

Energy Prospectus

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A greener place
Man gwyrdach



Introduction

Caerphilly CBC has a good record of implementing initiatives that benefit the environment. We have reduced carbon emissions by investing in technologies that reduce consumption and we have raised awareness of the importance of carbon reduction with our staff, pupils and residents across the county borough.

We acknowledge there is still much more to do at a time when the climate is continuing to warm and sea levels continue to rise. Changes to climate will have a significant impact on well-being on both current and future generations. Extreme weather events caused by climate change are putting pressure on ecosystems, infrastructure, built environment and our landscape. Reducing carbon emissions will improve our well-being and demonstrate Caerphilly CBC's contribution to the global effort on climate change.

We set out in this prospectus key areas in which we will focus that could result in major reductions in carbon emissions. The project list outlined is not definitive, some projects will be viable, some not and the range of projects will develop over time.

Our overall aim is for Caerphilly CBC to become Net Carbon neutral by 2030.



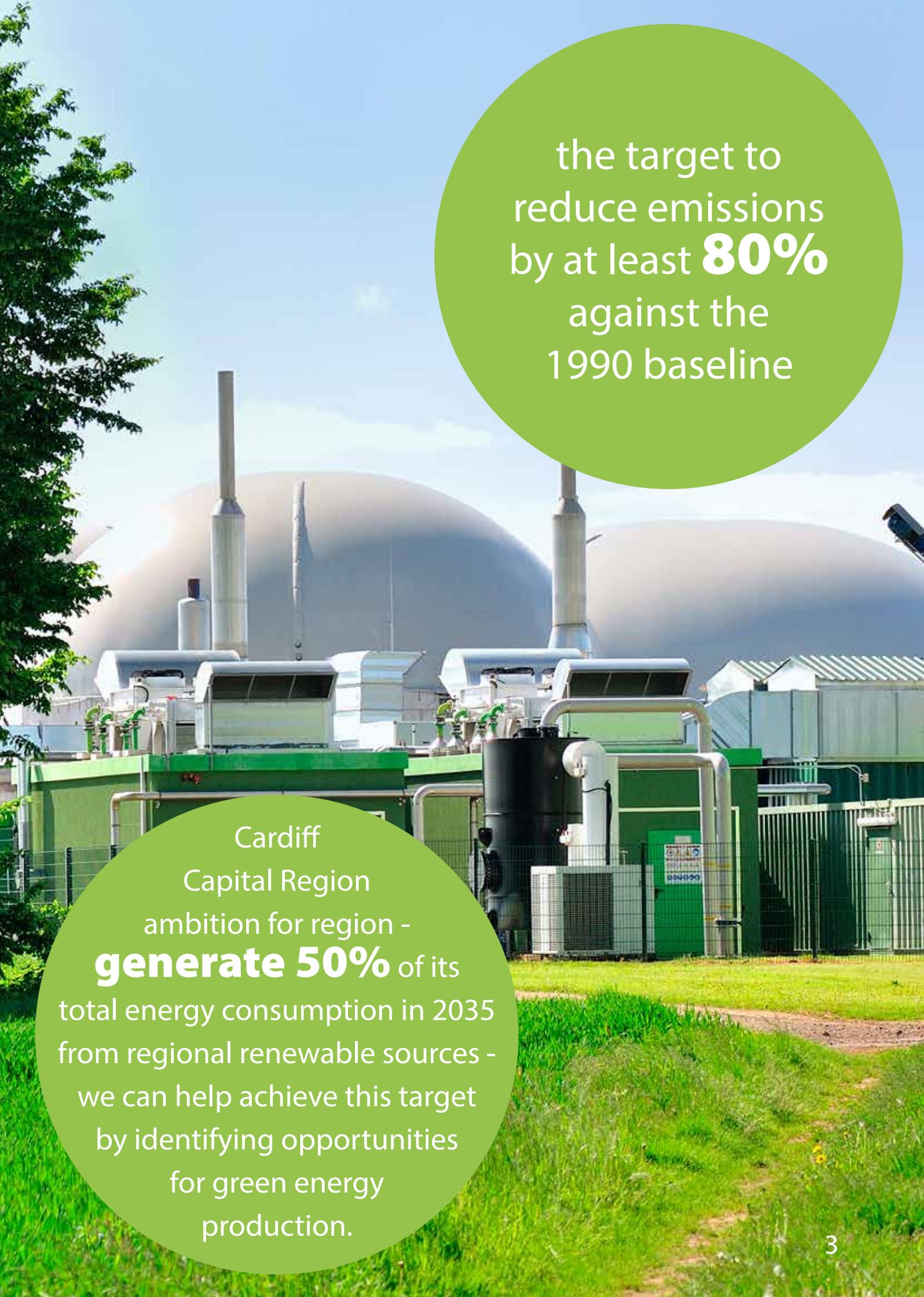
- The energy prospectus is aimed at highlighting key energy projects that the authority is investigating
- The prospectus supports the Decarbonisation Strategy which encompasses a wider area of consideration and sets out clear improvement objectives on buildings, transport, street lighting etc.

