

WuXi Biologics
Global Solution Provider



A photograph of a modern, multi-story building with a dark grey facade and large glass windows. The building is illuminated from within, and the sky is a deep blue with some clouds. The WuXi Biologics logo is visible on the upper part of the building. The text "WuXi Biologics Dundalk" is overlaid in white at the top.

WuXi Biologics Dundalk

Sustainability in Action

The Past, The Present & The Future

Gene Russell – Site Engineering Lead

Contents

- 01 About WuXi Biologics
- 02 Site Selection
- 03 Construction & Present
- 04 Future Plans and Commitments



About WuXi Biologics



WuXi Vision

“Every drug can be made and every disease can be treated”
by building an open-access platform with the most comprehensive capabilities and technologies in the global biologics industry

GLOBAL NETWORK WITH GEOGRAPHIC DIVERSITY

Global CRDMO: **3** Research Centers + **8** Development Centers + **9** Manufacturing Centers

R Shanghai WGQ, Shanghai FX in CHINA, Boston

D Shanghai WGQ, Wuxi, Shanghai FX, Chengdu, Hangzhou, Suzhou in CHINA; Cranbury NJ in the U.S.; SINGAPORE

M **Dundalk in IRELAND**; Wuxi, Hebei, Chengdu, Hangzhou in CHINA, Wuppertal, Leverkusen in GERMANY; Worcester MA in the U.S.; SINGAPORE



Site Selection



Building the largest Disposable Biotech Facility

Speed of construction, through a pandemic and pushing boundaries

Choosing a Location – Factors that promote and sustain



The M1 Corridor offers businesses unrivalled access to talent and infrastructure 2.25million people live within 60 minutes of Dundalk/Drogheda, one third the population of the island.

The M1 links Ireland's largest 2 cities, Dublin and Belfast, serving Ireland's 3 largest towns, Dundalk, Drogheda and Swords.

The M1 Motorway provides uncongested access to Dublin/Belfast airports in 40 minutes.



- 1Gb Internet Connection in County Louth fastest in Ireland
- 45% of all 3rd level students within our region
- 14K STEM graduates per year
- 4 Deep Sea ports
- 3 International Airports
- Ireland seen as a hub for Global pharmaceutical companies
- Eco-system of suppliers to support construction / sustaining
- IDA developed advance factory site with planning permission

Timeline Infographic

Construction

- Complexity – 3-1, largest.
- Archaeology
- Broke ground Q.1 2019

Collaboration

- Design Assist
- Bleeding Edge

Startup

- Leverage / Build exp
- Cross functional

Design

- Global Teams
- Speed

Commissioning

- Teamwork
- Covid / Brexit
- Weather tight Q.2 2020

Operations

- Quality Oversight
- Flawless planning
- One Prize
- PPQ Q.4 2023



From the outset of its initial design, Energy performance and the avoidance of energy use was a priority to WuXi Biologics to further its commitment of ‘greening the business’.

The latest technologies and systems were promoted and included in the sites final construction of the ‘factory of the future’..... **And these are core elements to sustain and keep our business competitive, as well as attract a talented workforce and clients.**

Incorporation of a glass to maximise natural light, throughout the buildings.

Use of LED lights as a standard with timers, motion or daylight sensors.

