BUILDING SUSTAINABLE SUPPLY CHAINS

International Green Freight Workshop

How Governments Can Support Business

3-10-18

San Diego, CA

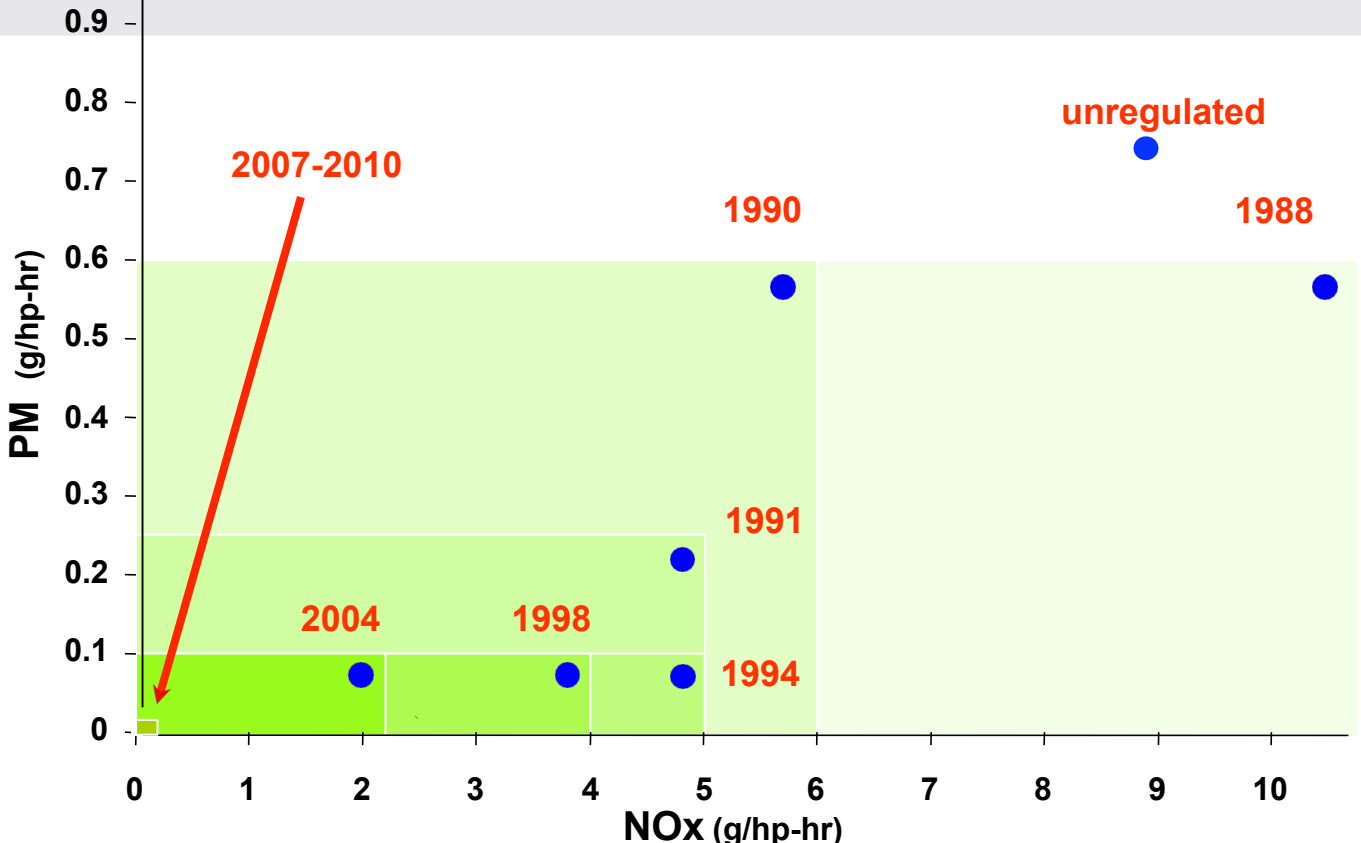
US Approach for Reducing Transportation Emissions

