

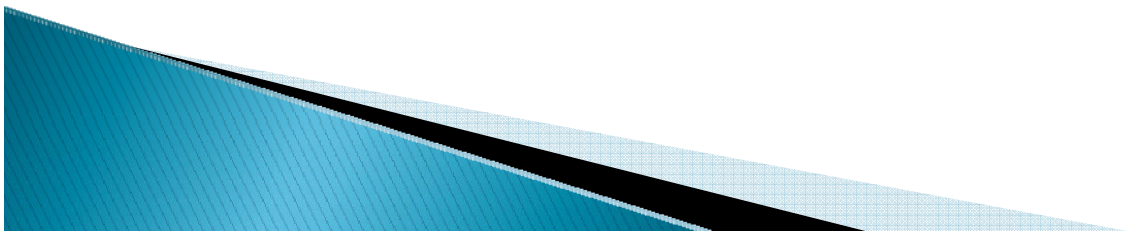
Biofuels and the Environment



Paul Argyropoulos
Senior Policy Advisor
US EPA – Office of Transportation and Air Quality

Overview

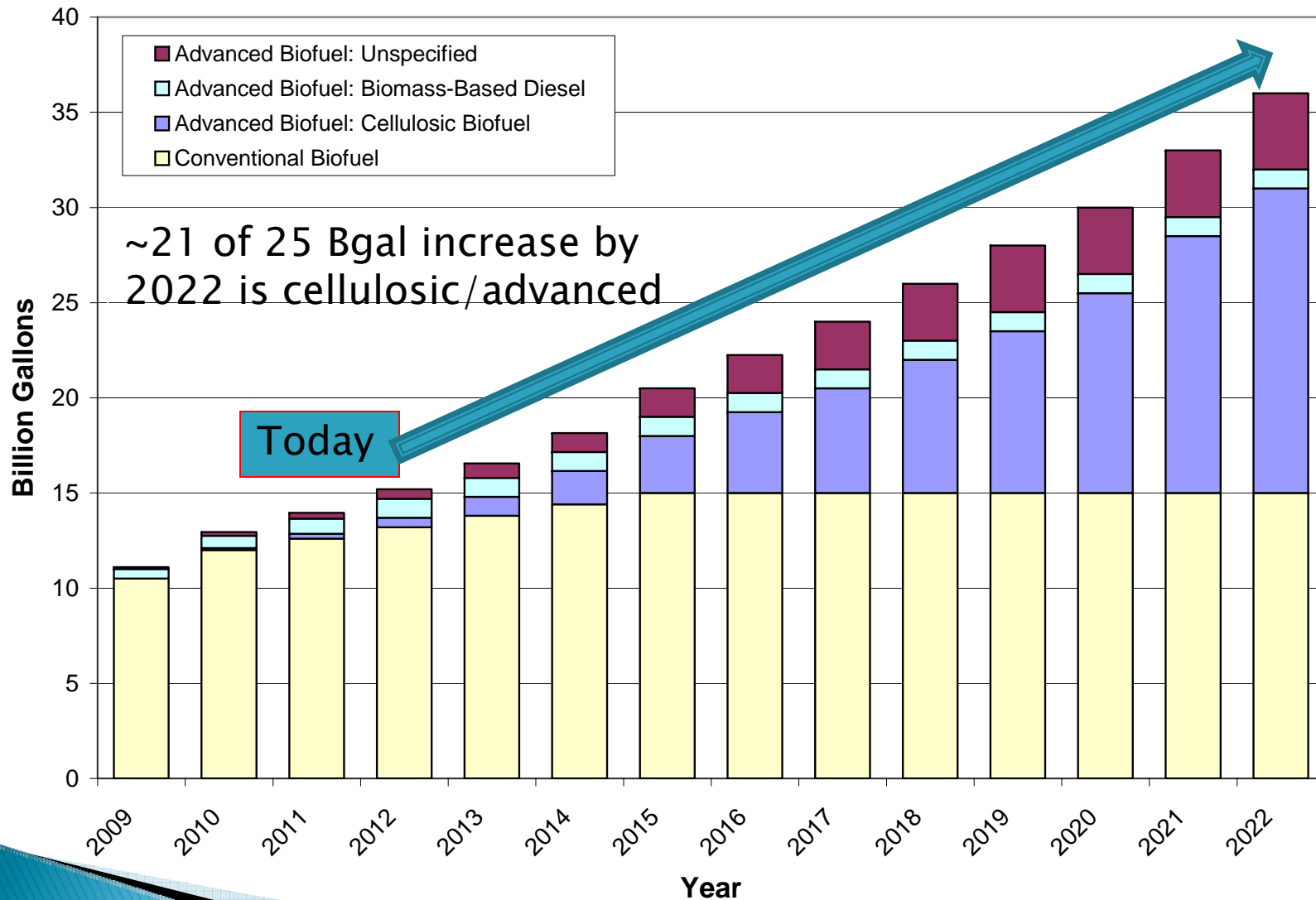
- ▶ National Renewable Fuel Standards
- ▶ Key Highlights of the RFS2 Rule
- ▶ EISA Environmental Reports
- ▶ Other Federal Activities
- ▶ Questions / Other Issues