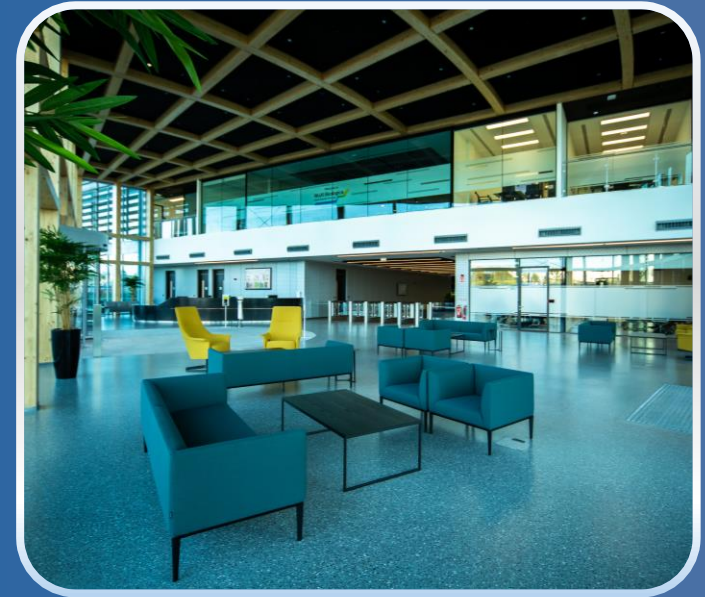
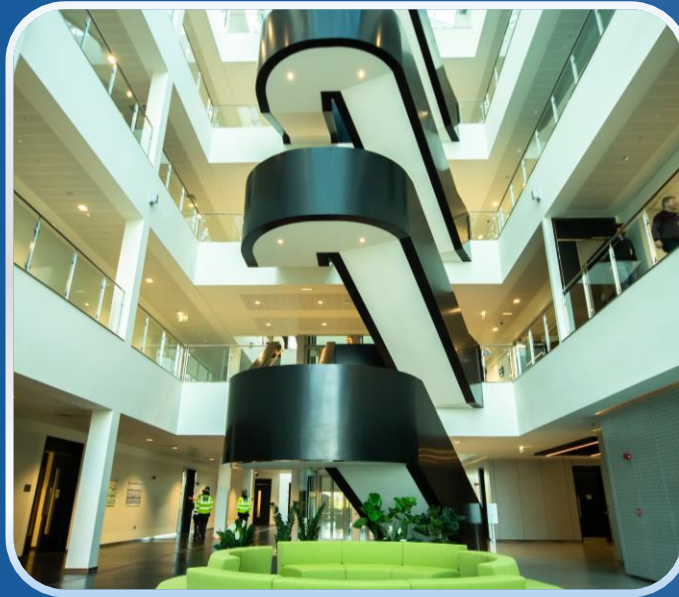
VSD were installed on motor controls across the site.

Selection of high efficiency external cladding to prevent thermal heat loss.

Selection of efficient HVAC & Water For injection generation technology.

Inclusion of heat recovery systems to maximise efficiencies.





Awards & Certifications



FOYA 2023
ISPE Facility of the Year Awards

CATEGORY WINNER
Operations



Best Green Business



MEETA Awards 2023

Best Practice & Innovation
Maintenance Management



MEETA Awards 2023

Best Practice
Environmental Control



MEETA Awards 2023

Best Practice
Safety in Maintenance



Our accreditation in ISO50001, supports and drives our ambition to be best in class for Sustainability in the WuXi Biologics group.

The Energy Management standard has led to the establishment of the following on site;

- Sustainability charter and dedicated resource
- Energy management procedures and employee support
- Energy monitoring system and reviews
- Internal and external energy audits
- Energy GEMBA programme
- Energy project hopper

ISO 50001 is one of the building blocks to an all-round ecological business and will help the site improve its energy management and consumption.

ISO 50001 supports our environmental commitments to neighbours, local agencies, our workforce and clients.