National standards for new vehicles and fuels

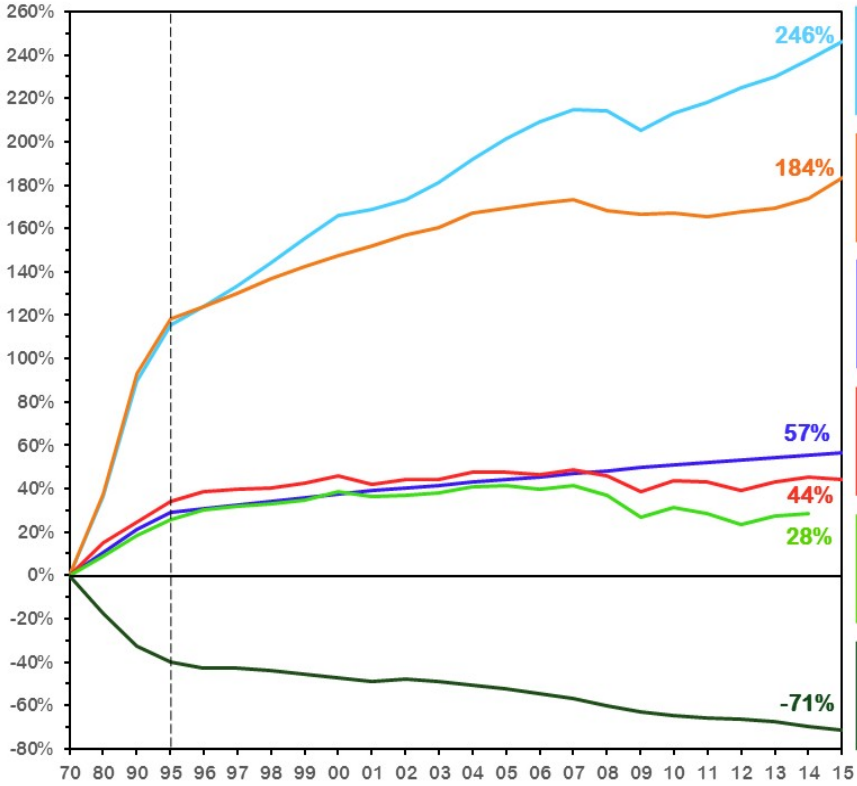
Incentives to leverage private investment in clean technology

