HYDROGENICS

Changing Power …Powering Change

Hydrogenics Corporation

NHA Conference and Hydrogen Expo

Telecom Backup Power: The Business Case

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Hydrogenics Profile

- **Designer and manufacturer of Advanced Water Electrolysis Equipment and Fuel Cell Systems**
- **Incorporated in 1995 (NASDAQ: HYGS; TSX: HYG) and headquartered in Canada with facilities in Germany and Belgium**
- **More than 1,700 products deployed worldwide in 100 countries**

Hydrogenics' Lines of Business

EMERGING MARKETS

Hydrogen Energy Storage and Power Systems

- Off-grid renewable power
- On-grid community or residential power
- Grid incentives for load control
- Renewable hydrogen fueling
- Grid optimization

TODAY'S MARKETS

Industrial Hydrogen

Hydrogen Fueling

Backup Power

Mobility Power

OPERATING SEGMENTS

OnSite Generation
-Electrolyzers

Power Systems
-Fuel Cells

CORE COMPETENCIES

- Alkaline and PEM electrolysis
- PEM fuel cells
- Compression, storage, and dispensing
- System integration capabilities
- Control and load profile software

AC Product Configuration

Supplier to UPS companies for data center backup power systems

- **Fuel Cell Extended Run (FCXR)**
  - DC/DC
  - Fuel Cell Power Modules
  - Heat Exchanger
  - Water Cooled
- **InfraStruXure Symmetra (UPS)**
  - Inverters and rectifiers
  - Battery bridging power
  - User communication
  - Grid connection

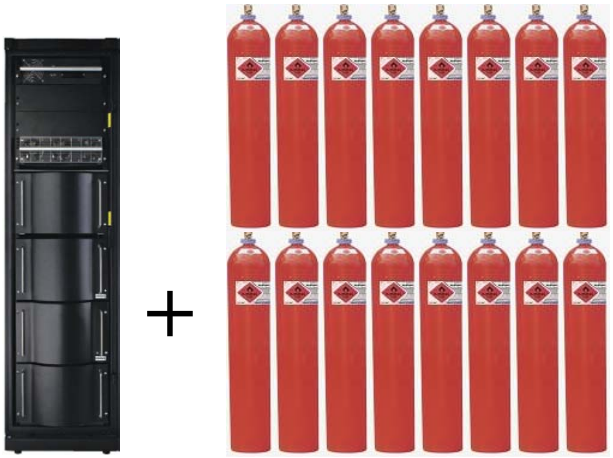
Supplies DC Power

Grid Power

Supplies AC Power

Both racks are designed for scalability in increments of 10 kW (net AC) – 30 kW per rack

Hydrogen's Energy Advantage



- 8 hours backup power at 20 kW
  - FCXR requires only 8.5% of the space needed for 8 hours (20 kW) backup with batteries
  - With a dual manifold for the hydrogen, supply can be replaced while the unit is in operation
  - Hydrogen can be placed outside saving valuable data center space for revenue generating equipment
  - Energy/runtime easily increased with additional fuel storage