Energy Map & Base Line –

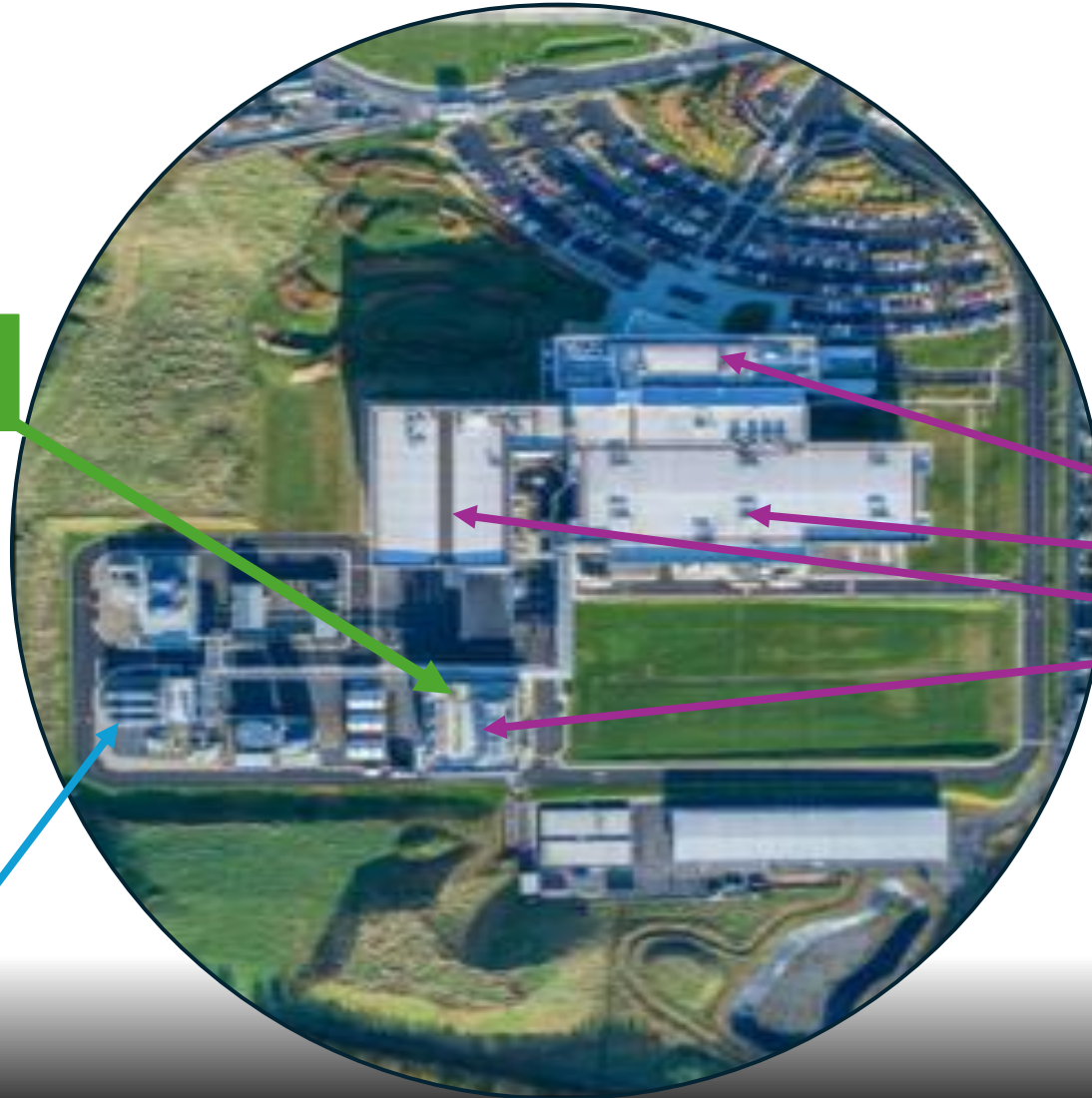
Where do we use our Energy



Natural Gas fed Boilers = 30 GWh,
• Equivalent to heating 2800 homes



6,300 litres of fuel oil for
Emergency Generators,
equivalent to filling 114x cars

