

# Opportunities from Solar Canopies



**Katie Greenhalgh**  
**Senior Energy Projects Officer**



**Nottingham**  
**City Council**

# Nottingham Energy Strategy

Target:

26% reduction by 2020 against 2005 levels

Achieved:

33% reduction in 2016



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## Nottingham smashes climate targets four years early

8 August 2016, source [edie newsroom](#)

Nottingham has surpassed its climate change targets four years early, according to Government data which shows a 33% reduction in the city's carbon emissions since 2005.

# Energy Projects Service



# Energy Projects Service

- Energy Performance Certificates (domestic and non-domestic)
- Display Energy Certificates
- Air Conditioning Surveys
- EE Monitor (for heat metering and billing)
- Renewable Energy project management
- Energy Efficiency project management
- Environment Management System consultancy
- Energy Saving Opportunity Scheme consultancy

<http://nottmcommercialservices.co.uk/energy-projects-service/>



# NCC Solar Canopy Programme

## 1. Site selection

2. Business Case
3. Internal Approval
4. External Approval
5. Delivery
6. Monitoring and Maintenance

- Orientation
- Shading
- Car park layout
- On site energy user
- Site longevity



# NCC Solar Canopy Programme

1. Site selection

## 2. Business Case

3. Internal Approval

4. External Approval

5. Delivery

6. Monitoring and Maintenance

- Energy savings
- FiT income
- 5% ROI (after borrowing)
- Additional considerations
  - EV charging
  - Shared installation costs
  - Premium Parking
  - Advertising
  - LED lighting
  - Surface protection



# NCC Solar Canopy Programme

1. Site selection

2. Business Case

## **3. Internal Approval**

4. External Approval

5. Delivery

6. Monitoring and Maintenance

- Pre approved limits
- Exec Board





# NCC Solar Canopy Programme

1. Site selection
2. Business Case
3. Internal Approval

## **4. External Approval**

5. Delivery
6. Monitoring and Maintenance

- DNO grid connection
- Planning
  - Specification
  - Structural details
  - Drainage and surface-water management
  - Grid connection
  - Glint and glare
  - Details of construction
- Consultation



# NCC Solar Canopy Programme

1. Site selection
2. Business Case
3. Internal Approval
4. External Approval

## **5. Delivery**

## **6. Monitoring and Maintenance**

- Internal delivery
- Specialist Contractors
- Scheduled maintenance (in business plan)
- Visual displays



# Harvey Hadden Sports Village

Total kWp: 67

Area (m<sup>2</sup>): 400

Estimated generation (kWh): 51,000

Carbon savings (Tonnes): 29







## Ken Martin Leisure Centre

Total kWp: 89

Number of panels: 354

Parking Bays: 41

Estimated generation (kWh): 80,000

Carbon savings (Tonnes): 36





# Further Developments

- Further commercial PV and Solar Carport rollout
- PV Framework

Lot number	Category	Estimated Value Range of Call-offs	Approx. value over four years	
			Nottingham City Council	Partner Organisations
1	Supply of Domestic Solar PV Panel Kits and Accessories	£0 - £500k	£3 million	£3 million
2	Supply of Commercial Solar PV Materials and Accessories	£0 - £500k	£10 million	£3 million
3	Supply & Installation of Domestic Solar PV	£0 - £3m	£3 million	£9 million
4	Supply & Installation of Commercial Solar PV	£0 - £5m	£7 million	£10 million
5	Installation of Solar PV	£0 - £100k	£4 million	£2 million
6	Design of Specialist Solar PV	£0 - £100k	£0.5 million	£0.5 million
<b>Total</b>			£27.5 million	£27.5 million





# Further Developments

- Battery Trial
- EV charge point rollout through Go Ultra Low  
<http://goultralownottingham.org.uk/the-programme/public-charging-infrastructure-network/>
- Vehicle to Grid trial through Interreg funding:  
<http://www.nweurope.eu/projects/project-search/cleanmobilenergy-clean-mobility-and-energy-for-cities/>





Katie Greenhalgh – Senior Energy Projects Officer

[katie.greenhalgh@nottinghamcity.gov.uk](mailto:katie.greenhalgh@nottinghamcity.gov.uk)

07904383073

@Kt\_Greenhalgh @nttmenergycity

