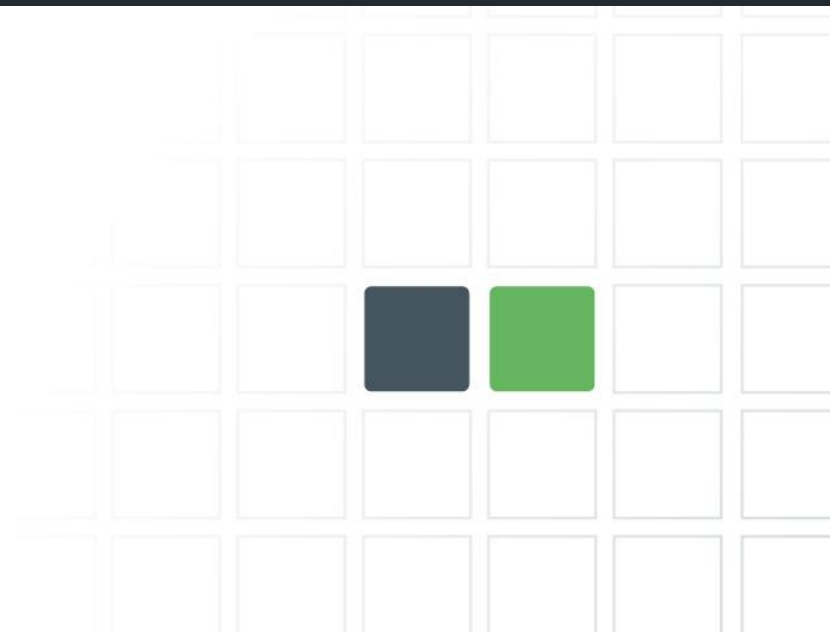




# A New Energy Solution – New England Roundtable



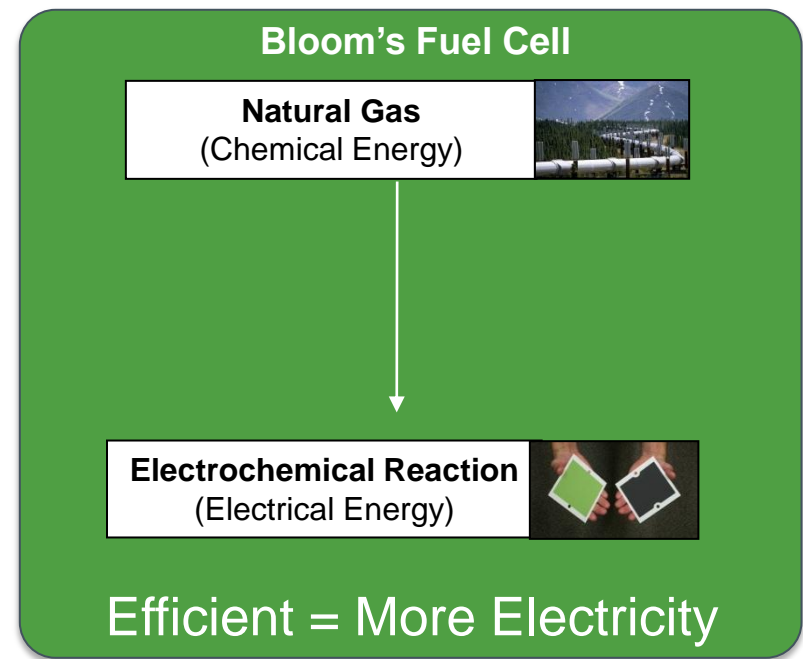
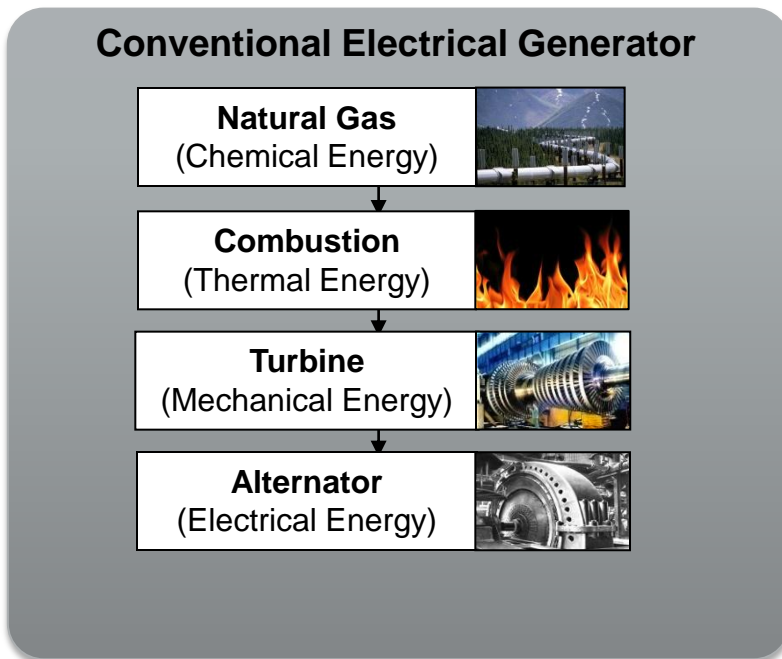
# Bloom Energy Server – Solid Oxide Fuel Cell

