

# Bio-Tech Company Injects Life Into Their Energy Efficiency

Northmore Gordon worked closely with a Singapore-based manufacturer of precision equipment over 2021 to complete an Energy Efficiency Opportunities Assessment for New Ventures (EEOA-NV) as required by Singapore's National Environment Agency (NEA). The complex requirements of the Program were fully met and the report submitted so our customer would receive Development Consent. In addition, NG identified practical energy saving opportunities that are now being implemented as part of the new-build.

## The Client

The Client has been established in Singapore for many years, with manufacturing operations. The operation involves creation of precision, high quality parts in a clean-room environment for a specific end-use. It is supported by utilities including compressed air, boiler, air conditioning and chiller systems, centralised extraction systems, and cooling towers.

## The Project

To meet the requirements of the Energy Conservation Act, potential new ventures or major expansion of sites in Singapore that use over 54 TJ per annum need to undergo an Energy Efficiency Opportunity Assessment on the design.

The upgrades proposed and included in the final design included high efficiency motors for compressors, an improved clean room control strategy, high efficiency motors for fans in MAUs/exhausts/ovens, CO2 sensor controls, high efficiency chillers, lighting controls, and solar PV.

Northmore Gordon is a leader in environmental certificate creation and trading. We have created the most certificates of all Accredited Persons under the Victorian Energy Upgrades program, an Accredited Certificate Provider in the NSW Energy Savings Scheme, and registered agent under the Federal Renewable Energy Target.

We've provided \$100m of financial incentives for energy efficiency and renewable energy projects at over 35,000 commercial, industrial and residential sites. This has saved our clients and partners gigawatt hours of energy, millions of dollars and reduced greenhouse gas emissions by over 5 million tonnes of CO2e.

## Key Facts

- EEOA completed in line with regulation
- Annual Savings Estimates compared to the Base Design
  - Energy: 5,660 GJ/annum
  - Carbon Abatement: 641 tCO2e
  - OPEX: ~\$236,000
- Project Details
  - CAPEX: ~\$343,000
  - Payback: ~1.5 years

## Challenges

- Competitive pressures to provide high quality services with strict quality controls whilst minimising operating costs
- Energy bills represent a substantial cost the operations
- New equipment proposed needs to gain approval from their international parent company prior to being used.

## Additional Benefits

- Lower running costs when the new facility is built
- Optimised ventilation rates

## Our Role

Northmore Gordon worked very hard to complete the work to the standard required by the NEA in the line with the development timeframe. This included working with the design team, architects, and M&E contractors through the difficulties of restrictions that occurred in 2020 due to Covid lockdowns. The work included a detailed base case energy balance, detailed analysis of the design, identification of energy efficiency opportunities in conjunction with the Client, completion of the NEA's report template, and achieving sign-off by the Client stakeholders and the NEA.



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