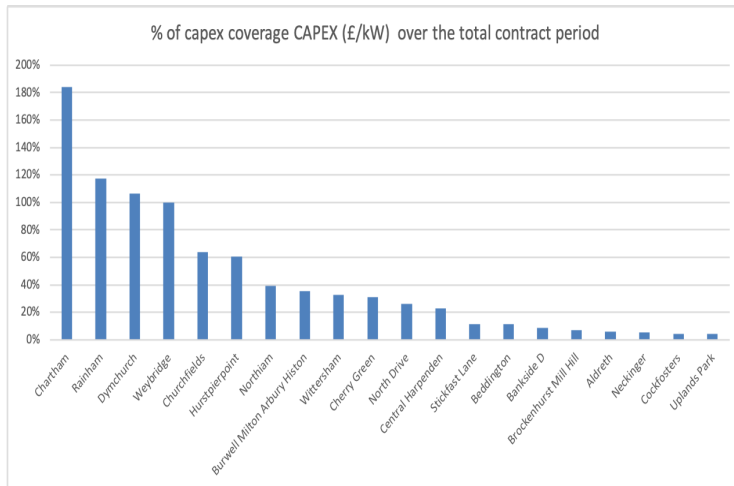
# What incentives to invest : an important capacity remuneration



# What incentives to invest : a capacity remuneration that covers the investment in assets (1/2)



# What incentives to invest : a capacity remuneration that covers the investment in assets (2/2)



## What incentives to invest : conclusion

This market-design offers incentives for investments via:

- A predominantly capacity-based remuneration.
- A multi-year commitment.
- High capacity remuneration
- A remuneration that covers large parts of an investment.

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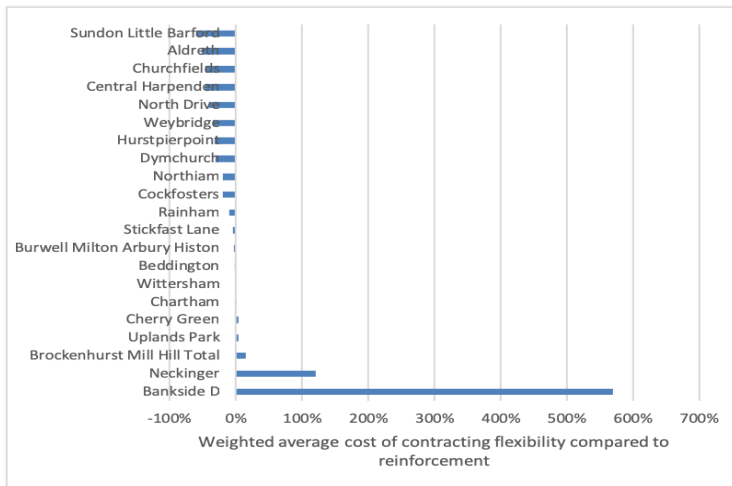
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What incentives to invest?

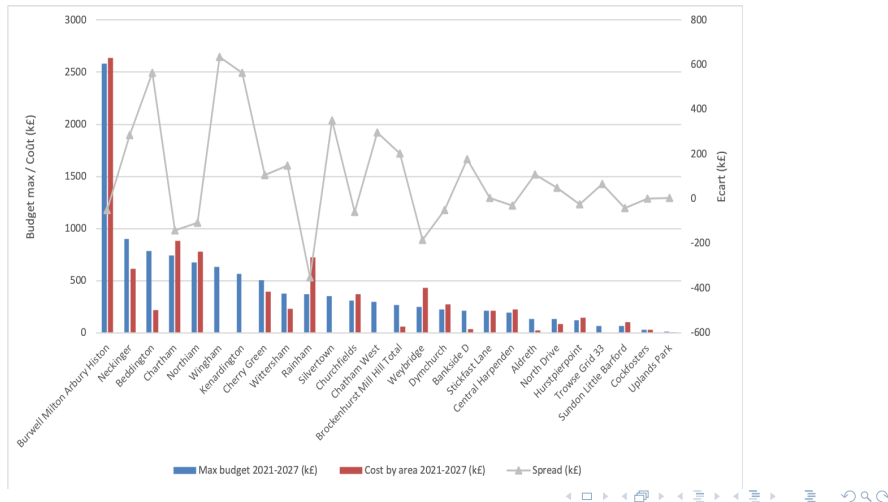
What savings for the network?



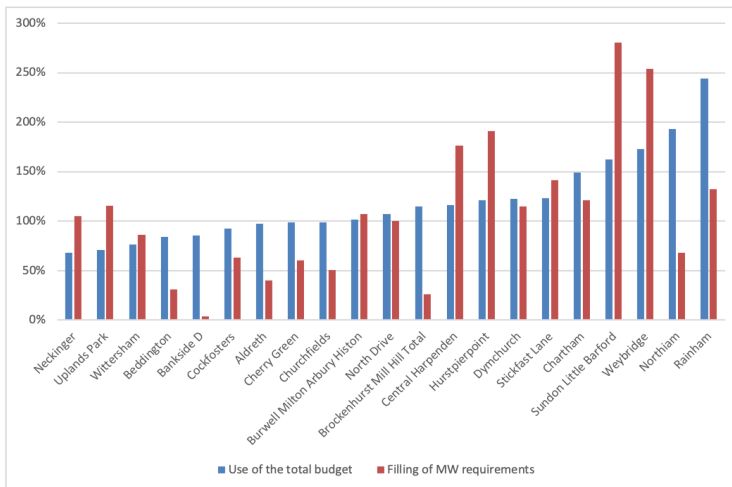
# What savings for the network: more economical average contracting



# What savings for the network : ...but important differences between plan and realisation (1/2)



# What savings for the network : ...but important differences between plan and realisation (2/2)



## What savings for the network: conclusion

We notice that if some elements may conduct to conclude for savings for the networks:

- a more economical average contracting than alternative solution for example...
- An important number of areas comprise differences between amount fixed (in pound and volume) and those finally contracted.

# Thank you!