



Case Study in Completing a GHG Inventory

2010 GreenGov Symposium
Oct. 5, 2010

Larry Merritt, Mgr., Global Environmental Policy
Ford Motor Company

Introduction

- In recent years, there has been considerable public and corporate interest in climate change initiatives
- Ford's manufacturing operations have first-hand experience with climate change programs around the world including:
 - Greenhouse Gas (GHG) emissions reporting,
 - Voluntary and mandatory emissions trading, and
 - Carbon offsets
- This presentation describes Ford's:
 - Experience with GHG inventory preparation,
 - Our motivation for participation, and
 - Lessons learned from our experiences
- Intended to assist other organizations developing GHG strategies/inventories and policymakers establishing programs for the future



GHG Inventory Overview

- Starting point of any GHG strategy is to better understand your emissions
 - Referred to as a GHG inventory or “footprint”
 - Numerous programs exist, many with similar protocols
 - Essentially, a combination of emissions factors and direct measurements are used to calculate organization-wide GHG emissions
- Ford is an active participant in a number of GHG inventory programs, many since their inception
 - Our reports are publicly available at www.ford.com as well as program sponsor web-sites where available



Ford is the automotive leader in GHG trading and reporting initiatives

- UK Trading Scheme (2002)
- WRI/WBCSD GHG Protocol (2003)
- Chicago Climate Exchange (CCX) (2003)
- Australian GHG Challenge Plus (2003)
- Canadian GHG Challenge Registry (2004)
- U.S. Dept. of Energy (2004)
- EU Emissions Trading Scheme (2005)
- Mexico GHG Program (2005)
- Philippines GHG Program (2007)
- Single Plant China GHG Report (2008)
- The Climate Registry (N. America) (2008)
- Brazilian GHG Program (2009)
- GHG Reporting for all China facilities (2009)
- Supplier GHG reporting (2010)

Blue = First auto participant

长安福特马自达汽车有限公司
重庆工厂



温室气体清单

2007 年报告草拟稿

2008 年 4 月



Ford's Environmental Strategic Direction accounts for emerging policy trends

- Adopt holistic approach to reducing overall environmental impact of manufacturing operations:
 - **Pursue integrated air emissions control approach that also reduces greenhouse gas emissions and improves energy efficiency.**
 - Take resource conservation actions specifically toward eliminating land disposal and reducing water usage.
 - Evaluate and reduce toxicity of manufacturing byproducts (e.g., air emissions, wastewater, waste) in addition to mass.



Motivation for Participation

- Develop Internal Expertise
 - GHG reporting represented a rapidly emerging policy issue
 - Preparing our own reports was best way to learn
- Encourage Harmonization
 - By supporting WRI GHG Protocol and country programs based on it, we hoped to encourage harmonization
 - As a global issue, there should be single, consistent methodology used for all GHG inventories worldwide
 - Our voluntary GHG reporting supports gov't initiatives building on existing protocols and not "reinventing the wheel" with customization
- Lead by Example
 - Raise external awareness of GHG initiatives using our reporting as first step toward efficiently reducing emissions
 - We encourage others to learn more about reporting programs and our Supplier Sustainability Forum encourages voluntarily reporting



Lessons Learned

Centralize Internal Controls

- Ford established comprehensive internal controls including:
 - Centralized tracking of all emissions data globally (including invoices),
 - Internal procedures for emissions inventory preparation, and
 - Central coordination of all CO2-related audits and reporting
- Global, centralized approach supported our facility CO2 initiatives in a more cost-effective and operationally efficient manner
- Critical to engage all levels of the organization at the beginning
 - Senior management support and cross-functional meetings create transparency and enable success



Lessons Learned

Accurate Data
Is Critical

- GHG inventory experience led to development of Global Emissions Manager (GEM) database
 - Centralized facility energy and CO2 data
 - Also includes water, waste, and other environmental metrics

EMISSIONS logic
Emissions Inventory and Compliance Management System

Home | Help | System

EMISSIONS | COMPLIANCE | SCENARIO | REGULATIONS | REPORTING | Emissions Inventory Manager > Data

Emissions Inventory Manager

Summary | Emissions | Production Data | **Data Manager**

The Data Manager worksheet provides an interface for users to update production and financial indicators.

