

# Partnering to Reduce GHG Emissions

## Primary Aluminum Example

SF<sub>6</sub> and the Environment: Emission  
Reduction Strategies

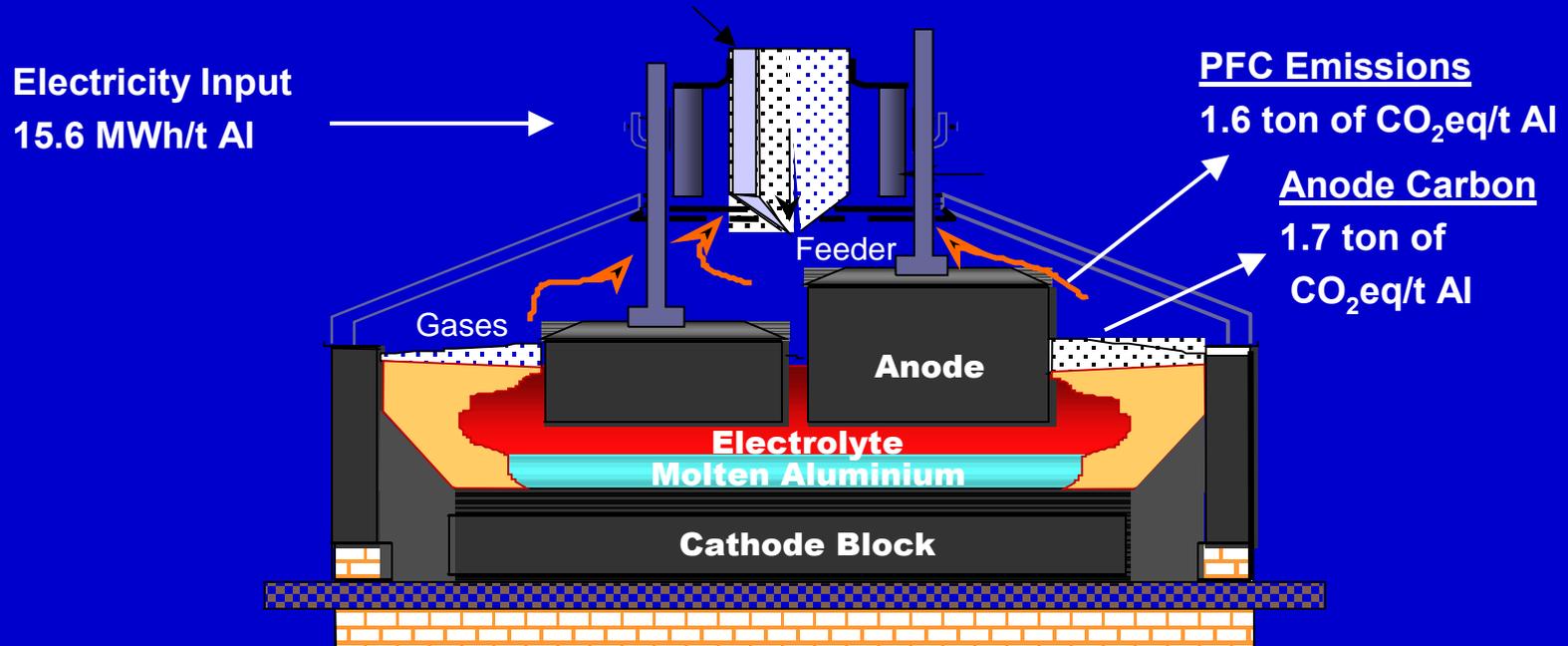
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# Presentation Outline

- GHGs from Primary Aluminum and the VAIP
- Results of Cooperation
- Leveraging of Results Through International Links
- Benefits of Partnership for Producers and for EPA

# GHGs from Primary Aluminium Production



- Two PFCs (perfluorocarbon compounds - CF<sub>4</sub> and C<sub>2</sub>F<sub>6</sub>) contribute about 48% of primary aluminium direct GHG emissions

# Voluntary Aluminum Industrial Partnership

- VAIP members, who represent over 90 percent of US production capacity, reduced emissions over 40 percent from 1990 to 2000
- New phase implemented covering period through 2005
- Currently activities:
  - ✓ PFC measurement protocol
  - ✓ Model the cost impact of anode effects on aluminium production

# Outputs of VAIP Cooperation

- Two major measurement campaigns at US primary aluminum facilities
  - ✓ Developed accurate facility specific emission factors
  - ✓ Better understanding of ways to reduce emissions
  - ✓ Improved understanding of emissions mechanisms