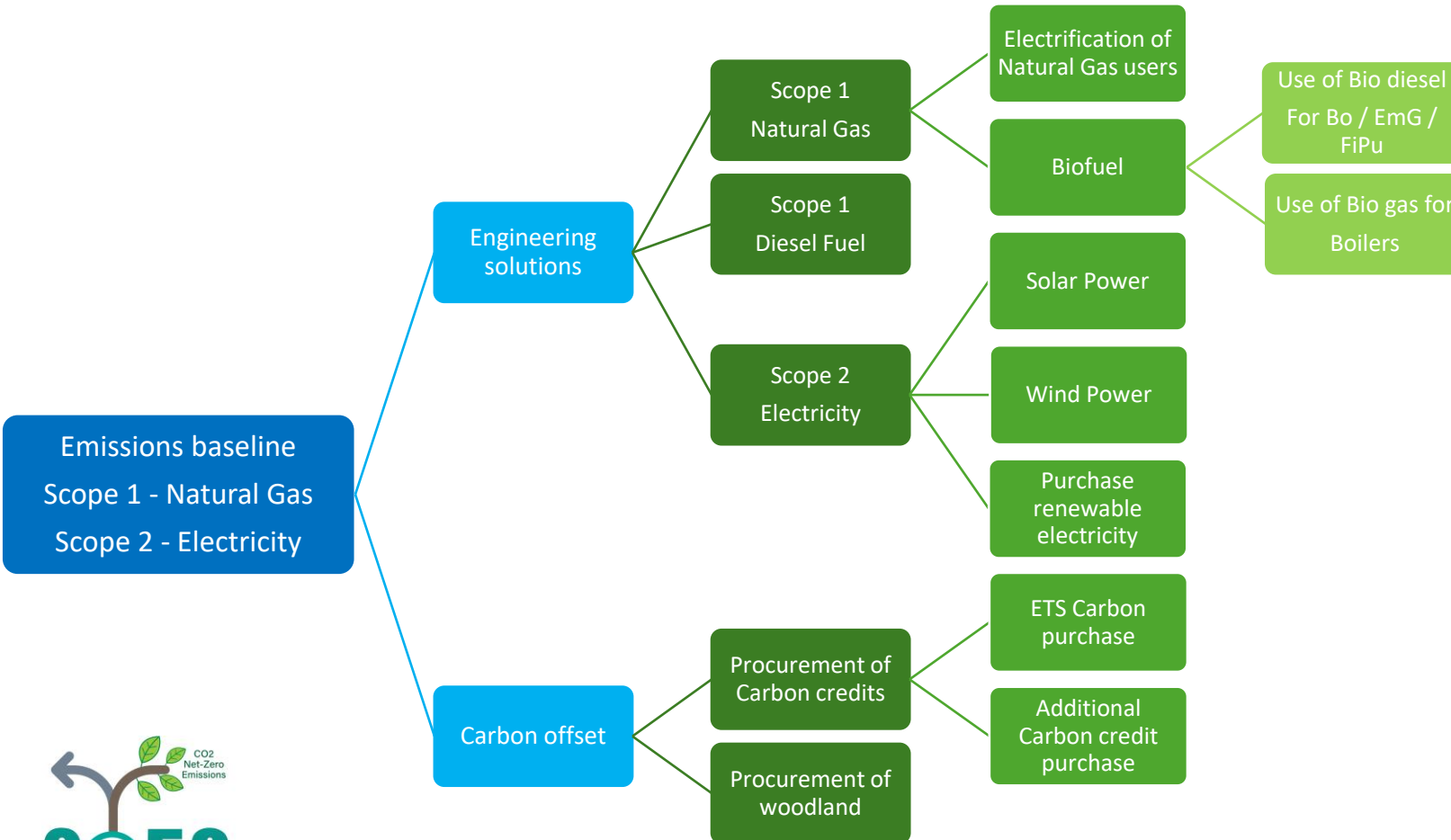


Electrical usage per year, c.22GWh
equivalent to 7.5 million kettles
being boiled