DC Backup Power Systems

Supplier to industry leading DC backup power providers

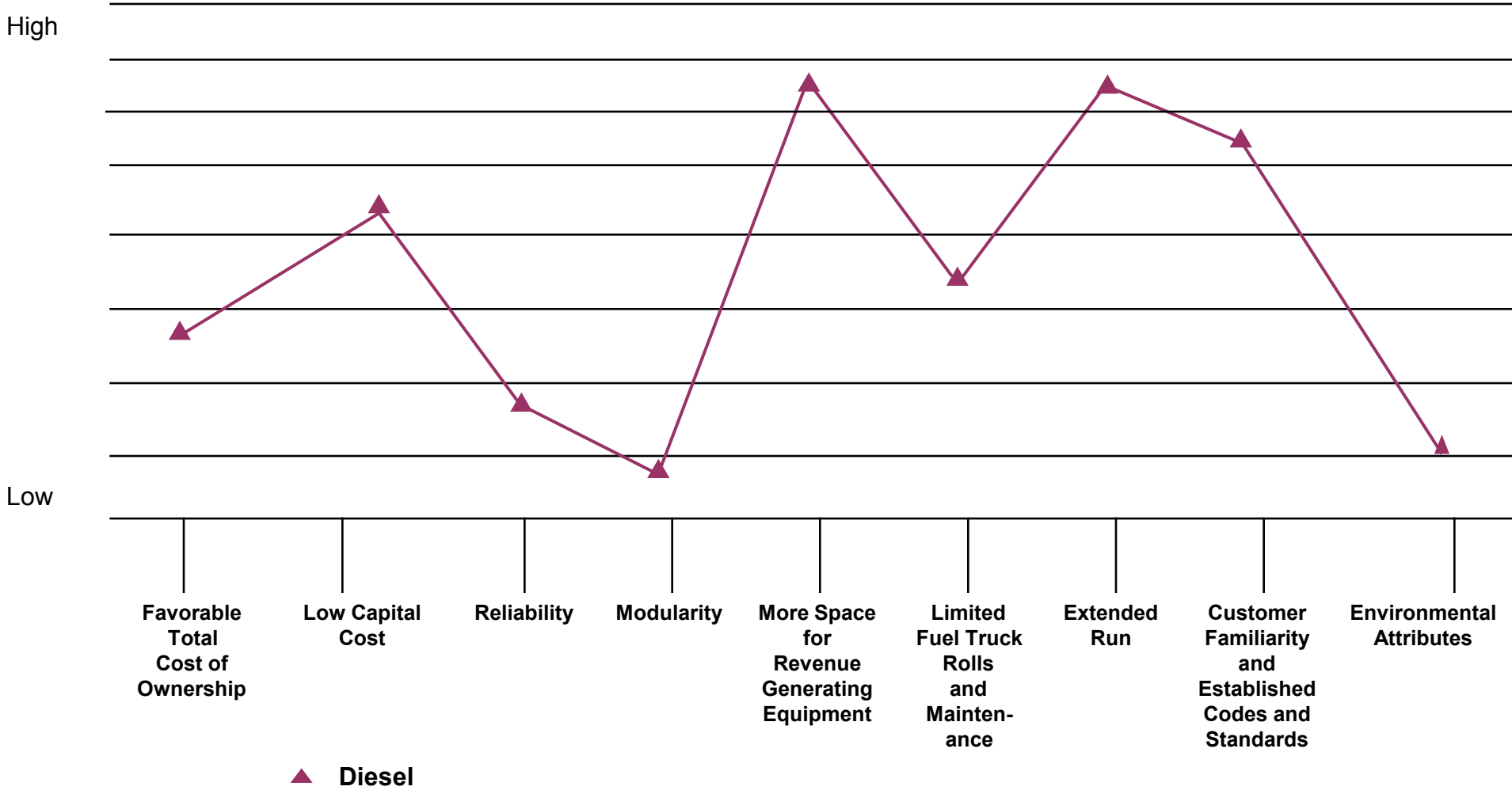
- **DC backup power in Outside Plant (OSP) environments**

- **System includes:**
  - HyPM 4 or 8 XR Fuel Cell Power Module, scalable to 8 or 16 kW with an additional module
  - Energy storage: ultra capacitors or batteries
  - Thermal management
  - Master controller and remote monitoring