2007 EISA RFS2 Program – Key Aspects

- ▶ Significantly increased volumes– to 36 billion gallons by 2022
- ▶ Expanded obligations from just gasoline to on and off–road gasoline and diesel
- ▶ Establishes four categories of renewable fuel volume standards:
 - cellulosic biofuel
 - biomass–based diesel
 - advanced biofuel
 - total renewable fuel
- ▶ Changes to the program include qualification requirements for renewable fuels and feedstocks
 - Definitions for qualifying fuels / feedstocks for the categories
 - Set minimum lifecycle GHG reduction thresholds for categories
 - Established grandfathering allowances for renewable volumes from certain facilities
 - Applies restrictions on types of feedstocks that can be used to make renewable fuel, and types of land that can be used to grow and harvest feedstocks
- ▶ Inclusion of specific types of waivers and EPA–generated credits for cellulosic biofuel compliance

Cellulosic Biofuels in EISA



Impacts of the RFS2 in 2022

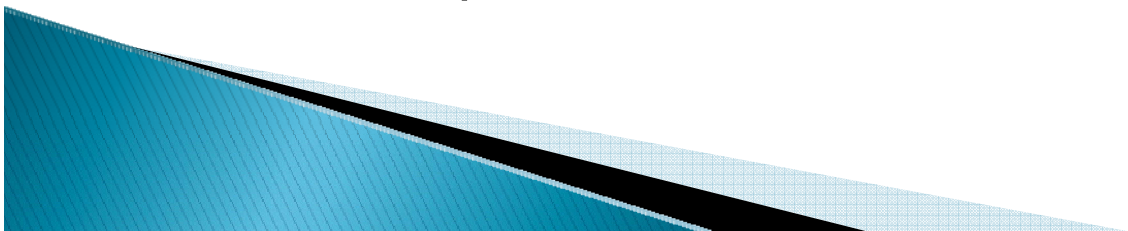
- ▶ Reduce GHG Emissions by 138 MMT – equivalent of 27 million vehicles
- ▶ Displace ~7% of petroleum gasoline and diesel consumption
- ▶ Increase Net Farm Income by \$13 B
- ▶ Emissions and Air Quality:
 - Increases in NOx, VOC, ethanol, acetaldehyde emissions
 - Decreases in benzene and CO
 - Emissions and air quality impacts vary by area

Environmental Considerations and Reports

- ▶ Antibacksliding: Section 206 of EISA directs the agency to further evaluate potential Air Quality impacts and to mitigate, to the extent possible, any adverse impacts
- ▶ Comprehensive Environmental Report: Section 204 – First report 2010 – and then every 3 years

EISA Section 206: Antibacksliding

- ▶ CAA sec 211(v) (amended by EISA)
 - Requires EPA to study the air quality impacts of EISA's
- ▶ Renewable fuel volumes
 - Acetaldehyde impact of the use of ethanol
 - VOC impact of higher volatility of E10?
 - NOx impact of greater use of E10?
 - Impact on air quality?
- ▶ Required regs by end of 2010 to mitigate adverse air quality impacts (to the greatest extent achievable)
 - Informed by study
 - Requires “fuel” regs
 - Vehicle controls can be implemented through general CAA authority