# Outputs of VAIP Cooperation

- Jointly funded research program to better understand fundamentals of emissions
  - ✓ Developed fundamental knowledge of factors affecting emission rate
  - ✓ More efficient pursuit of emissions reductions

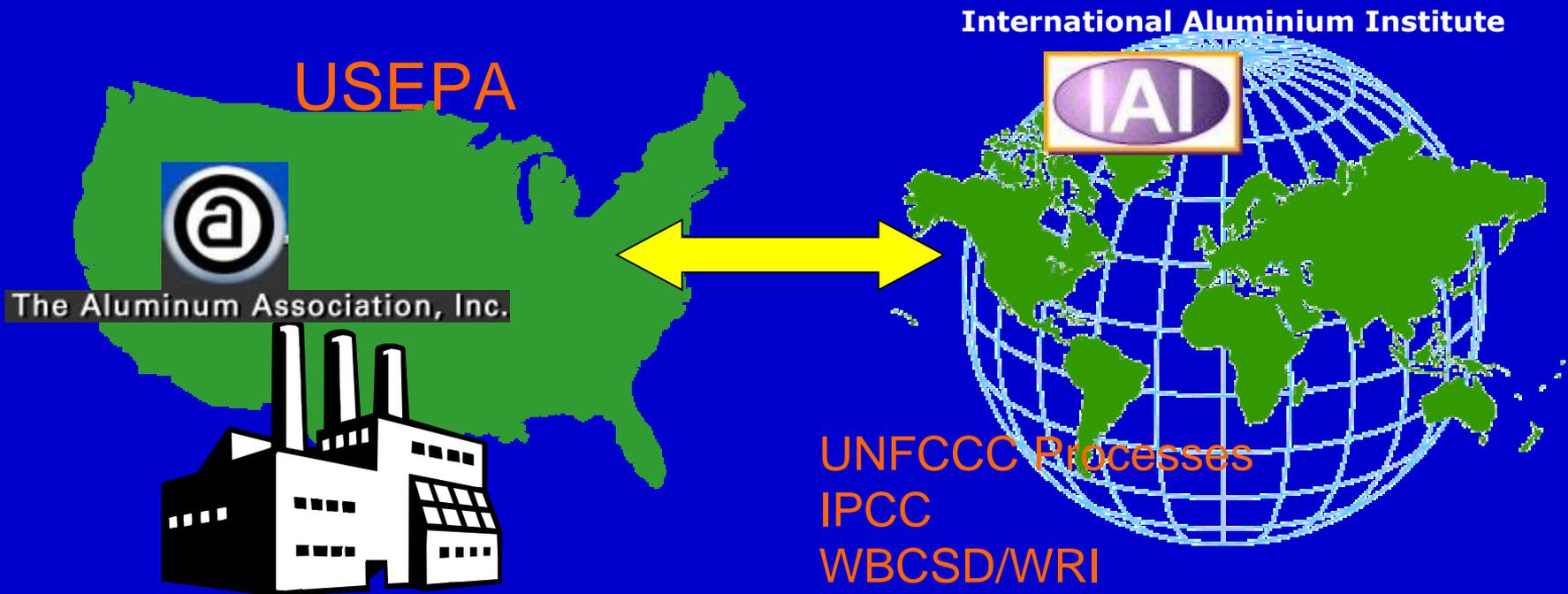
# Outputs of VAIP Cooperation

- Documentation of a measurement protocol for PFC compounds
  - ✓ More consistent and accurate measurement data
  - ✓ Leads to more accurate GHG inventories

# Outputs of VAIP Cooperation

- Development of a model to estimate the cost benefits from reducing anode effects
  - ✓ Allows weighing of capital investment returns
  - ✓ Shows potential for cost position improvement for anode effect reductions

# Leveraging Information and Technology



✓ Partnerships amplify voice on individual companies in the international process

# Benefits from Voluntary Programs

## For Producers:

- Provides forum to share nonproprietary information to accelerate emissions reductions
- Facilitates benchmarking that can lead to realistic reduction targets
- Takes into account differences in facilities and production process
- Provides flexibility on how to achieve reduction targets
- Establishes common guidelines for documenting emissions inventories
- Establishes communication channel for dialog on common issues
  - ✓ Setting emissions reduction targets
  - ✓ International climate change negotiations competitiveness issues
- Develops confidence in working relationships with agency staff

# Benefits from Voluntary Programs

## For Government Agencies:

- Accelerates early reductions of emissions through early engagement of industry
- Stimulates innovation increasing the options for achieving reductions
- Establishes realistic targets and timetables for emissions reductions
- Focuses research and development funds toward most productive avenues
- Provides accurate source of information and data for future strategy development
- Develops confidence in working relationships with industry staff