



PURPOSE: Electrification of existing health assets means using electricity as the primary fuel source, reducing as far as possible the use of fossil fuels such as natural gas and diesel. Electrification can involve replacing all natural gas assets, or a partial electrification solution involving specific buildings, or thermal energy assets, such as domestic hot water.

DRIVERS FOR DECISION-MAKERS:



Responding to climate change



Energy reliability as a result of reducing gas availability



Policy and market trends

REVIEW

Governance

- ☐ Develop an electrification roadmap for all assets
- ☐ Integrate electrification with other strategies such as EV charging, renewables and energy storage

Existing systems

- ☐ Identify the type and age of all gas equipment
- ☐ Identify condition of existing electrical infrastructure including spare capacity
- ☐ Identify existing gas and electricity consumption and peak demand using meter data
- ☐ Identify the existing heating and steam annual load profile using meter data
- ☐ Identify the size and location of the extra plant area needed for electric technology

Asset management plan

- ☐ Identify when to implement electrification – align with end-of-life equipment replacement or upgrade projects

PLAN

Project definition

- ☐ Identify the time horizon for electrification as part of net zero and energy reliability planning
- ☐ Define metrics and indicators to measure success

Feasibility

- ☐ Identify electric technology options for space heating, steam sterilisation, domestic hot water, cooking and other systems
- ☐ Check if existing electrical infrastructure is compliant and has enough capacity to accommodate new electric technology
- ☐ Identify opportunities to reduce energy use and peak electrical demand
- ☐ Identify any upgrades required to the electrical infrastructure to accommodate increased electrical demand
- ☐ Confirm available plant area size and location to accommodate new electric technology

DELIVER

Design

- ☐ Develop the design of electrical infrastructure and electric space heating, steam sterilisation, domestic hot water, cooking and other systems based on the recommended option
- ☐ Prepare design drawings and specifications for the electrification works

Construction

- ☐ Supply, install and commission works in line with the design drawings and specifications

Operation

- ☐ Develop and implement operation and maintenance plans for newly constructed upgrades
- ☐ Update asset management plans with new infrastructure

For more information, refer to the *Electrification guide*.



TIPS FOR OVERCOMING CHALLENGES

CHALLENGES

- Budget availability
- Condition of electrical infrastructure and spare
- Limited space for new electrical infrastructure
- Gaining buy-in from all stakeholders

OPPORTUNITIES / ACTIONS

- Energy efficiency upgrades to reduce electrical demand
- Engagement of stakeholders at each stage of the project
- Transition to net zero if implemented alongside 100% renewables



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PLAN

Project definition

- ❑ Identify the time horizon for electrification as part of net zero and energy reliability planning
- ❑ Define the metrics and indicators to measure success

Master planning

- ❑ Identify the existing site electrical infrastructure condition, configuration and capacity
- ❑ Include plant room allowance in schedules of accommodation and consider the location within site massing
- ❑ Investigate how the electrification of new assets can support broader campus-wide electrification

Feasibility

- ❑ Develop building blocking and stacking to size and locate plant rooms
- ❑ Identify new electrical infrastructure design options
- ❑ Identify electric technology options for space heating, steam sterilisation, domestic hot water, cooking and other systems
- ❑ Identify opportunities to minimise energy use and peak electrical demand
- ❑ Ensure heating and cooling systems are integrated to recover waste heat where possible
- ❑ Allow for electrification costs, including any necessary enabling works for existing site electrification infrastructure, in the business case

DELIVER

Design

- ❑ Develop the design of electrical infrastructure and electric space heating, steam sterilisation, domestic hot water, cooking and other systems based on the recommended option
- ❑ Prepare design drawings and specifications for the electrification works

Construction

- ❑ Supply, install and commission electric systems in line with design drawings and specifications

Operation

- ❑ Develop and implement operation and maintenance plans for new assets
- ❑ Update asset management plans with new infrastructure



TIPS FOR OVERCOMING CHALLENGES

CHALLENGES

- Budget availability
- Limited electrical capacity for new assets on existing campuses
- Gaining buy-in from all stakeholders

OPPORTUNITIES / ACTIONS

- Delivering energy efficiency facilities to reduce electrical demand
- Engagement of stakeholders at each stage of the project
- Transition to net zero if implemented alongside 100% renewables