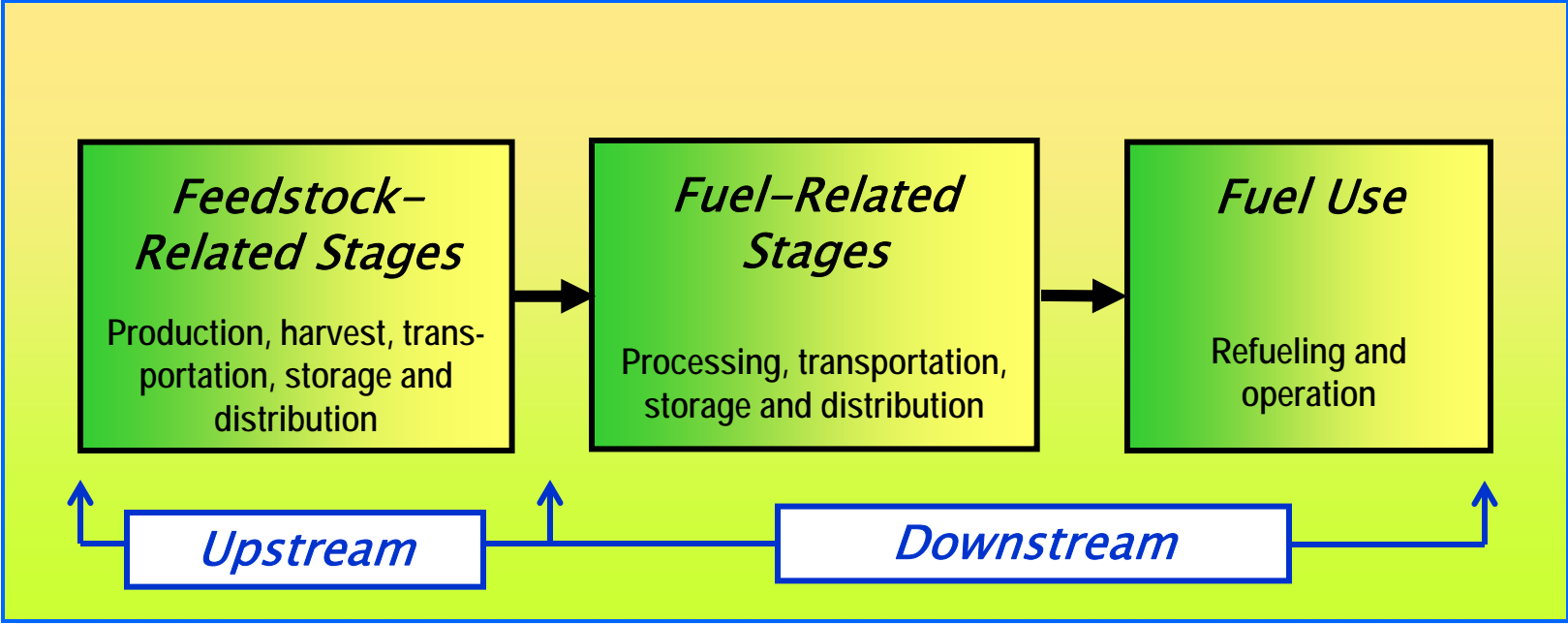
EISA SEC. 204.

Not later than 3 years after the enactment of this section and every 3 years thereafter, the Administrator of the Environmental Protection Agency, in consultation with the Secretary of Agriculture and the Secretary of Energy, shall assess and report to Congress on the impacts to date and likely future impacts of the requirements of section 211(o) of the Clean Air Act on the following:

