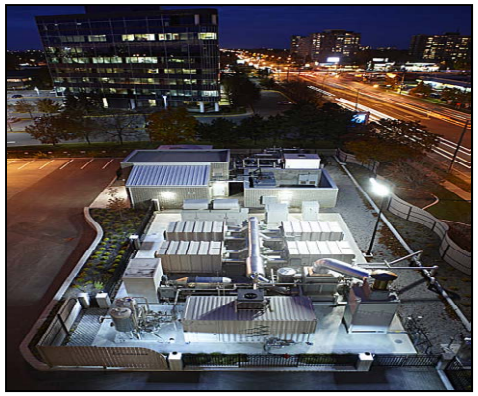
FuelCell Energy

Fuel Cell Power and Cities of the Future

Frank Wolak – FuelCell Energy, Inc

Washington Energy Summit
September 28, 2011

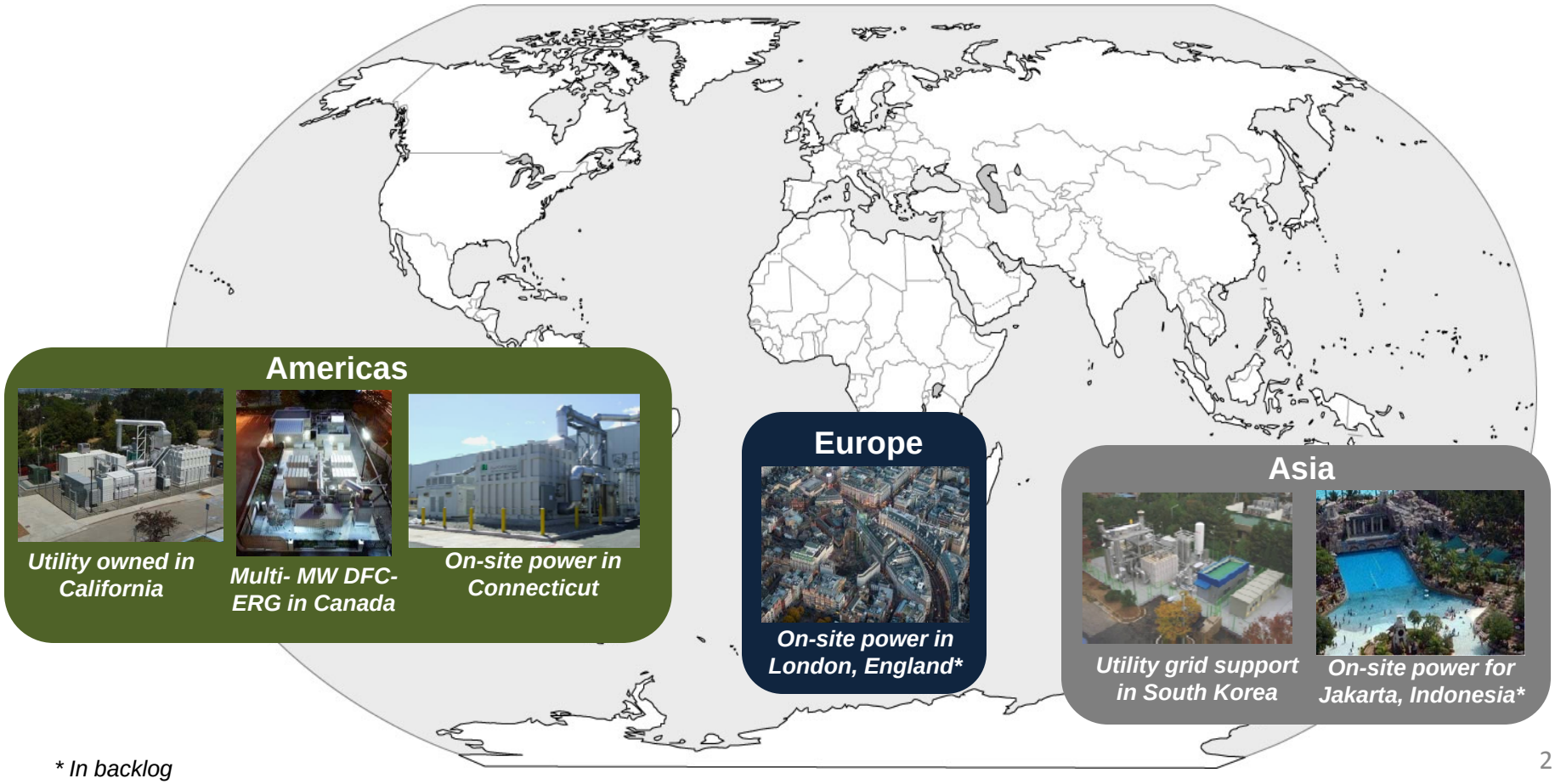


Ultra-Clean, Efficient, Reliable Power

FuelCell Energy
Ultra-Clean, Efficient, Reliable Power

Global Market Leader

- 181 MW installed and in backlog - 5 year CAGR of 48%
- Over 80 Direct FuelCell® (DFC®) plants generating power at more than 50 sites globally
- South Korea & California are leading markets
- Expanding opportunities in N.E. USA, Canada, Europe and Southeast Asia



** In backlog*

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Fuel Cell Benefits to Urban Areas

- Ultra-clean, efficient and reliable power
  - > Continuous and secure baseload power
  - > Complements intermittent wind and solar
  - > Does not require transmission grid
- Near-zero NOx, SOx and particulate matter emissions
  - > Allows siting in congested/urban areas
- Higher electrical efficiency than competing technologies
  - > 47% to 70% electrical efficiency, up to 90% with combined heat & power (CHP)
  - > Efficiency drives economics
- Distributed generation - power where needed
  - > Enables smart grid