DATA MANAGER > JANUARY 2007 > EU DAGENHAM MAIN BOILER HOUSE EU ETS

Display all indicators Copy ▶ **Data status: Approved**

Production Indicators	Nov 2006	Dec 2006	Jan 2007	Tier	Comments
Fuel Use Indicators					
	Nov 2006	Dec 2006	Jan 2007	Tier	Comments
Gas / Diesel Oil Combusted (Direct litre	0	550			
Natural Gas Dry Combusted (Direct m3					
Boiler House 1	2535971	2824014	3046411		
Diesel Hall	26881	29935	32292		
Fuel Energy Factors					
	Nov 2006	Dec 2006	Jan 2007	Tier	Comments
Gas / Diesel Oil Net Calorific Value GJ	0.03648	0.03648	0.03648		
Natural Gas Dry Net Calorific Value GJ/m3					
Boiler House 1	0.03547	0.03547	0.03547		
Diesel Hall	0.03547	0.03547	0.03547		

CARBONSIM logic GEM Ford Motor Company Build No. 1.3.5 from 2007-06-12 15:54 - D



Lessons Learned

Leverage Data to
Improve Performance

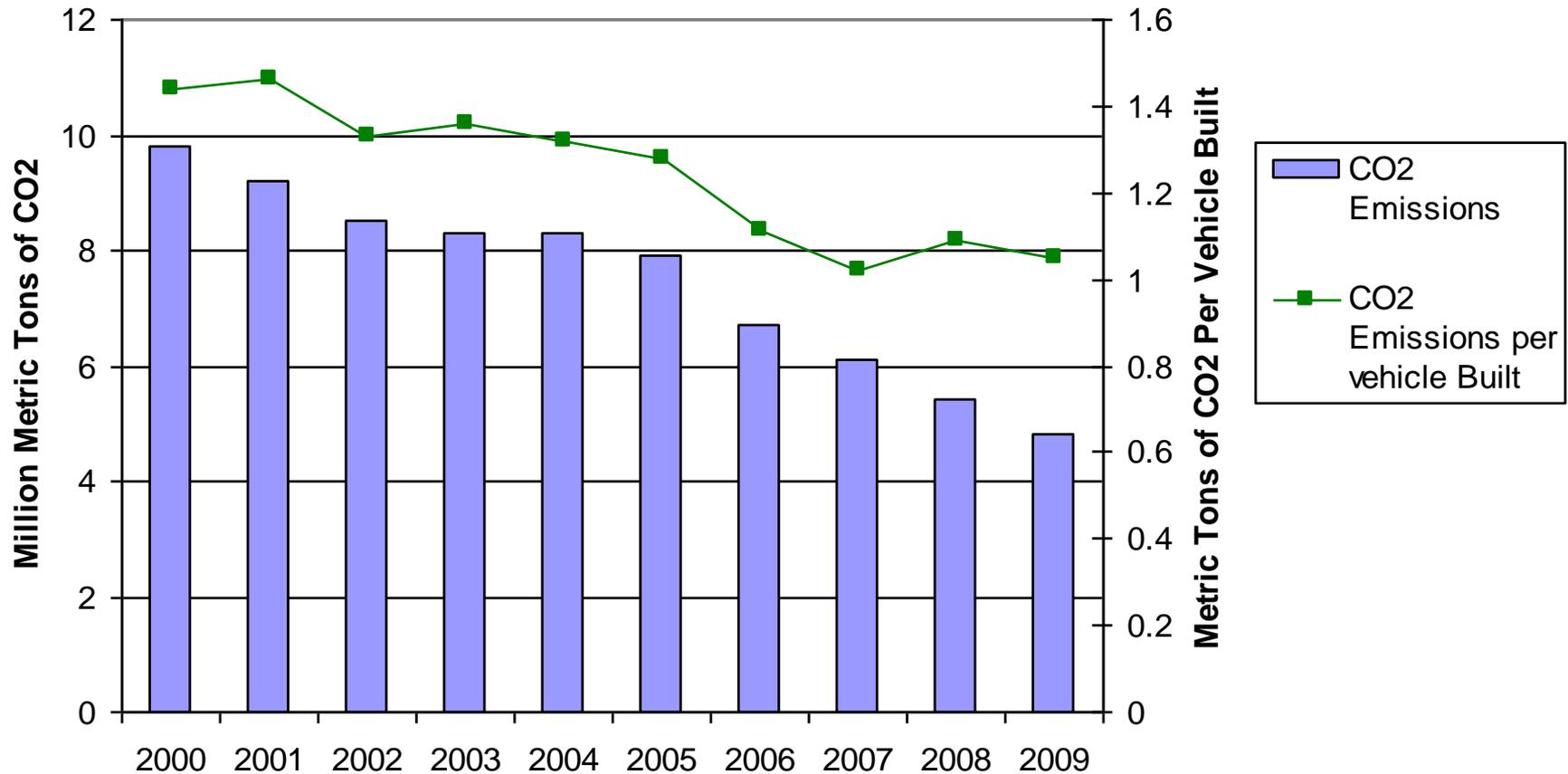
- Create end user reports customizable for plant-specific, regional, or global updates
 - Data reported at all levels of our organization
- Participation in voluntary programs increases internal awareness
 - Employee energy saving tips,
 - On-line stories and video clips, and
 - Presentations at workshops attended by Ford's plant environmental engineers worldwide
- Ford's early participation in GHG initiatives built upon our traditional business plan objectives and targets for improving facility energy efficiency and reducing emissions
 - We use solar, wind, geothermal, and landfill gas within our operations and adopt sustainable manufacturing technologies