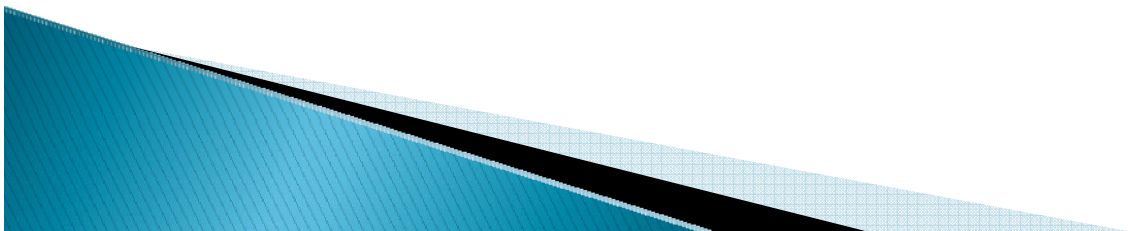
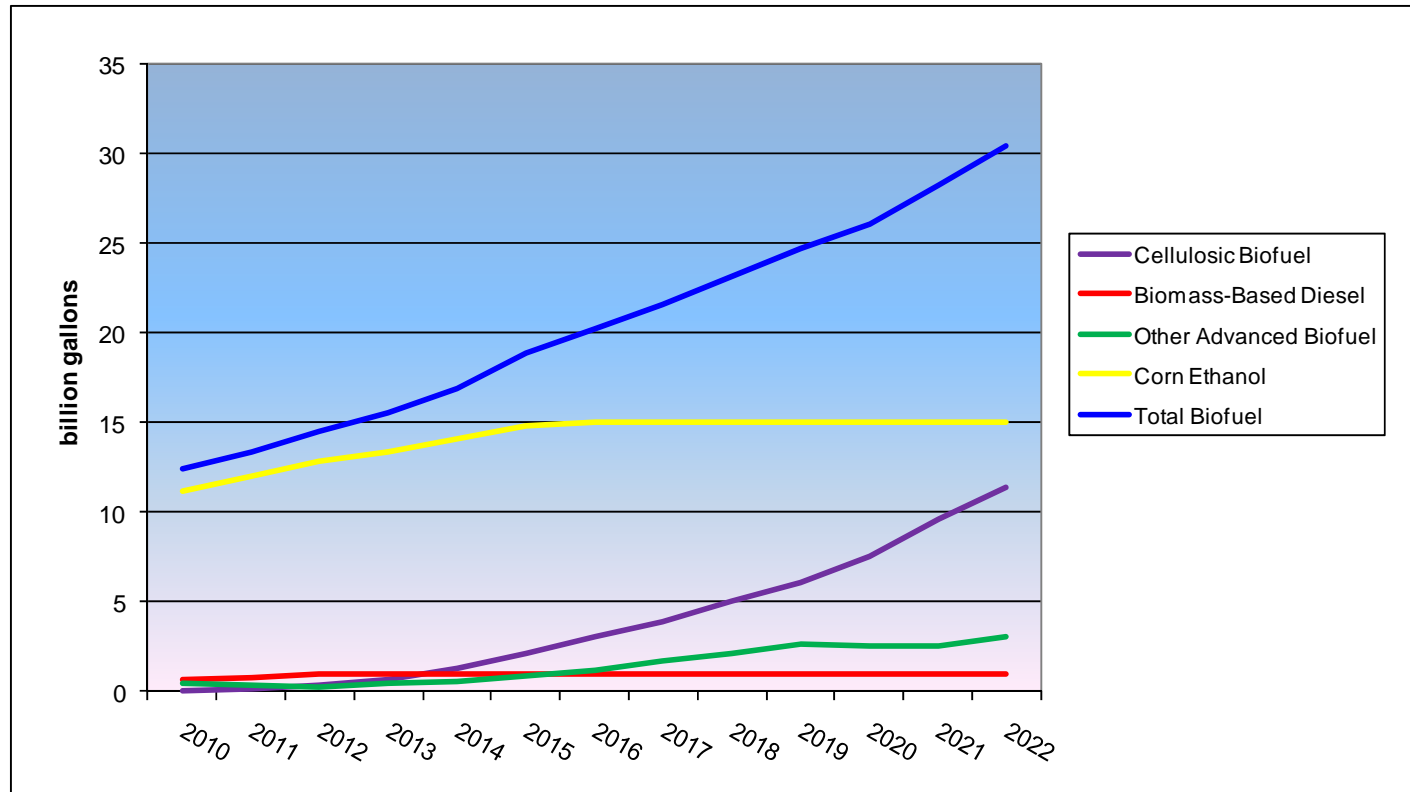
- (1) **Environmental issues**, including air quality, effects on hypoxia, pesticides, sediment, nutrient and pathogen levels in waters, acreage and function of waters, and soil environmental quality.
- (2) **Resource conservation issues**, including soil conservation, water availability, and ecosystem health and biodiversity, including impacts on forests, grasslands, and wetlands.
- (3) **The growth and use of cultivated invasive or noxious plants** and their impacts on the environment and agriculture.

The report shall include the annual volume of imported renewable fuels and feedstocks for renewable fuels, and the environmental impacts outside the United States of producing such fuels and feedstocks. The report required by this subsection shall include recommendations for actions to address any adverse impacts found.

