

# Quantify Accomplishments to Achieve Your Goals

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**10<sup>th</sup> National Clean Cities Conference**  
**May 3<sup>rd</sup>, 2004**  
**Fort Lauderdale, FL**

# Presentation Overview

- Why “Measure” Your Project?
- Units of Measure
- Methods of Measure
  - What’s a baseline?
- Achievements and New Goals

# Why Measure Your Project?

- **Data measurements quantify achievement of goals outlined in program plan**
- **Achievement leads to new goals and program growth**
- **Example Goal: AFVs generate emission reductions**
  - **Potential offsets and credits sell in international market**
  - **Carbon financing available to develop large scale projects**
    - **But... transportation projects do not easily lend themselves to large scale reduction projects because reductions from individual vehicles are small**

# Units of Measure

- Number of Vehicles Converted or Acquisition of OEMs
  - Fleet Statistics
- Vehicles Miles Traveled
  - Odometers
- Gallons of Fuel Displaced by Alternative Fuels
  - Fuel Measurements
- Leveraged Funding
  - Dollars Invested
- Greenhouse Gas (GHG) Emission Reductions
  - Metric tons of a gas: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>)

# Methods of Measure

- Compare against existing circumstances
  - Begin with current assessment of vehicles, markets, geographic information, fuel resources (providers, importers, etc.), incentive programs, laws, regulations and tax policy
  - Use this to develop a “baseline”
- What data do you have available?
- Which emissions do you want to include?
  - Include upstream (production, refining, transport) with tailpipe emissions (“full fuel cycle,” “well-to-wheel”)
  - Which emission factors do you use? (IPCC, GREET)

# Methods of Measure: e.g. Emission Reductions

- Use your baseline
  - “What would have happened”
- Compare what **will** be emitted to calculate reductions