Cross-cutting complementary programs – EPA SmartWay, EPA ports initiative

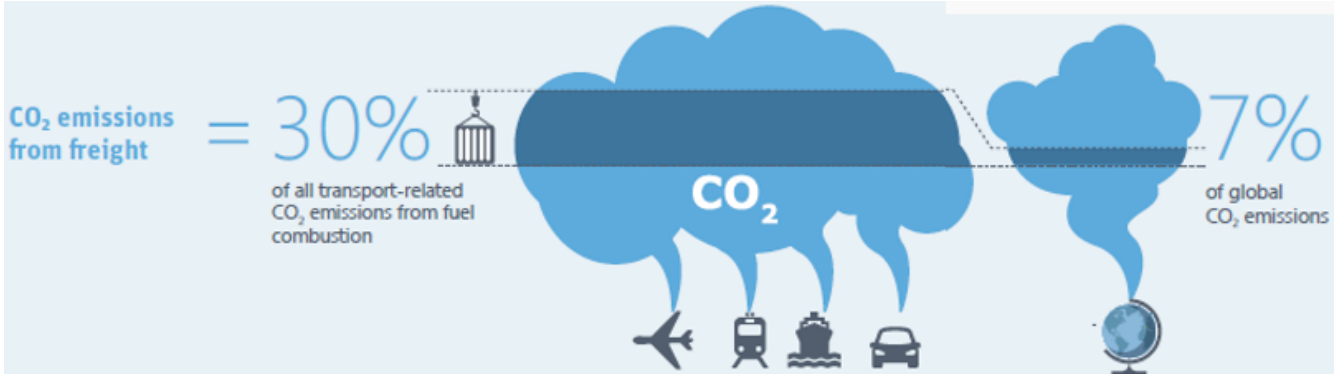
US EPA'S EMISSIONS STANDARDS FOR DIESEL TRUCKS



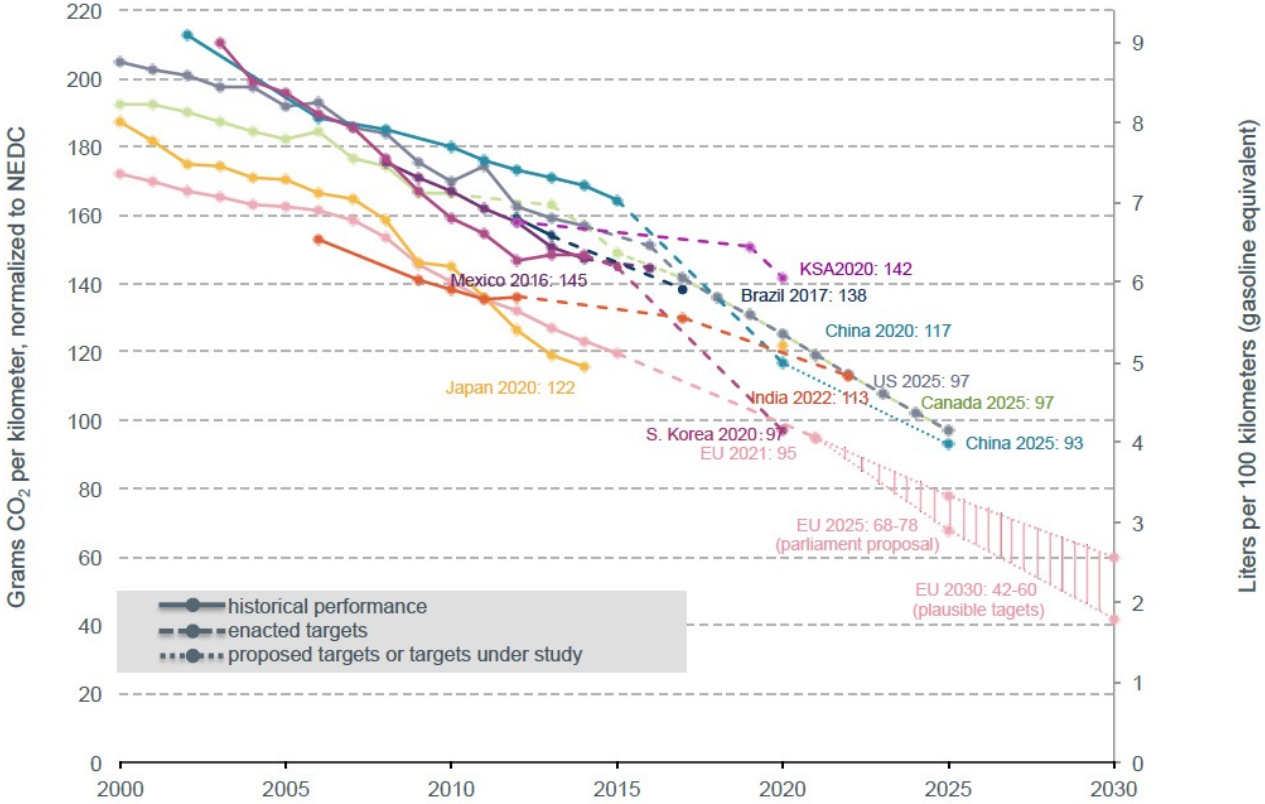
Comparison of Growth Areas and Emissions, 1970-2015