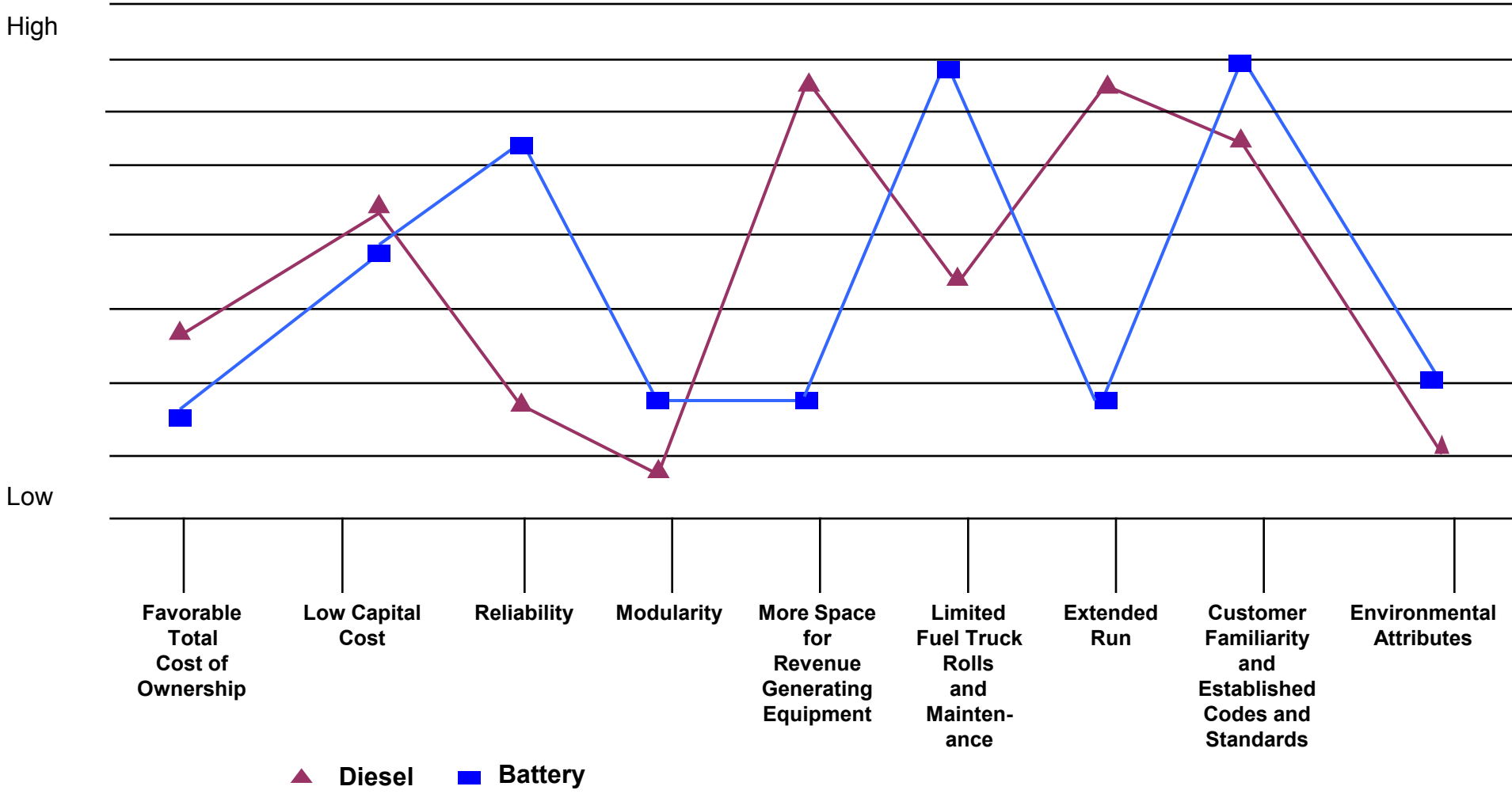
Backup Power Examples: Canada, Spain and India

