

# Supporting the Energy Transition Through Education

case study

## Best for...

- Engagement with project stakeholders to support the education on energy transition
- Developing and delivering low carbon social infrastructure
- Innovative delivery models to deliver increased energy efficiency and improved educational environments



## Building greenfield schools infrastructure presents an opportunity to embed the latest energy efficiency technology and support national and local government aims to decarbonise.

There are also many improvements that can be made at long-established educational institutions to help them reduce emissions and save energy costs. The impact of the energy transition on education infrastructure goes far beyond efficiencies on bricks and mortar, however. There are growing opportunities to inspire and influence the young minds that schools and colleges house, educating them about energy issues, while equipping them with skills to make a long-term positive contribution to the planet.

Meridiam's focus on Critical Public Services and Innovative Low Carbon Solutions enables us to look for opportunities at the nexus of these two sectors. **We are building new schools that aim to be carbon neutral and improve student and teacher wellbeing.** We are also helping large university campuses dramatically **reduce their carbon footprints** and become more resource efficient. In both cases, our teams are working with the institutions themselves and local authorities to develop initiatives and devise educational programmes that build awareness about the energy transition, both among students and the wider community. In doing so, we create positive synergies between two of our core investment sectors and multiply the positive impacts generated for people and the planet.

## Our Investments

Our greenfield education investments and campus energy management projects include:

- **Welsh Education Partnership** – Up to 30 new schools across Wales, including primary, secondary and further education colleges
- **Espoo Schools programme** – 5 schools and 3 childcare centres in Espoo, Finland, for over 4,000 children
- **University of Iowa** – Utility upgrades and coal-free campus for over 40,000 students and staff
- **California State University, Fresno** – Utility upgrades and targeted 30% energy cost savings across more than 80 buildings



## Sustainable Facilities from the Ground Up

The Welsh Education Partnership, formed by Meridiam and the Welsh government in 2020, aims to create sustainable schools fit for the 21st century and will deliver up to **30 new projects** – including primary, secondary and further education colleges – across the country. The first schools are in the pipeline, including a **1,300-pupil school** combining primary and secondary education in the northern county of Flintshire, three primary schools across the south of the country, and a further education college in the capital Cardiff.

The schools will be built and maintained to be carbon neutral throughout their lifetimes. That, in turn, will help the Welsh government towards its own goal of net zero by 2050. To achieve this, the

buildings will feature larger and more airy social areas to help with ventilation and airflow; solar panels will be widely used to meet the buildings' electricity needs; and ground or air-source heat pumps will provide sustainable heating.

Our investment programme in Espoo, Finland's second city, is already underway and combines environmental standards with social goals. The project actively contributes to Espoo's aim of being **carbon neutral by 2050** and meeting the **UN Sustainable Development Goals by 2030**. The project has been selected by the UN itself as an example of what cities can do to implement and achieve the SDGs.

### Espoo "Schools in Shape", Finland

- Five schools, three day-care facilities totalling more than 4,000 pupil spaces
- 22-year contract to design, build and maintain buildings
- 80/20 partnership with Finnish construction group YIT
- €160m investment
- Addresses 15% of city's need for healthy and functional educational premises
- Construction to be completed in 2024

### Our Impact

#### SDG 4 – Quality Education

- 4,000 quality school places that promote health and wellbeing

#### SDG 7 – Affordable and clean energy

- High quality construction with plans to implement emission reduction monitoring systems once complete

#### SDG 9 – Industry, Innovation and Infrastructure

- Resilient, sustainable and inclusive buildings that benefit all and foster innovation

#### SDG 11 – Sustainable Cities and Communities

- Universal access to safe, inclusive and accessible spaces in particular for women and children and people with disabilities
- Higher development of green spaces than is legally required

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By aiming for zero carbon in construction, as well as zero carbon in operations, we are **starting to push the boundaries of what can be done in schools.**”

Christian Stanbury, CEO Welsh Education Partnership



## Decarbonising University and College Campuses

Meridiam has undertaken two projects that will enable US universities to upgrade their utilities systems, get them off coal, and cut their climate impact. At the University of Iowa in Iowa City, Meridiam has a **50-year contract** alongside its partners to improve and maintain the university's utilities systems that feed over **90 major buildings across the 1,700 acre site**, including one of the US's largest teaching hospitals with over **13,000 employees, students and volunteers**.

Among the emission-reduction plans, the concession aims to achieve a **100% coal-free campus before 2025**. Central to that target is an initiative to convert university boilers to run on sustainable biomass, such as oat hulls, grasses and other locally produced materials. In addition to reducing its climate impact, the Project Company's investment is also expected **to free up some \$15 million per year for the University of Iowa's core educational programmes**.

Meridiam's **33-year contract with California State University, Fresno guarantees the university savings in excess of 30% on its energy bills**.