EMISSIONS FROM FREIGHT

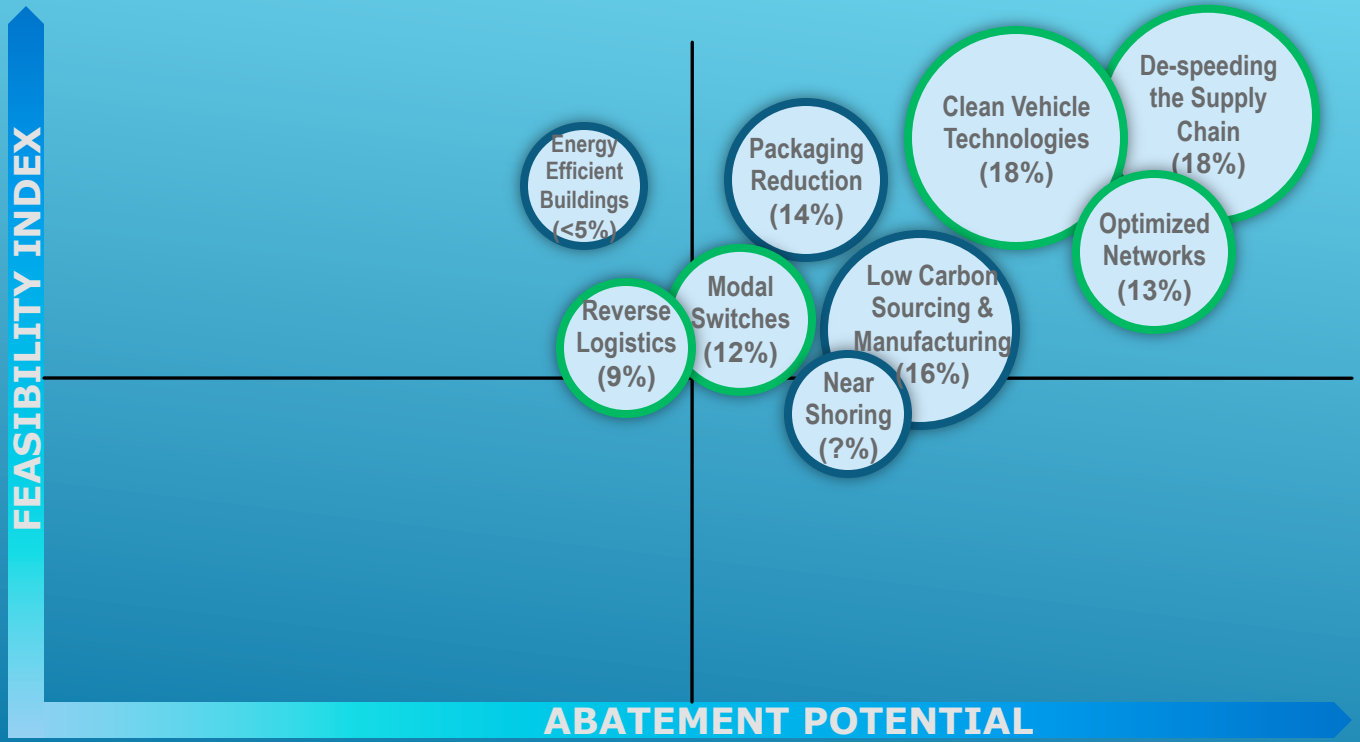


U.S. LIGHT AND HEAVY-DUTY VEHICLE GHG STANDARDS



* Note that Japan has already exceeded its 2020 statutory target, as of 2013.