The Business Case

Dinosaurs are still being used

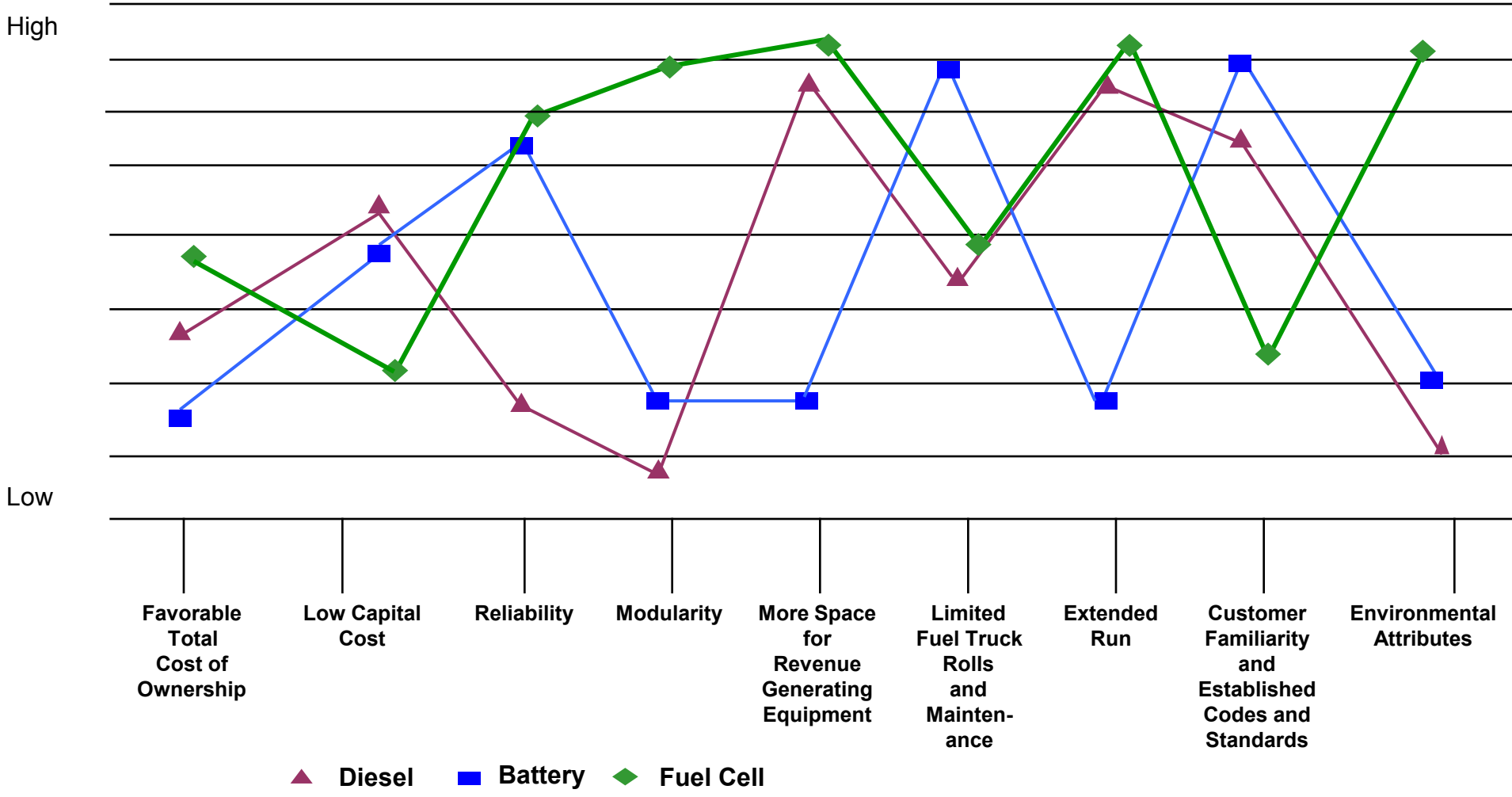


Batteries are better but not best



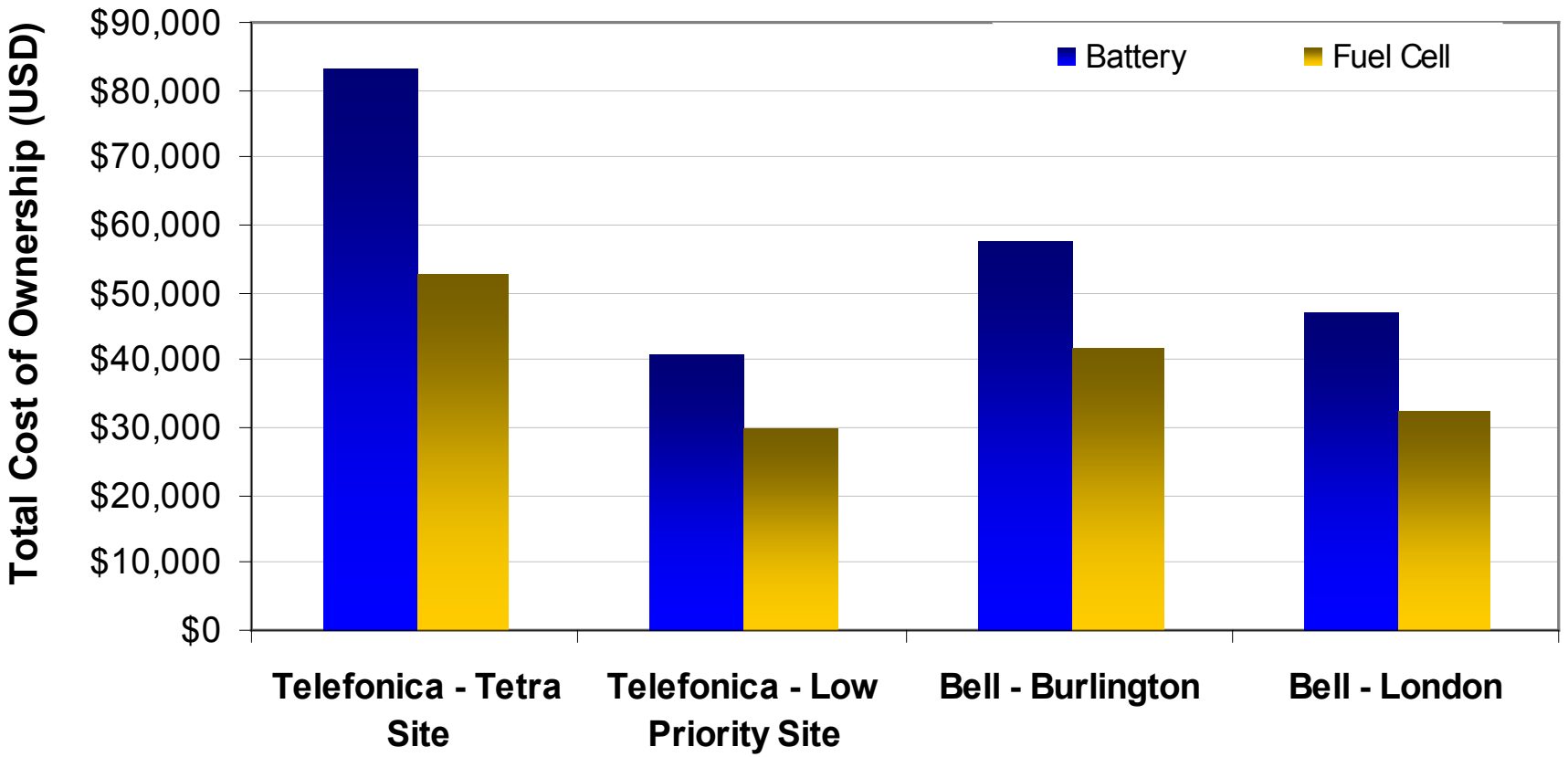
The fuel cell value proposition

is complex but real



TCO Verified by Customer

- **40% TCO Advantage on Specific Sites**



- **Data Source: Telefonica and Bell Canada**
- **Assumes no battery replacements over 10 years**