Lessons Learned

Share Results

- Through external GHG emissions reporting, we have highlighted our improvements
 - Between 2000 and 2009, Ford reduced global CO2 emissions by 50% (27% per vehicle built)



Framework for Others

- General framework for others evaluating GHG programs:
 1. Form cross-functional team to manage deliverables
 2. Identify GHG emission sources and establish process for data monitoring
 3. Consider participating in voluntary reporting programs
 4. Identify / implement internal emissions reduction actions
 5. Evaluate and establish internal GHG emissions reduction targets
 6. Review progress regularly and identify / implement process improvements



Summary

- Ford has gained valuable experience with emerging climate change policies
 - Proactive participation in various GHG reporting initiatives
- These programs have allowed Ford to:
 - Demonstrate support for voluntary initiatives,
 - Learn by doing to gain experience with emerging GHG policies, and
 - Shape the debate by influencing future policy development
- We appreciate opportunity to share our lessons learned to support:
 - Other organizations developing GHG strategies/inventories
 - Policymakers establishing programs for the future



Gratuitous Car Pictures

We're leading by example.



▶ **2011 TAURUS**

America's Most Innovative Full-Size Sedan⁴⁹

▶ **2011 FIESTA**

"The best small car you can buy in this country." -Jalopnik.com

▶ **2011 FUSION HYBRID**

America's most fuel efficient midsize sedan⁴⁶



Ford Transit Connect Van/Wagon



Lineup

Van

Wagon



MSRP \$21,185
[Specifications](#)
[Build & Price](#)



MSRP \$21,540
[Specifications](#)
[Build & Price](#)

COMMERCIAL CONNECTION

**UPFIT ASSISTANCE AND INCENTIVES
FOR THE FEATURES YOU WANT.**



2012 Ford Focus



Thank You!



Lawrence Merritt, Manager
Global Environmental Policy
Ford Motor Company
(313) 322-5548
lmerrit2@ford.com

Fleet Sales Info
<https://www.fleet.ford.com/>