OPPORTUNITIES FOR SUPPLY CHAIN REDUCTION:



Source: Maersk, based on World Economic Forum – Supply Chain Decarbonization – the Role of Logistics and Transport in Reducing Supply Chain Carbon Emissions

SMARTWAY DATA PLATFORM

Simplicity

- Standard benchmarking tools and methods

Accuracy

- Performance based assessment of CO_2, NOx, PM

Flexibility

- Multiple metrics, multimodal, multi-fleet, multi-categories

Transparency

- Manageable granularity, protects sensitive information

Barge

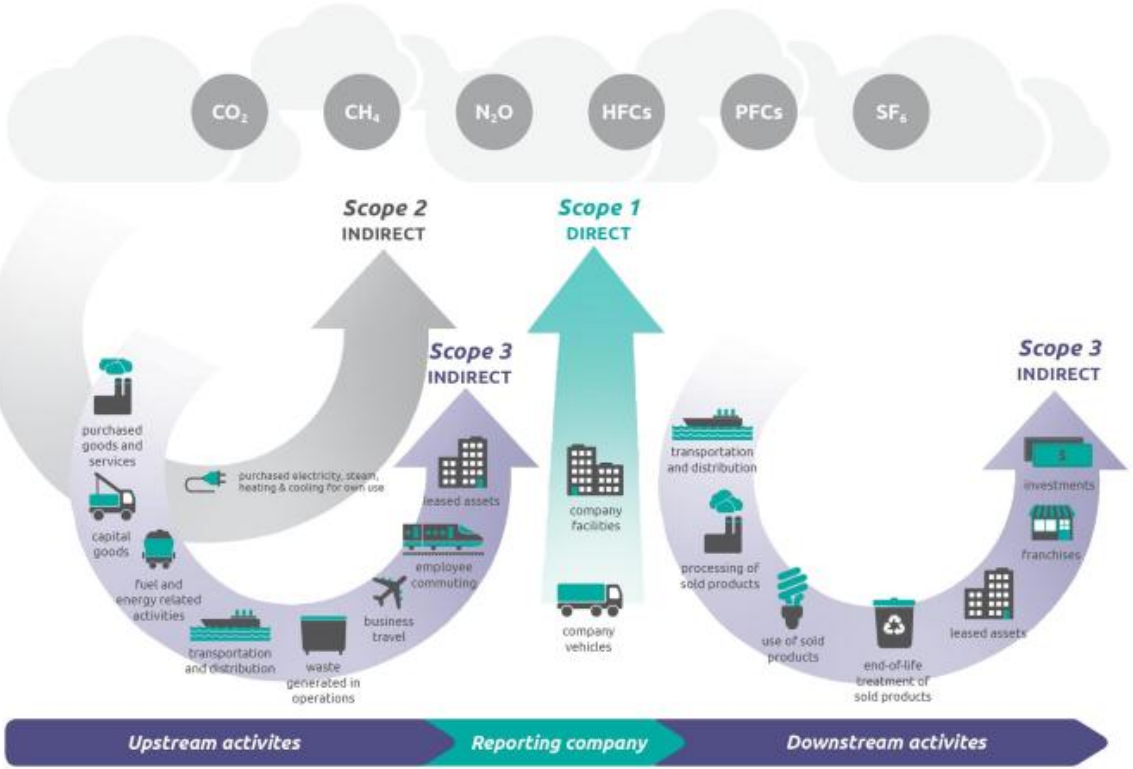
Rail

Truck

Air

Scopes 1-3 from a supply chain perspective

Figure [1.1] Overview of GHG Protocol scopes and emissions across the value chain