Complementary Work

Caerphilly CBC has a good record of implementing projects that benefit the environment and reduce carbon emissions. In 2009 the authority launched its Carbon reduction strategy which focussed on 4 key areas which are still very much relevant and will complement the proposed projects in the prospectus.

- **Good Housekeeping.** This is implementing a common sense approach to energy conservation and focuses on doing the little things right, it included a switching off campaign to raise awareness on key areas of energy conservation and specific training to key members of staff such as caretakers, budget holders, Managers, school governors and pupils.
- **Invest To Save.** The authority has operated the Salix Invest to Save scheme since 2005. It operates as a revolving loan scheme where energy efficient technologies are introduced to save on carbon emissions by reducing energy consumption. Upgrading levels of insulation and converting to energy efficient lighting are key projects that deliver hard savings. We are one of the founder authorities on this UK wide scheme. We are the best performing Welsh authority in terms of carbon saved. We regularly place highly on a national level on key indicator.
- **Asset Management.** If a building closes, the electricity and gas savings can be significant depending on the size of the property. There have been a few building closures which contributed to the reduction and this will continue as agile working protocols become the 'norm'.
- **Renewable Technologies.** Multiple schemes have been introduced on our property assets, some were domestic sized installations on schools, but there were also medium sized installation between 25-50kWp on offices. This work will continue.





the target to
reduce emissions
by at least **80%**
against the
1990 baseline

Cardiff
Capital Region
ambition for region -
generate 50% of its
total energy consumption in 2035
from regional renewable sources -
we can help achieve this target
by identifying opportunities
for green energy
production.

Covid-19

This Prospectus has been finalised in the midst of the COVID-19 pandemic, which is having a profound effect on the lives of millions of people around the world, bringing unprecedented challenges for our economy, our society and our communities.

The pandemic is taking place against the backdrop of the ongoing climate emergency. Whilst the economic damage caused will undoubtedly result in a short-term reduction in greenhouse gas emissions, it is possible that emissions could rebound if climate positive solutions are not included as central elements in our economic stimulus packages.

Moving forward, we must recognise that our approach to the economic recovery that will follow provides us with a unique opportunity to sustainably rebuild our economy and make greener investments and climate positive decisions, helping us achieve our decarbonisation goals.

Whilst we do not know at this stage how and when we will emerge from the current restrictions, our strategy remains firmly relevant and has the potential to play a significant role in helping Caerphilly county borough to recover and rebuild sustainably, and to achieve far greater local benefits than could be achieved by returning to business as usual.



Solar Power Generation

Timescale: Medium (24-60 months)

The authority, in conjunction with the Welsh Government Energy Service has undertaken a Land Asset Review for Renewables which establishes if available CCBC owned land would be suitable for renewable energy projects. The Council has now established that large scale PV could be explored at five sites within the county borough. Perhaps the most exciting prospect is the opportunity for the Council to develop a its own solar farm within the county borough.

