American Hydrogen
Corporation
Commitment to
Environmental Quality
Agenda

- Corporate Environmental Goal and Objectives
- International Environmental Standards
- Plan for Manufacturing Facility at Tuppers Plains, Ohio
- Next Steps
- Conclusion
Corporate Environmental Goal

Be a Green Business with sustainable development and practices providing alternative energy devices.
The Parable of the Bold frog.

- The parable of the bold frog.
- Instead of systemic thinking, survival is geared to sudden changes in environment instead of slow, gradual change.
- Learning to see slow, gradual processes requires systemic thinking and slowing down processes so that the subtle changes can be examined.

With apologies to Peter Senge
Corporate Environmental Objectives

- Certified Green Business in 2009
- Lean Six Sigma compliant in 2008
- Design for Six Sigma in 2008
- ISO 9001/2000 compliant by 2009
- ISO 14000 compliant by 2009
- ANSI Y14.5 compliant in 2008
- RoHS compliant in 2008
- Wee
• In 1956 a geologist working for Royal Dutch Shell, M King Hubbert, predicted that oil production from the lower 48 American states would peak around 1970.

• Hubbert's prediction was based on the observation that, within "any given region, unrestrained extraction of a finite resource rises along a bell shaped curve that peaks when about half the resource is gone"
Customer Requirements


• No one disputes the fact that we depend on imported oil.

• We need a source of replacement energy for imported oil.
Hydrogen?

The image shows a graph titled "Electrical Cost per kg H2." The graph compares the cost of hydrogen in different forms, such as Proton PEM, Stuart Bipolar Alkaline, and 39kW-h Water, based on the cost per kilowatt-hour (kW-h). The costs are represented on the y-axis, which ranges from $0.00 to $10.00, and the x-axis shows the cost per kW-h ranging from $0.00 to $0.15.

Key points on the graph:
- Proton PEM: 62.3, $9.66
- Stuart Bipolar Alkaline: 70.1, $7.95
- 39kW-h Water: 53.4 - 54.5, $5.85
- Catalyst: $4.83
- Electrolyzer: $3.71
- Water: $2.73

The graph indicates that the Proton PEM has the highest cost per kg of hydrogen, while water has the lowest. The Catalyst and Electrolyzer costs are also highlighted, showing intermediate levels between Proton PEM and water.
Certified Green Business

- What is it
- Building codes and guidelines
- US Green Business Council (USGBC)
  - Join USGBC in 2008
Lean Six Sigma

• Two things are important
• Measure value add to the customer
• Measure waste or non-value add to the customer
Design for Six Sigma

- Listen to the customer
- Eliminate non-value add or (Waste)
ISO 9001/2000
Quality Management System

- Measure
- Communicate
- Eliminate Waste
ISO 14000
Environmental Management System

- Zero Waste
- Reuse
- $351,000 in non-value add eliminated by design
- Cost to eliminate $50,000
ANSI Y14.5 Drafting Standard
RoHS
Restriction of Hazardous Substances