



DOOSAN

The Clean Energy You Count On



Fuel Cell Solutions For Healthcare

IMPROVE YOUR HOSPITAL'S FINANCIAL HEALTH AND SECURITY WITH CLEAN, RELIABLE ONSITE ENERGY

Energy use and costs continue to escalate, reducing margins and the resources available to reinvest in your business. Doosan can help your healthcare facility achieve its financial goals with a combined heat and power (CHP) fuel cell solution. With a Doosan fuel cell as part of your long-term energy management plan, you will garner cost savings with onsite energy generation – money that can be invested in critical lifesaving programs to upgrade facilities and systems that improve patient, physician and visitor comfort and provide a marketable advantage for your facility.



Consider This

- Healthcare is one of the most energy intensive industries in the U.S., using twice as much energy per-square-foot as office buildings¹
- 91% of hospitals face higher energy costs than the year before and over 50% cite double-digit percentage increases²
- A 200,000 sq-ft, 50-bed hospital in the United States will spend approximately \$680,000 annually, or roughly \$13,611 per bed, on energy costs³
- Every \$1 a non-profit hospital saves on energy is equivalent to \$20 in new revenue for the facility⁴

¹ Big Data Look at Energy Trends, Ecova ² Health Facilities Management Magazine survey – 2007 study by ASHE ³ E Source 2010b ⁴ EnergyStar website, 2009

LOW COST OF ENERGY

Equipment

- Includes 30% federal tax credit
- Includes CA SGIP incentive
- Financed over 20 years

Service

- 20-year comprehensive plan
- Includes overhaul after 10 years

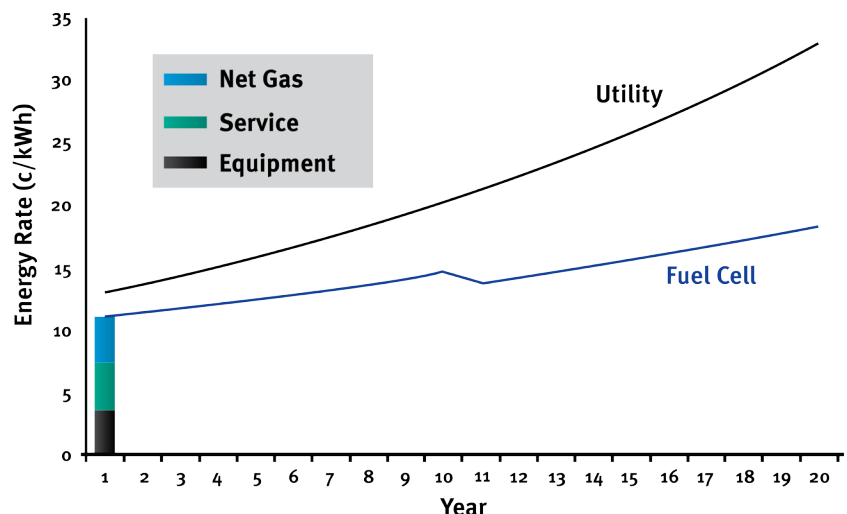
Natural Gas

- Gas required to operate at full power
- Includes benefit of reduced facility heating fuel through 50% heat recovery



Electric Generation	C/KWH	20-YEAR COST
Utility	13.4	\$16.0 M
PureCell® System	10.3	\$9.6 M

PureCell System Cost of Energy vs. Utility



Notes and assumptions:

- CA example
- 5% escalation on T&D and commodity electricity. Net amortized equipment includes federal and state incentives (CA SGIP) and is based on a finance rate of 8% over 20 years
- Service is a 20-year comprehensive plan with 3% escalation per year
- Net gas includes fuel cell gas minus the heating gas savings due to heat recovery (50% heat utilization)
- \$5.50 natural gas price with 3% escalation