Smaller PV installations remain an option on buildings within Council ownership including but not exclusive to properties on Tredomen campus, our schools and our leisure centres.. Maximum benefit is derived from aligning PV schemes to buildings that have extended operating hours to absorb the power being generated at all times.



ENERGY FROM WASTE

SHORT TERM

Anaerobic Digester

Timescale: Short (0-24 Months)

Anaerobic Digesters (AD) break down feeder fuels such as food waste and maize to generate a biogas. The gas is burnt to generate electricity. Bryn Quarry which is 2.1km away from the Ty Penallta estate has an Anaerobic digester. Initial discussions with the company that owns it, indicates a willingness to discuss the option of the authority buying their

electricity, which would be beneficial to both parties as it would increase their revenue stream whilst possibly reducing authority energy costs. This opportunity could feed the Tredomen estate/campus and possibly a wider catchment of properties. Additional added benefits could include the use of authority land to grow feeder crops for the Anaerobic Digester.



FACT FILE:

- Processing food waste into biogas
- Digestate (fertiliser substitute to chemical fertilisers)
- CCBC's municipal food waste processed at the plant to provide a local energy cycle
- Private wire to a substation on the Tredomen Campus
- Unit rate lower than the national energy suppliers
- Annual electricity bill savings in the region of £100k per year
- Lifespan of 20 years