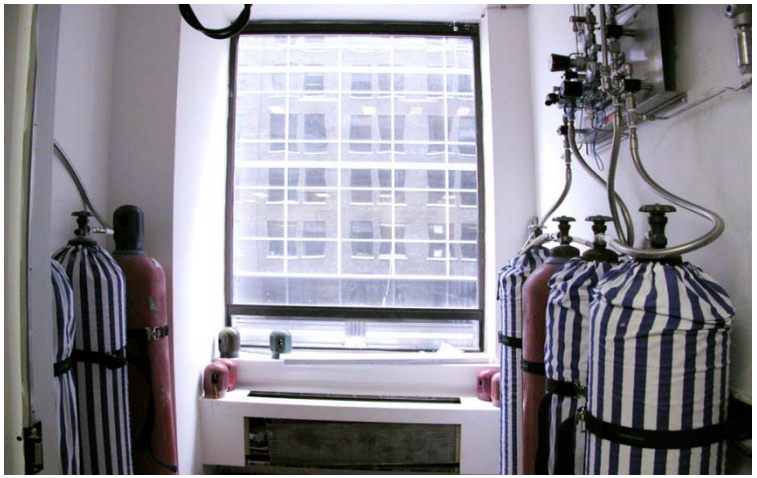
40% better TCO

- **Analysis shows:**
  - Total Cost of Ownership is less for fuel cells versus batteries
  - Capital cost of fuel cells is typically greater

- **Increased economic savings achievable in cases with:**
  - Longer runtime requirement
  - Higher power requirement
  - Harsher climate conditions
  - Shelters where space can be reclaimed for revenue generating equipment