Save Fuel, Money and the Environment with a SmartWay Truck

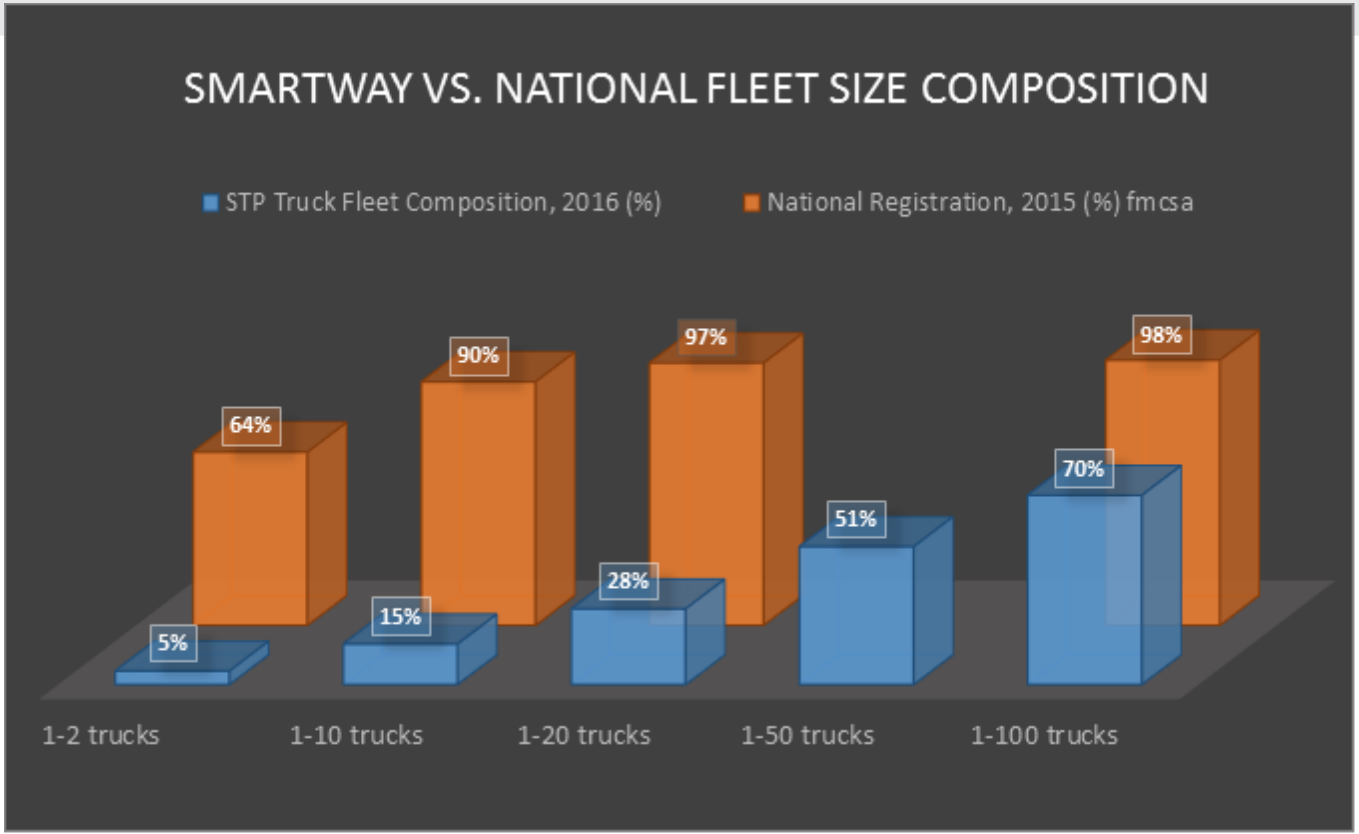
A **SmartWay** tractor and trailer annually **save 2,000 to 4,000 gallons of fuel** and **reduce CO2 emissions by up to 20%** as compared to similar trucks on the road. Learn more at **www.epa.gov/smartway**

COMPLEXITY IN FREIGHT SUPPLY CHAINS

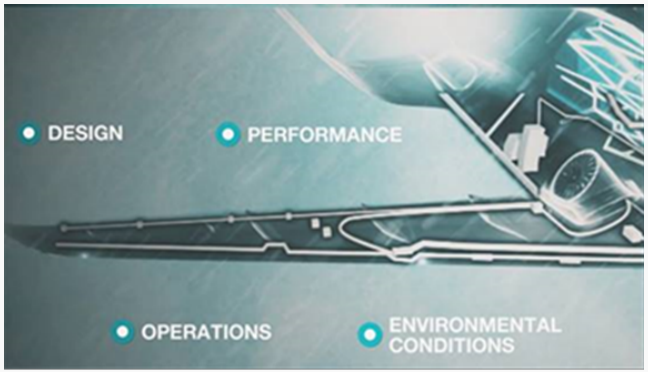
Tens of thousands of individual businesses, each with dozens or hundreds of discrete supply chains, interact with hundreds of thousands of carriers and third party logistics firms (3PL). Each entity (or division thereof) has its own internal systems, metrics and assumptions = market discontinuity, niches, fragmentation