*Clean*  
*Reliable*  
*Proven*  
*Targeted*

Bloomenergy

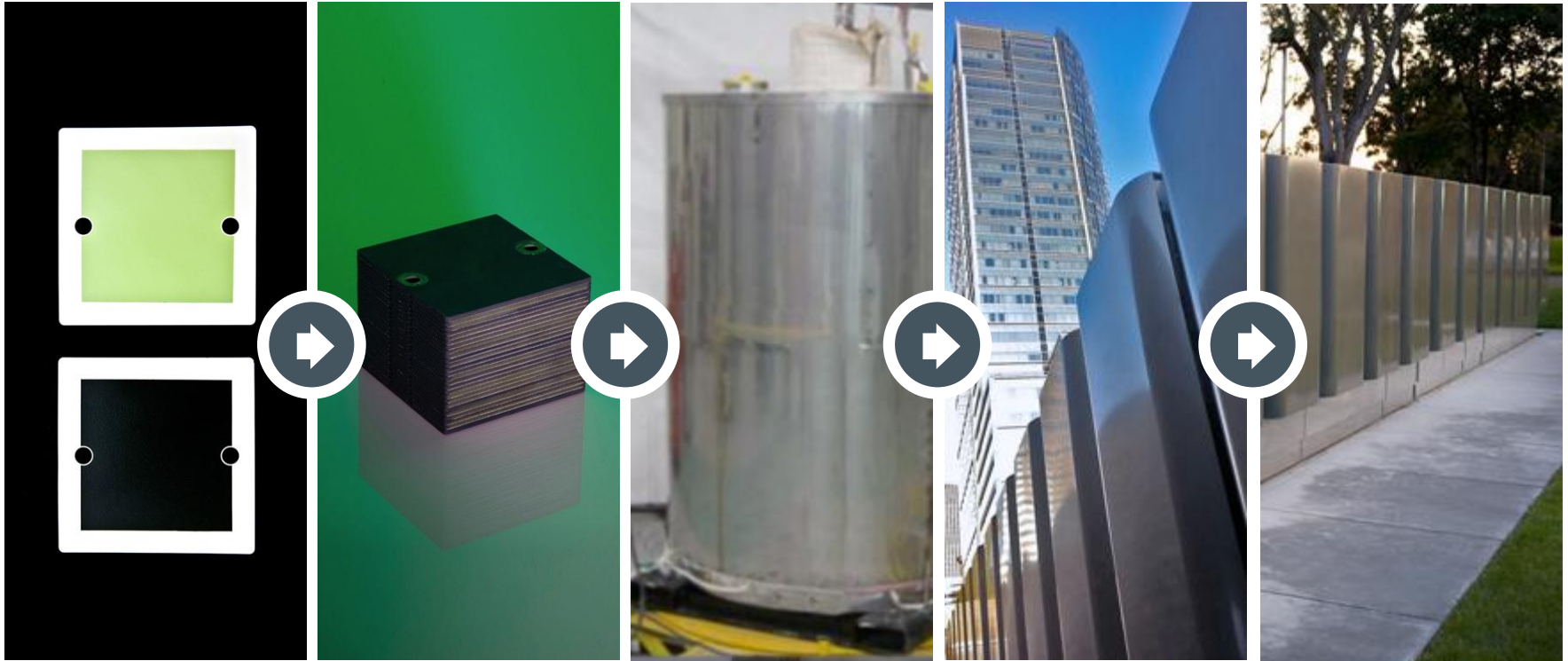
# How It Works

Convert fuel directly into **electricity...without combustion**



*Bloom offers up to **60%+ electrical efficiency**, the highest commercially available.*