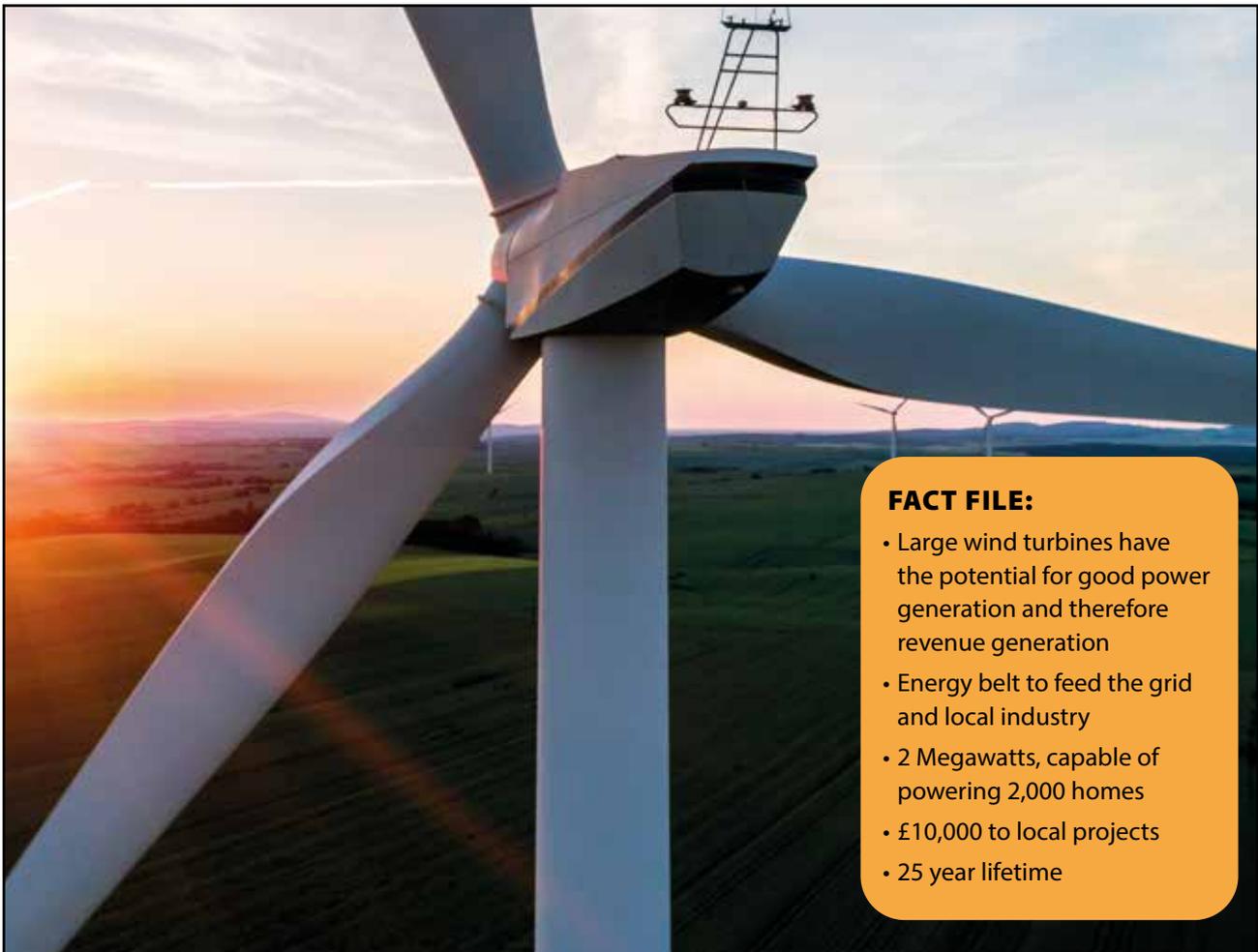
Wind Turbines

Timescale: Medium/Long (24-60+ Months)

The Council already has a partnership project between CCBC and the Partnership for Renewables, where two wind turbines have been installed on council owned land on Oakdale Business Park. Each turbine has a generating capacity of 2 Megawatts, capable of powering 2,000 homes. As part of the project a Community Benefit scheme was established which provides £10,000 to local projects each year of the 25 year lifetime of the scheme.

The authority’s recent land asset review does identify some opportunities although there are no obvious sites for Wind Turbine generation.

The Council is investigating opportunities to work collaboratively with private sector providers, particularly at the Heads of the Valleys - a corridor following the alignment of the road may provide suitable opportunity for an energy belt to feed the grid and local industry. Large wind turbines have the potential for good power generation and therefore revenue generation, they require a smaller footprint than solar farms and are easier to safeguard against vandalism. Western Power Distribution is aware of grid infrastructure constraints in the area and a dialogue continues on this matter.



FACT FILE:

- Large wind turbines have the potential for good power generation and therefore revenue generation
- Energy belt to feed the grid and local industry
- 2 Megawatts, capable of powering 2,000 homes
- £10,000 to local projects
- 25 year lifetime

Electric Vehicle Strategy and Action Plan

Timescale: Short (0-24 Months)

As part of the work on the Electric Vehicle Action Plan, CCBC is leading on a feasibility study to determine the most suitable sites for electric vehicle charge points in the 5 Gwent local authorities, for all types of vehicles including cars, vans and bikes. It will also identify the grid connection availability and approximate costs, along with has the most appropriate type of charging unit and options for income generation. The study formed the basis of a bid for the Office for Low Emission Vehicles (OLEV) funding. The aim is to develop a cost-effective regional approach for electric vehicle charge point infrastructure across Gwent.

Linked to this, work is being undertaken to install charge points at the Tredomen Campus for fleet vehicles and visitors. The Council is rolling out additional EV charging points across the authority.

CCBC is also leading on a strategic fleet review for each Gwent Local Authority and PSB Partner to break down current vehicle usage and quantify the benefits and any potential issues of introducing ultra-low emission vehicles (ULEV's) into their fleet , the focus being on identifying opportunities for replacing existing fleet with more efficient ultralow emission vehicles.



Metro

FACT FILE:

- Identify a cost-effective regional approach for electric vehicle charge point infrastructure across Gwent
- Install charge points at the Tredomen Campus for fleet vehicles and visitors
- Roll out additional EV charging points across the authority





**Cardiff
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Region**

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