- Procurement
- Manufacturing
- Packaging
- Warehousing
- Logistics
- Retail
- End of life

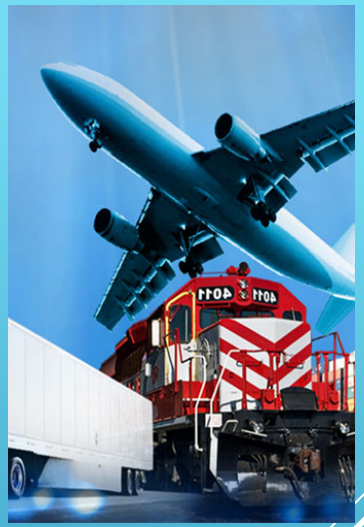
SMALL FLEETS MAKE UP MOST OF THE TRUCKING INDUSTRY



Ushering in the Freight “Data Sphere” – IoT and Digital Twins



Advancing Automation & Digitalization



DATA WISH LIST:

- ✓ Back end: AI and other cognitive data systems to assess data from multiple sources at massive scale
- ✓ Front end: User interfaces that make data collection and access easy and convenient for its intended use

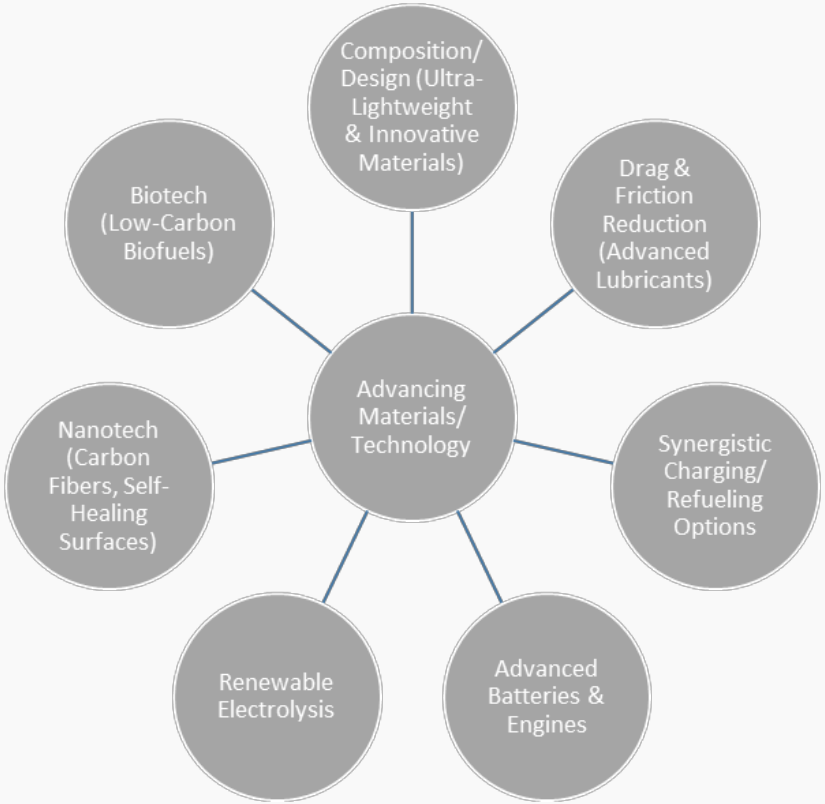
Rethinking Urban and Last Mile Delivery

Bicycle-Assisted EV's… or Robots?

NETWORK OPTIMIZATION

http://cerasis.com/2015/03/03/state-of-third-party-logistics/

ADVANCING POWERTRAINS, MATERIALS & TECHNOLOGY



What can the World look like in 2050?