1.4 MW power plant

2.8 MW power plant

11.2 MW power plant

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Applications for Cities

- **On-site self generation of combined heat and power**
  - Clean Power with natural gas fuel
  - Renewable Power with biofuels
- **Grid connected power generation**
  - High Efficiency Grid support
  - Renewable Portfolio Standards

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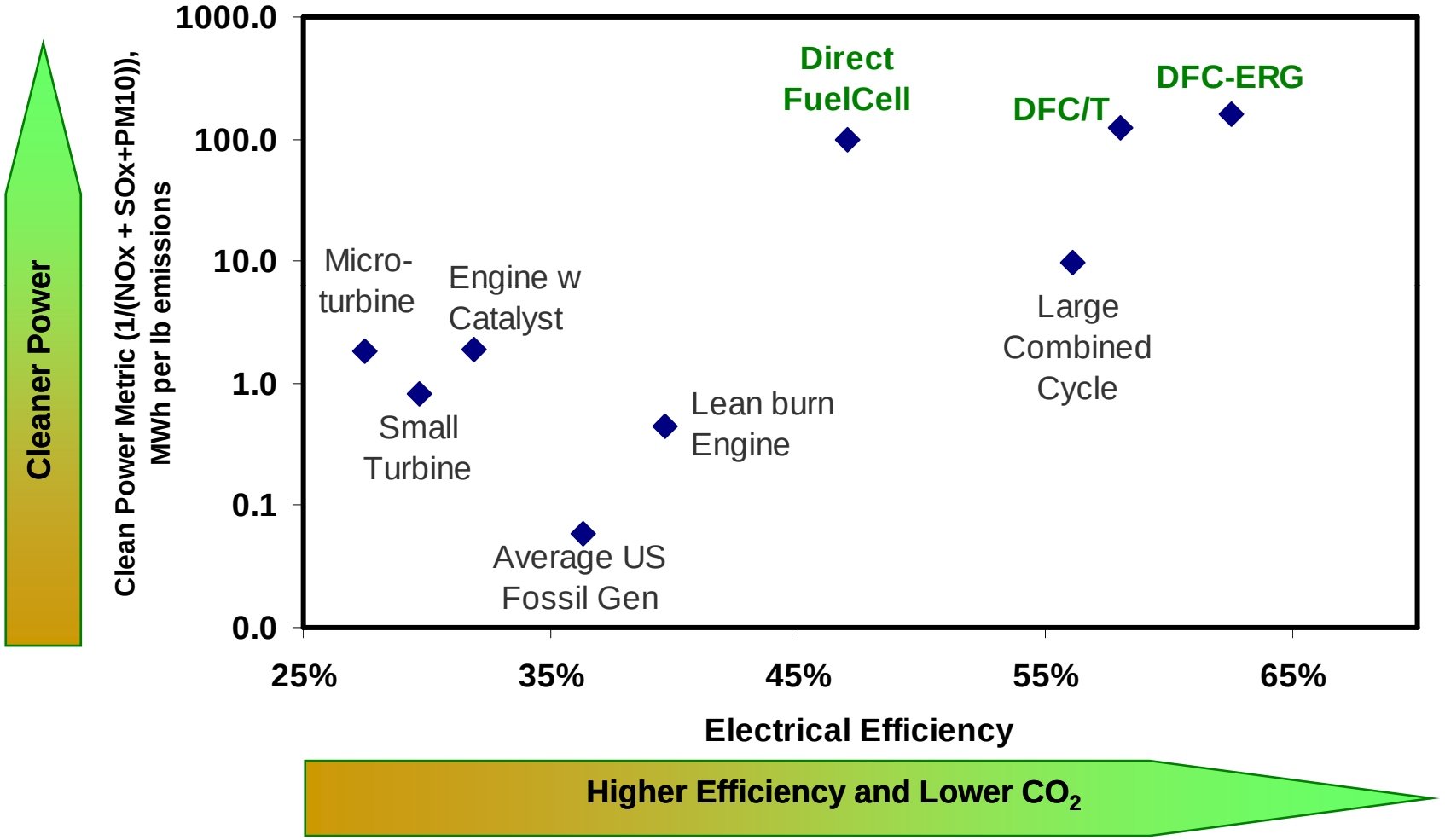
The Cleanest Power at the Highest Efficiency



Source for non-DFC data: PAFC data from product brochure; Other data from "Model Regulations For The Output Of Specified Air Emissions From Smallerscale Electric Generation Resources Model Rule and Supporting Documentation", October 15, 2002; The Regulatory Assistance Project report to NREL

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DFC-ERG ®

Fuel Cell and Turbo Expander
Clean Power for an Intelligent Energy Grid

- Ideal combination of Electric and Gas System Efficiency
- Uniquely Urban application

- Toronto plant
  - started October 2008
  - ~95 % unit availability for the first year
  - 63% Electrical Efficiency average
  - >70% Electrical Efficiency demonstrated

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Fuel Cells - Key to a Clean Energy Portfolio

- **Among the spectrum of technologies available, fuel cells on natural gas offer compelling attributes:**
  - Lower cost and predictable energy delivery compared to intermittent renewable
  - Contributes to lowering total carbon and offers carbon separation
  - Distributed generation benefits not available at the bulk or wholesale level
  - Generation that is cleaner than biofuel, biomass or traditional combustion
  - Combined Heat and Power efficiencies of 70-90%