DK1 Admin – 5%
DK2 Manufacturing – 70%
DK3 Warehouse – 5%
DK4 CUB – 20%

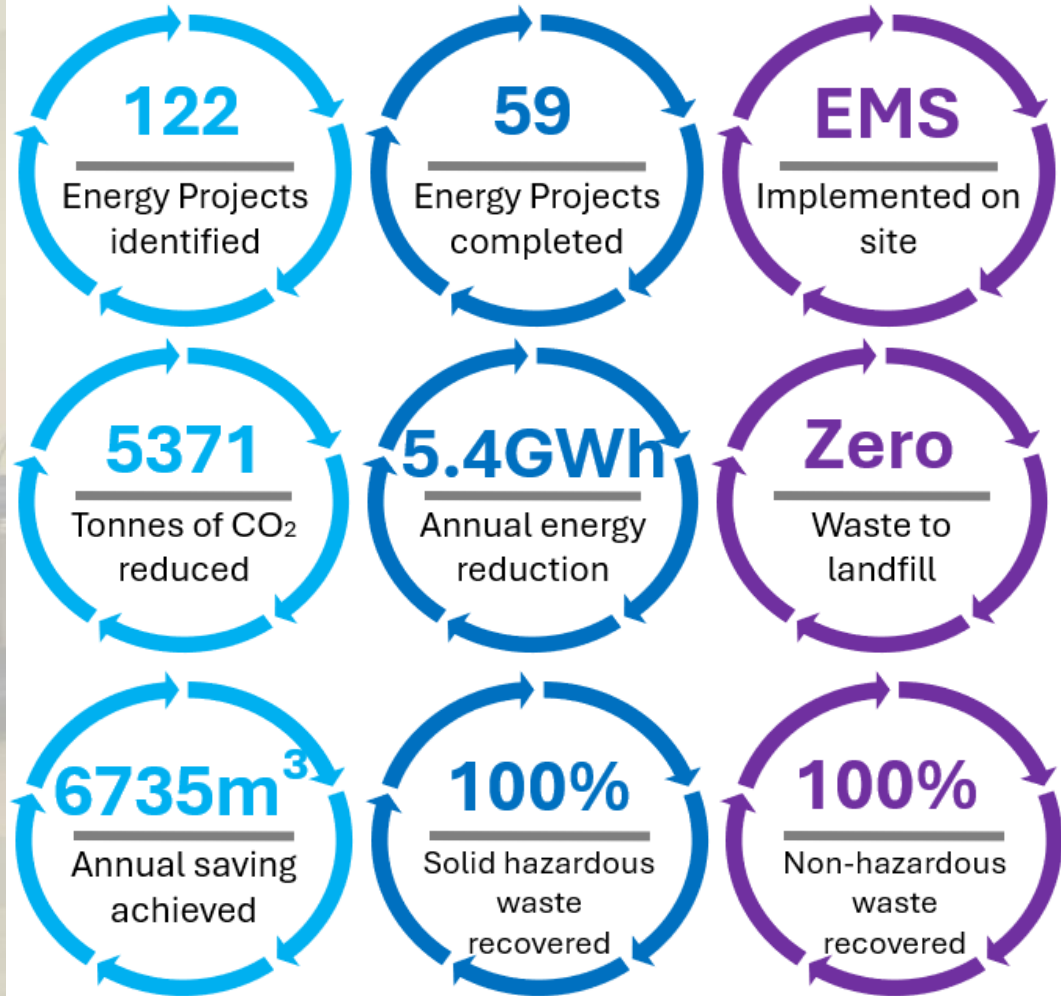
Carbon net-zero Road Map for site

- Build a plan and track progress

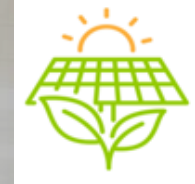


Reduction & Renewable energy usage on site

Energy & waste reduction achievements in FY23



Renewable Energy achievements in FY23



Site secured 100% renewable electricity supply. Security building 100% supplied by on site solar energy (1.1MWh per annum).



Investment into Green technology on site
20 EV charging points available



Introduction of Hydrotreated Vegetable Oil on site for Emergency Generator Biofuel.



Rainwater harvesting system in operation on site, 2351m³ per year saving.

Future Sustainability Focus on site

Reduce

Reduce energy



Continue to identify and complete energy saving projects through the following;

- GEMBA
- Audits
- Golden Idea
- Project Hopper
- Continuous Improvement

Reduce water



Use of Grey water source on site for current use and future expansion;

- CIP optimisation
- Pretreatment tuning
- WFI waste reduction
- More rainwater harvesting

Renewable

Biogas



Agreement in place with supplier for Biomethane through the existing infrastructure when available;

- Reduction of 5000 tonnes of CO₂ per annum
- Eliminating 90% of the sites' Scope 1 emissions

Renewables



Use of further renewable technology on site to support the reduction of CO₂.

- Wind turbine
- Solar farm

Management

ISO50001



Maintain accreditation through robust EHS&E policies and management.

Scope 3



Focus on identifying and reducing Dundalk's site Scope 3 emissions via

- Improving knowledge
- Travel
- Vendor emissions
- Logistic emissions

SUMMARY



Sustainability a key factor in attracting and maintaining a talented workforce and clients. **Facility** has incorporated technology to minimize energy usage on site and building blocks for future enhancements.

Sustainability focus has seen a large volume of optimization works and projects as well as awareness campaigns run to date – focus on site, surroundings and home too. No longer an option..... Clients / Workforce expect this.

ISO 50001 standard in place and Site Roadmap, with management commitment, developed to support the 50% reduction by 2030 and zero net carbon by 2050 plans.

THANK YOU