Deliver Better Patient Care with Reliable, Cost-Effective Energy

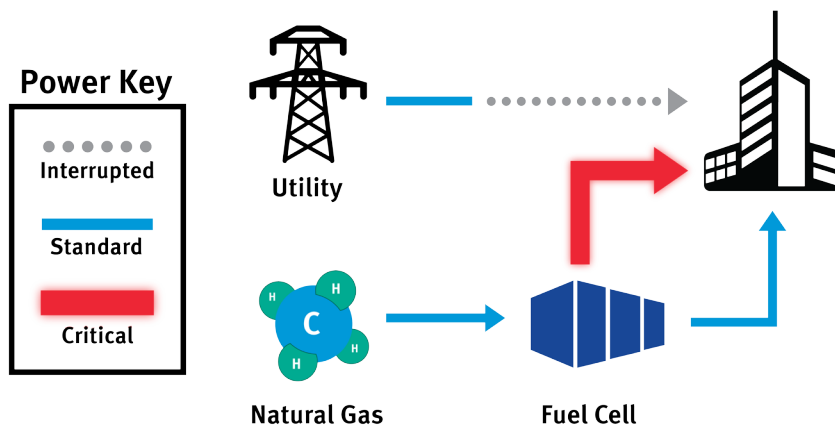
The PureCell® Model 400 power plant provides ultra-clean combined heat and power fueled by abundant natural gas. The system supplies continuous energy to the controls that drive your facility's indoor air quality, lighting, ventilation and other critical clinical processes.

Flexible Acquisition Models Match Your Business Needs

Doosan has strong partnerships with finance providers who have experience with distributed energy projects. They can help structure creative financial solutions to help you reduce and control your utility expenses by locking-in long-term low energy costs/rates. We will work with you to evaluate the economic benefits of a PureCell Model 400 system for your facility to maximize your return on energy investment.

Energy Security When it Matters Most

A power outage can have a catastrophic impact on your medical facility. A Doosan fuel cell can provide electricity, hot water, heat and cooling, in parallel with – or completely independent of – the utility grid. When an energy emergency strikes, you can count on a Doosan fuel cell to keep your critical medical facility functions up and running without interruption.



90%
System Efficiency

10-Year
Cell Stack Life

98%
Fleet Uptime

50
Years Experience

20-Year
Service Plans

FUEL CELL BENEFITS

Cost-effective: Low cost of ownership with 10-year cell stack life

Future-ready: Fully-scalable from a single unit to multi-megawatts

Reliable: Resilient onsite generation provides peace of mind 24/7

Ultra-clean: Runs with minimal greenhouse gas emissions, improves air quality & community health

Quiet operation: Low noise & low vibration will not disturb patients or care providers

Flexible siting: Small footprint can be placed inside or outside, stand alone or in a multi-story design

Low maintenance requirement: No shutdown for planned check-up

"With fuel cells on each hospital campus, we have a reliable, onsite power source. The high efficiency of the power plants is a way to save energy while promoting a healthy environment."

Robert J. Falaguerra / VP of Facilities, Support Services & Construction / St. Francis Hospital and Medical Center

A Culture of Customer Satisfaction

The Doosan Way culture champions collaboration – a proven business model that continues to earn repeat business with healthcare customers who have achieved energy cost efficiencies, including:



PureCell Model 400 installed in 2013 (replaced PureCell Model 200 that was installed in 2003)

Provides continuous-duty baseload operation

Provides back-up power for non-emergency electrical loads

Provides heat recovery for space heating and domestic hot water



PureCell Model 400 installed in 2012

Heat recovery for space heating and domestic hot water

400 metric tons of CO₂ and 1.5 metric tons of NO_x avoided annually



Talk to Us About Your Business Plans & Goals

Building a fully integrated, high-performance clean energy system that meets your business objectives requires high-level planning and flawless execution. Doosan delivers a complete solution – from design inception through deployment, plus the comprehensive services, maintenance and support required to transform a strategy into an operations reality. We'd like the opportunity to help you achieve your hospital's sustainability and financial goals.



400 kW continuous-duty combined heat and power installed in 2010

Grid connect with 98% capacity factor

Achieved rigorous CA hospital code approval (Office of Statewide Health Planning and Development)

Heat recovery for space heating and domestic hot water



800 kW installed in 2012 (two 400 kW units)

Continuous power generation

Provides heat recovery for space heating and domestic hot water

Overall efficiency averaging 70% annually

CO₂ savings: 705 MT/yr

NO_x savings: 3.0 MT/yr

Water savings: ~1.0 million gal/yr



Authorized Value Added Reseller



ClearCell Power, Inc
420 Lexington Avenue, Suite 1718
New York, NY 10070
646.661.5777
info@ClearCellPower.com



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