In addition to modernising the Fresno central utility plant and its hot and cold-water distribution network, Meridiam will install solar panels for on-site power generation and **low-energy LED lighting across the 1,100-acre campus**. The agreement includes a commitment to upgrade facilities again before the end of the concession to ensure that we hand over futureproof utility systems that will help the university continue to deliver on its climate goals.

The projects highlight the demand among US colleges for public-private-partnerships to manage energy needs and ambitions, while recognising the universities' core focus on quality education. Many universities are under pressure to exit fossil fuels but lack the access to funding and management expertise to modernise ageing infrastructure. **Long-term P3 agreements** can help them meet climate goals, reduce costs and free up money for investment in educational programmes. We expect more such opportunities to arise across the US, with our partnerships in Idaho and Fresno serving as models for other university campuses.

## California State University, Fresno

- Established 1911
- 1,100-acre campus
- 80+ buildings
- 25,000+ students
- \$157m investment

## Our Impact

### SDG 7 – Affordable and Clean Energy

- 30% energy cost saving through upgraded utility systems and efficiencies on campus

### SDG 10 – Reduced Inequalities

- Reduced inequalities through target inclusion of 25% small local businesses in site upgrades and operations

### SDG 13 – Climate Action

- Clean energy generation through installation of solar panels for campus power
- Reduce GHG emissions to 1990 levels by 2020 and 80% below 1990 levels by 2040



## University of Iowa, Iowa City

- Established 1847
- 1,700+ acre campus
- 35,000+ students
- Includes one of US's largest teaching hospitals
- \$1.165bn transaction size

### Our Impact

#### SDG 4 – Quality Education

- Build innovative programmes about energy transition to benefit students and employees with experiential learning

#### SDG 6 – Clean water and sanitation

- Improve wastewater management and sanitation services

#### SDG 12 – Responsible Consumption and Production

- Ensure university utilities are coal-free before 2025

#### SDG 13 – Climate Action

- Deliver services and solutions including renewable energy, microgrids and energy storage to reduce energy usage and prepare the campus for a resilient and sustainable future

#### SDG 17 – Partnerships for the Goals

- Develop strong academic partnerships with the University through student internships focused on development and enrichment

### Educating and Inspiring Young Minds About Climate Action

Helping governments and educational institutions meet their emissions goals is just one element of Meridiam's climate action strategy. Our work also focuses on educating students and getting them involved in sustainability work, as well as broader community outreach to raise awareness about practical ways to tackle climate change.

At University of Iowa, our concession agreement includes **the creation of innovative programmes about energy transition for students and employees**. These revolve around experiential learning, particularly internships, special projects, and research opportunities. Activities include tours of the utilities facilities for students and staff, and getting students actively involved in wastewater treatment operations.

Work crosses many departments with undergraduates in the marketing programme conducting a survey into awareness about our sustainable biomass initiative, while helping craft a strategy to promote the transition. In addition, we contribute to the university's growing sustainability curriculum and award internships to students at our project company. **The aim is for students to develop a sustainability mindset** through their university experience, drive engagement with practical work on campus, and help prepare students for career opportunities –

potentially in "green collar" jobs – upon graduation.

Our project management company at California State, Fresno, awards two scholarships and six intern positions each year to students. Through these, students are immersed in programmes that range from technical subjects, such as engineering design and construction logistics, to communication and outreach tasks like website management. Meridiam is also looking at ways to manage and improve engagement with the student and teacher body. We developed a Human Behaviour Energy Audit process to identify and assess barriers and facilitators to campus energy consumption and conservation. The findings feed into planned energy actions at the university, as well as educational programmes we contribute to.

Through the involvement of students and staff, our initiatives can change attitudes and behaviour, and can encourage universities to go further with their plans. At the same time, high-quality education and sustainability strategies serve as a positive point of difference for universities wanting to attract students.

The youngest can also be inspired by sustainability initiatives. Meridiam's work with the Welsh Education Partnership is getting pupils involved in the design and planning of some school areas, while older students are undertaking projects on sustainable town planning.

Initiatives reach outside the school to help wider communities. We hold regular strategic partnering meetings with local authority representatives and bring in sustainability experts to present ideas and answer their questions. We share best practice openly with all our partners so that local authorities, other investors and contractors can understand how to **meet net zero standards**. In doing so, we are giving everyone the tools to reduce emissions and address climate change.

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Universities want a partner that will be involved on campus. Meridiam is not only helping universities to **achieve climate goals** but also to **engage with students on sustainability**.

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**Stacey Ayuthia, Investment Director,  
Meridiam**

## Educating Students and Communities on the Energy Transition

- Internships and scholarships for US university students
- Active involvement in curriculum planning and delivery on sustainability
- Formation of students for "green collar" jobs
- Driving engagement with sustainability initiatives on campus
- School projects in Wales promoting sustainability in design
- Open best practice sharing with local authorities and partners on meeting net zero

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