# Scalable, Flexible, Modular



**Fuel Cell**  
25 W

**Stack**  
1 kW

**Module**  
40 kW

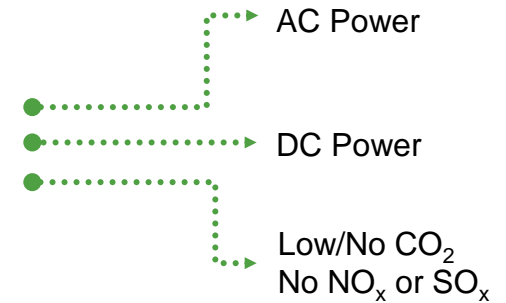
**System**  
200 kW

**Solution**  
200 kW to MW's

# The Bloom Energy Server: 21<sup>st</sup> Century Energy Solution

## 200kW standard design

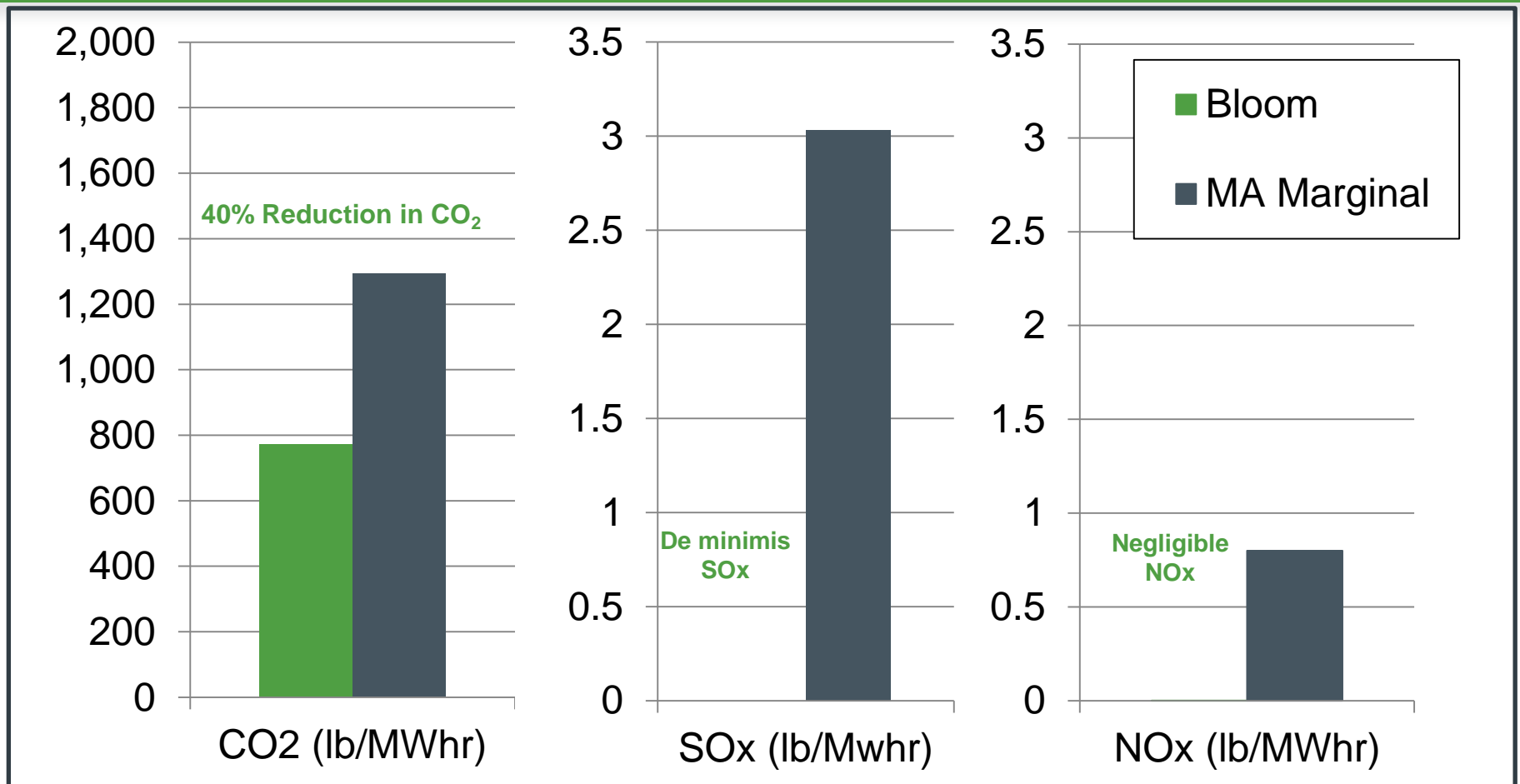
Natural Gas  
or  
Biogas



**Deployed in the field** for 6 years

**Validated** with blue chip customers

# Ultra-Low Emissions Profile – No Water



**Bloom Energy Servers require no water during normal operations - only 240 gallons during start up**

Source: USEPA eGrid 2010

# Keys to High Reliability

- Ship / aircraft design strategy
- Generators in parallel and modular (6 independent power plants)
- Utilizes UPS-electronics design strategies
- Chemical reaction without moving parts, low pressure, air cooled
- Relies on gas grid rather than electric grid



# Targeted – Customer or Grid Side of Meter



**All electric fuel cells do not require a thermal load and can be targeted to improve grid reliability or isolate customers from grid disruptions.**



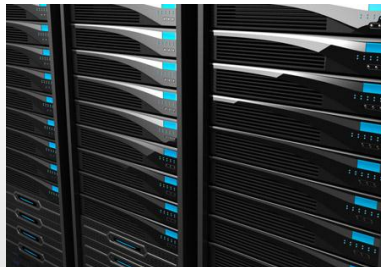
# Preparing for the Future



## Direct DC Power Source



**Fast Charging  
Vehicles**



**Data Centers**



## Business Continuity



**Uninterruptible Power for  
Business Processes**

# A Growing Customer List



SAFeway



Adobe

CALTECH



WILLIAMS-SONOMA



Bank of America



that was easy.™



at&t



intuit.



LOCKHEED MARTIN



Washington  
Gas



CYPRESS

Bloomenergy

# Improve Incentives for Clean *and* Reliable DG

- **The digital economy is making electric system reliability more important every day. Incentive programs should be crafted to encourage both clean energy *and* reliable energy.**
- **All-electric fuel cells can be precisely targeted to improve grid reliability and can offer uninterruptible power or “grid islanding” capabilities.**
- **All-electric fuel cells are competing and winning in other markets. MA has no incentive program in which all all-electric fuel cells are allowed to compete.**
- **All-electric fuel cells should be able to compete for long term contract and REC programs. Standby rate exemptions and net metering should be available for all clean and reliable DG.**
- **The MA “grid modernization” and CT “micro-grid” initiatives are opportunities to add reliability values to incentive programs.**