

Infrastructure Ontario Project Summary

Design and Lifecycle Study Fuel Cells

January to July 2016

Craig Louie, Chris Norman, Michael Eiche, Ophir Kendler, Jenmar Concepts (Al Robinson, Jac Neels)

23 October 2016



Project Rationale



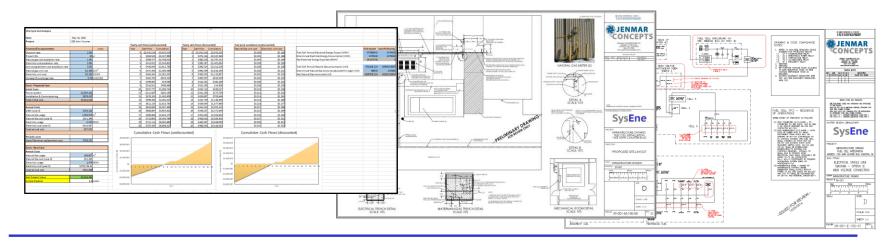


- GhG Emissions Reduction from Ontario Government Infrastructure (primarily buildings and operations
- Investigation of multiple efficiency and generating options
- Install a test pilot fuel cell to understand the true life-cycle cost and integration challenges involved
- Consistent with long-term path of renewable natural gas or hydrogen



Project Deliverables

- Preliminary Design Study strategy, requirements, architecture, integration, technology and vendor selection, multiple sites
- Legacy system analysis
- Integration design; operating concept
- Site layout, process, mechanical, and electrical drawings
- Site installation cost estimate study
- Life cycle cost analysis model and case studies



23 October 2016 3



Project Results

- Project successfully delivered
- Results are confidential to the client
- Project reference: Garret Mozon, Infrastructure Ontario, garret.mozon@infrastructureontario.ca

23 October 2016 4