Offering Economic Solutions to Reduce the World’s Carbon Footprint

The Issues

- Mismatch between renewable energy generation and demand
- Excess CO₂ emissions
- Need for renewable fuels that do not compete with the food supply

Texas Electricity Demand VS. Actual Wind Output

Tremendous Reduction in Overpotential for CO₂ Reduction

Superior Catalysts & Membranes

- CO₂ conversion catalysts
- Catalysts for subsequent processing: Formaldehyde, Acrylic acid
- Novel polymer electrolyte membranes

IP

- 8 US Patent Applications
- Applications in EU, China, Japan, Korea, Australia, Canada, Brazil, India
**Milestones For Next Six Months:**

**TECHNICAL**
- Membrane improvements
- Mechanical properties: increase flexural strength (Membranes too fragile when dry)
- Increase conductivity
- Anode improvements
- Reduce corrosion

**BUSINESS**
- Facility: Plan for move out of Enterprise Works (UIUC Incubator)
- Hire Purchasing Clerk
- Formalize advisory board
- Continue dialog with potential customers

---

**Stable Performance**

- [Graph showing cell potential and selectivity over time]

**Projected Cost $/lb to Manufacture 1 lb of Product**

- **MARKET**
  - **FORMIC ACID** $0.8B
  - **ACRYLIC ACID** $12B
  - **37% FORMALDEHYDE** $30B
  - **GASOLINE** $3T

- **Price Advantage**

---

**Contacts**

**Professor Rich Masel**
Founder & CEO
Dioxide Materials
60 Hazelwood Dr.
Champaign IL, 61822
Phone: 217.239.1400
rich.masel@dioxidematerials.com

**Maria Gainer**
Business Development Specialist
Dioxide Materials
3651 FAU Boulevard, Suite 400
Boca Raton FL, 33431
Phone: 561.414.1642
maria.gainer@dioxidematerials.com

**Laura Nereng**
Sustainability Leader
3M Electronics & Energy Business Group
3M Center, 236-1A-30
St. Paul, MN 55144-1000
Phone: 651.733.3494
lrnereng@mmm.com