**Net GHG Emission Reductions in grams of CO<sub>2</sub>e in year Y =**

**[number of additional vehicles in year Y]**

**x [Average Volume of Fuel Used by an LPG Vehicle in year Y]**

**x [Baseline Emissions Factor for year Y – Project Emissions Factor for year Y]**

# Methods of Measure: Case Study

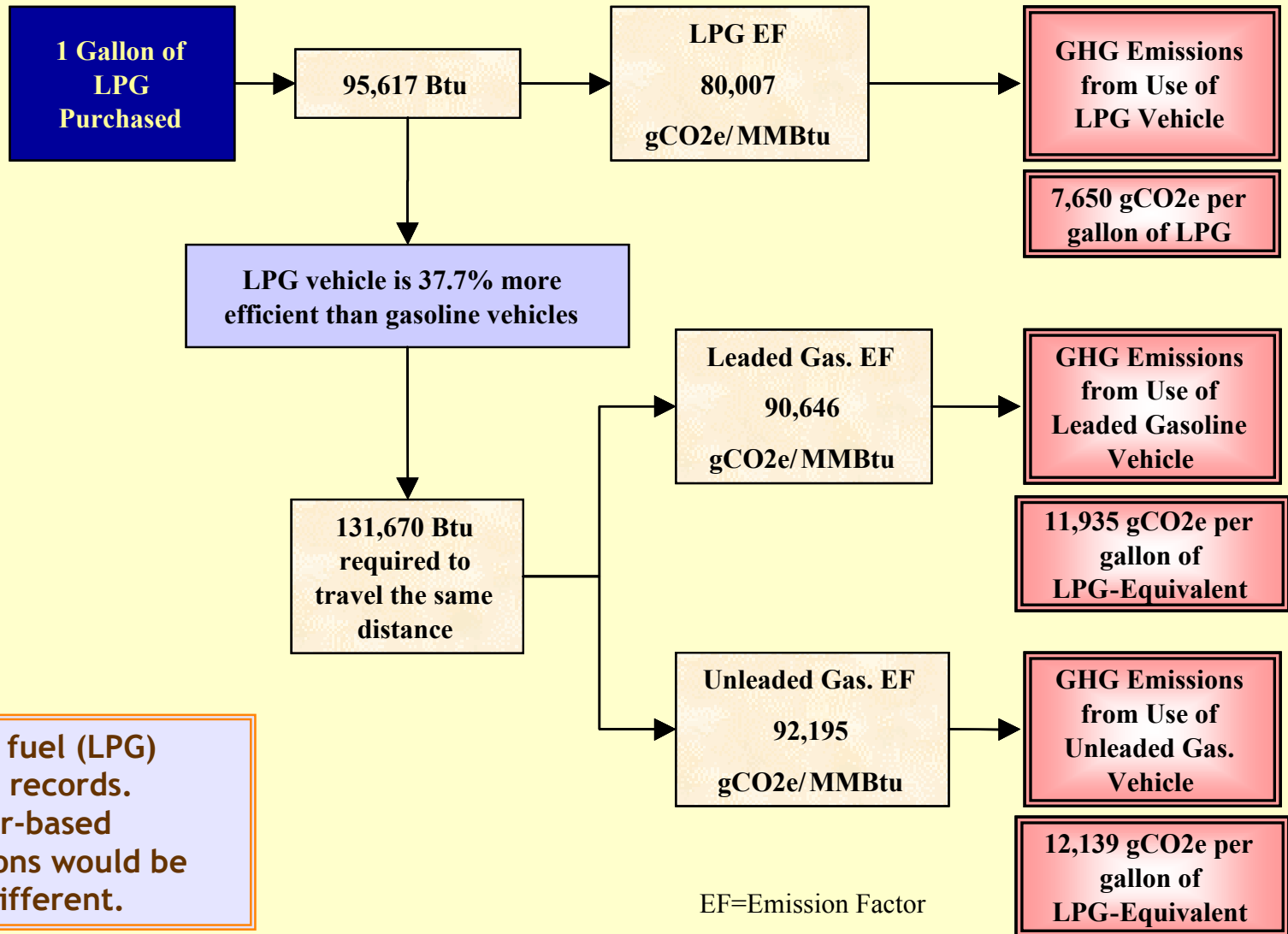
## Aguyatia Energy Project in Pucallpa, Peru:

- Convert 20,000 mototaxis from leaded gasoline to LPG over five years
- Cost share with vehicle owners
  - Conversion costs \$240
  - Developer pays \$180
- Scoping and analysis of emission reduction potential
- Emission reductions result from:
  - Improved vehicle efficiency
  - Lower carbon intensity

Reduce costs to owners  
Typical monthly  
income is \$150/mo  
**Savings: \$20 per month  
in fuel**  
**\$20 per month in motor oil**

**Reduce air &  
water pollution**

# Case Study: Calculate Emissions



Based on fuel (LPG) purchase records. Odometer-based calculations would be slightly different.



# AFVs Generate Emission Reductions

## International Market for Trading Reductions

- Investors prefer low-risk, credible, and permanent GHG credits
  - Proof of environmental additionality
  - Monitoring and verification plan
  - Certification of legitimate ownership

## Opportunities for Financing

- Andean Development Bank, [www.caf.com](http://www.caf.com)
  - Funded projects for Bogota city road plan, Caracas metro
- Inter-American Development Bank, [www.iadb.org](http://www.iadb.org)
- World Bank Prototype Carbon Fund, [www.prototypecarbonfund.com](http://www.prototypecarbonfund.com)
- Clean Development Mechanism (CDM) – Kyoto Protocol, UNFCCC
  - Developed countries invest in emission reduction projects in developing countries in exchange for emission reduction credits
- Oregon Climate Trust, [www.climatetrust.com](http://www.climatetrust.com)
  - Prefers U.S. projects, but open to international
  - One transport project: carpooling in Portland, Oregon

# Achievement of Goals

- **Measurements quantify achievement of goals outlined in program plan**
- Project monitoring and data collection during program plan implementation tracks, quantifies, and records progress
- When the initial goals are accomplished, the coalition establishes new goals to continue building the alternative fuel market



# Any Questions?

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