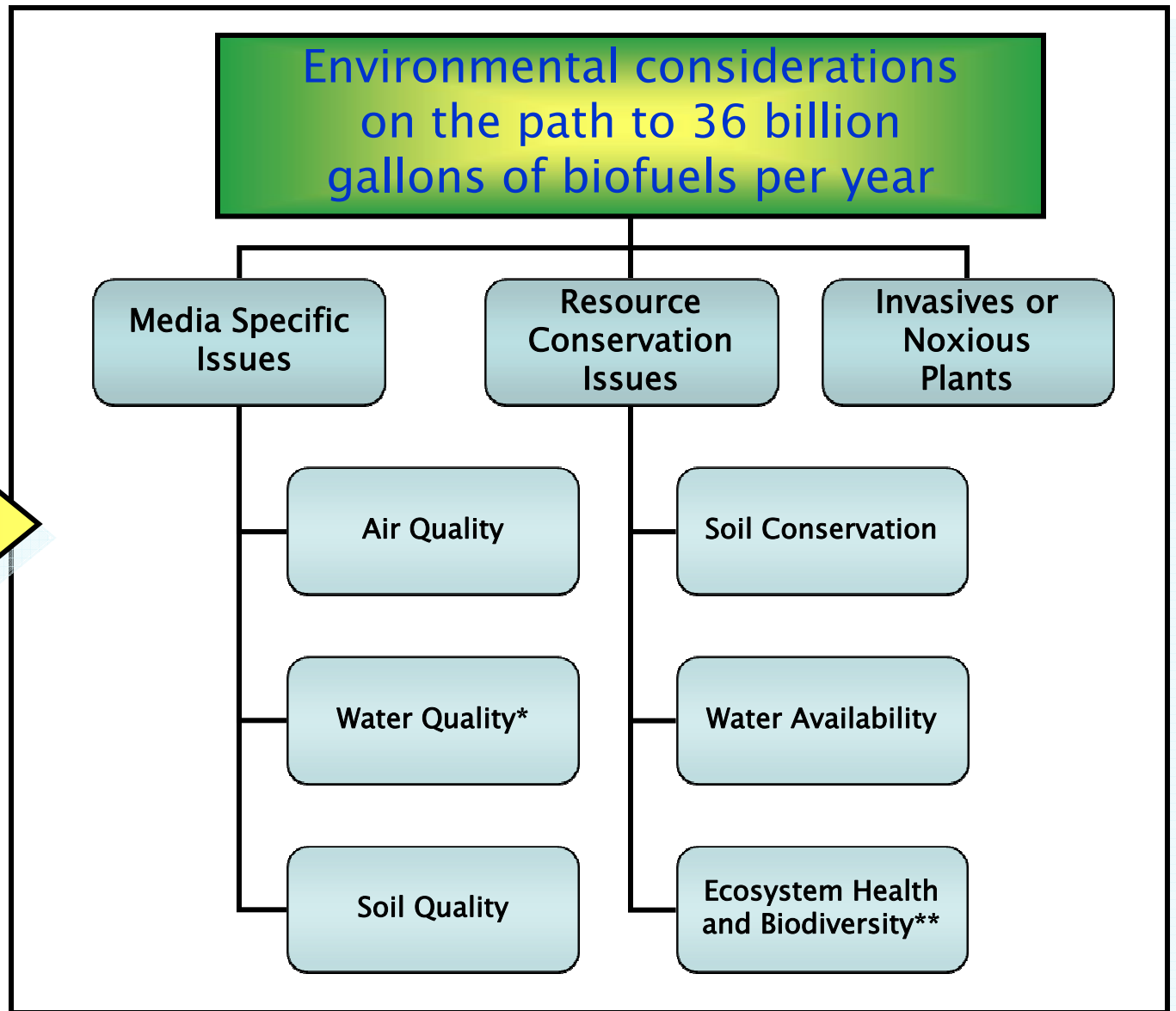
Biofuels Supply System



Projected Renewable Fuel Volumes to Meet EISA Targets

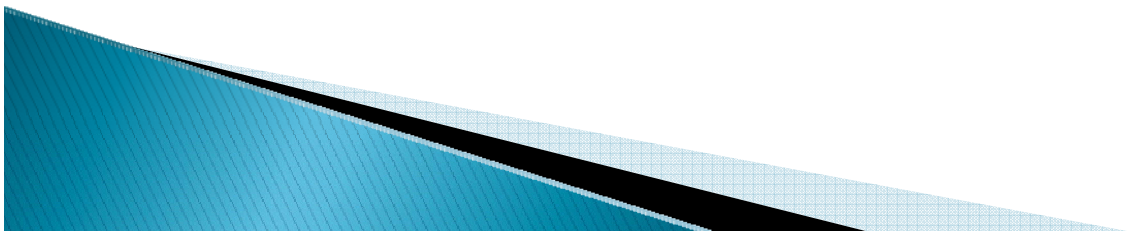


EISA
Section
204



Other Federal Related Activities

- ▶ **Biomass Research and Development Board**
 - Workgroups on feedstock production, distribution, sustainability, etc.
- ▶ **Biofuels Interagency Workgroup**
 - Key Policy Considerations
- ▶ **Federal Programs**
 - Grants
 - Loan Guarantee Programs
 - Other



Questions



Thank you

Paul Argyropoulos
Senior Policy Advisor
Office of Transportation and Air Quality
argyropoulos.paul@epa.gov