Case Study – Interlink Connectivity

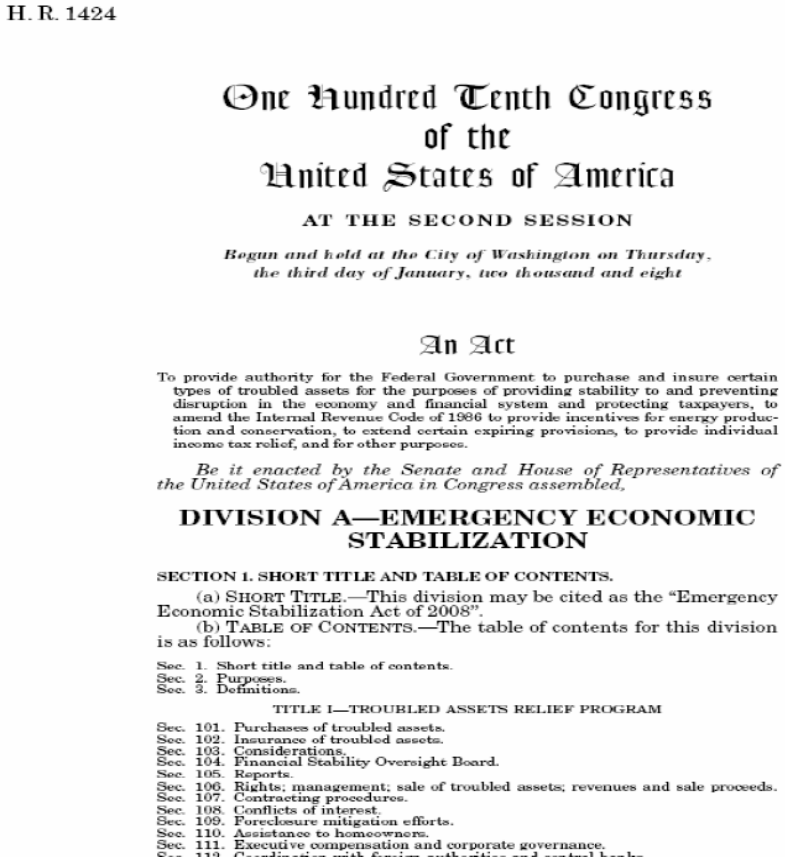
- **Fuel Storage**
  - One hour fire resistant room
  - Ventilation through a window
  - Hydrogen detection



- **Fire Protection**
  - Detection
  - Suppression system
  - Emergency shutoff for hydrogen supply and fuel cell rack
  - Connected to building fire detection system

- **Technical Standards & Safety Authority (TSSA)**
  - Provide protection from fuel-related hazards such as spills, fires and explosions
  - Hazardous gas monitoring
  - Proper piping

US Tax Credit



H. R. 1424

One Hundred Tenth Congress
of the
United States of America

AT THE SECOND SESSION

Begun and held at the City of Washington on Thursday, the third day of January, two thousand and eight

An Act

To provide authority for the Federal Government to purchase and insure certain types of troubled assets for the purposes of providing stability to and preventing disruption in the economy and financial system and protecting taxpayers, to amend the Internal Revenue Code of 1986 to provide incentives for energy production and conservation, to extend certain expiring provisions, to provide individual income tax relief, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

DIVISION A—EMERGENCY ECONOMIC STABILIZATION

SECTION 1. SHORT TITLE AND TABLE OF CONTENTS.

(a) SHORT TITLE.—This division may be cited as the "Emergency Economic Stabilization Act of 2008".

(b) TABLE OF CONTENTS.—The table of contents for this division is as follows:

Sec. 1. Short title and table of contents.
Sec. 2. Purposes.
Sec. 3. Definitions.

TITLE I—TROUBLED ASSETS RELIEF PROGRAM

Sec. 101. Purchases of troubled assets.
Sec. 102. Insurance of troubled assets.
Sec. 103. Considerations.
Sec. 104. Financial Stability Oversight Board.
Sec. 105. Reports.
Sec. 106. Rights; management; sale of troubled assets; revenues and sale proceeds.
Sec. 107. Contracting procedures.
Sec. 108. Conflicts of interest.
Sec. 109. Foreclosure mitigation efforts.
Sec. 110. Assistance to homeowners.
Sec. 111. Executive compensation and corporate governance.

- Federal fuel cell tax credit increased in "Bailout Bill"
- **$3000/kW or 30% of unit price** whichever is less
- Tax credits **extended to 2016**
- Has a significant impact on financial viability

Find out more about us…..
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HYDROGENICS

The Regulatory Case

Codes and Standards Requirements

- **National Fire Protection Association (NFPA)**
  - Minimize the possibility and effects of fire and other risks
  - NFPA 853 (Installation of Stationary Fuel Cell Power Plants)
  - NFPA 55 (Storage, Use and Handling of Compressed Gases)
  - NFPA 496 (Purged and Pressurized Enclosures for Electrical Equipment)

- **UL or CSA/ American National Standard Institute (ANSI)**
  - Enhance public safety and health and increase business competitiveness
  - CSA Standard 33 – FC 1