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Canada



# **REGULATORY GOVERNANCE: A FOUNDATION FOR CLEANER FUELS AND VEHICLES**

**Cleaner and More Efficient Fuels and  
Vehicles for the Jamaica**

**Kingston, Jamaica**

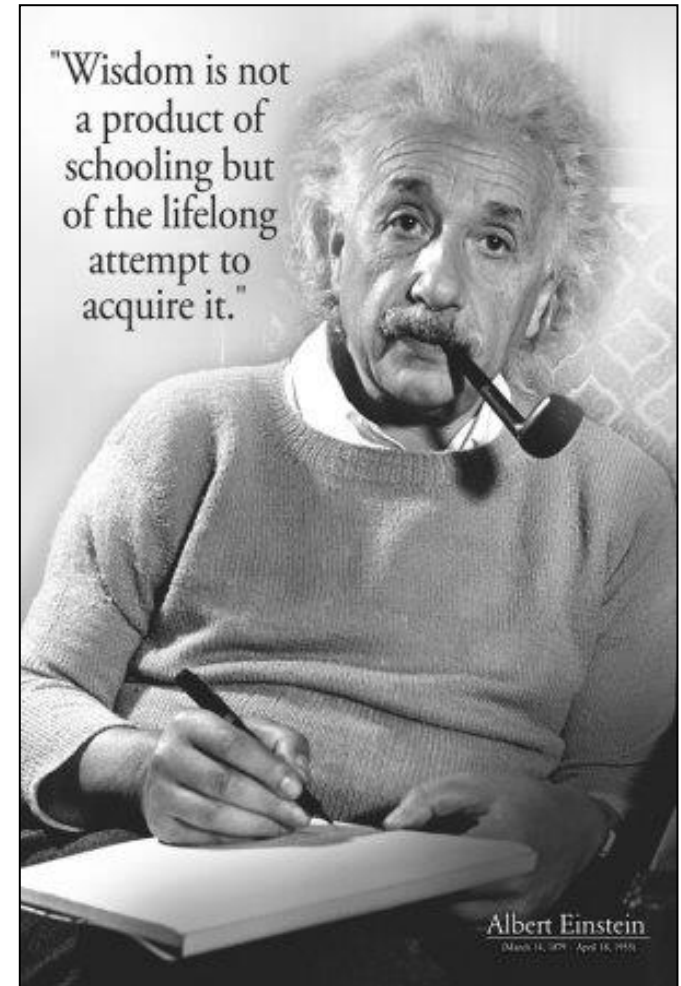
**Jeffrey Guthrie**

**Environmental Stewardship Branch**

**December 4, 2018**

# Purpose

- Share experience on how Regulatory Governance can support improved environmental performance of fuels and vehicles.
- Share experience and knowledge gained as a federal fuel quality regulator



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# Introducing Environment and Climate Change Canada



# Environment and Climate Change Canada's Priorities: A Clean, Safe, Sustainable Environment

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**Federal department created in 1971**

**Mandate:**

- Preserve and enhance the quality of the natural environment, including water, air, soil, flora and fauna
- Conserve Canada's renewable resources
- Conserve and protect Canada's water resources
- Forecast daily weather conditions and warnings
- Provide detailed meteorological information to Canada
- Enforce rules relating to boundary waters
- Coordinate federal environmental policies and programs

***Today's Environment and Climate Change Canada continues to balance the need to protect the environment while growing the economy, building regulatory frameworks for air emissions, greenhouse gases, wastewater, and chemicals***

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# Sulphur in Diesel Fuel Regulations



Sulphur Limits (mg/kg)	Dates for Sulphur Limits in Diesel Fuels									
	On- Road Vehicles		Off-Road Engines		Vessels (Marine Diesel)		Stationary Engines		Rail (locomotive)	
	Production/ Import	Sales	Production/ Import	Sales	Production/ Import	Sales	Production/ Import	Sales	Production/ Import	Sales
1000						June 1, 2014 (large vessels)		June 1, 2014 (large)		
500	1998		2007 <sup>2</sup>			2007 <sup>2,4</sup>				2007 <sup>2</sup>
15	2006 <sup>1</sup>		June 1, 2010	Oct 1, 2010 <sup>3</sup>	June 1, 2012 (non-large vessels)	June 1, 2014 (non-large vessels)		June 1, 2014 (small)	June 1, 2012	

<sup>1</sup> 2007 for sales in the Northern Supply Area

<sup>2</sup> 2008 for sales in the Northern Supply Area

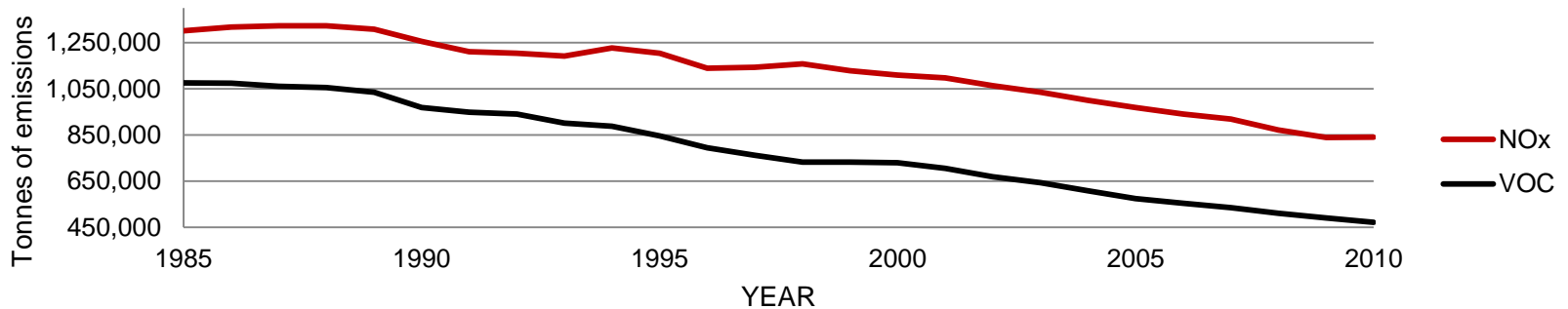
<sup>3</sup> December 1, 2011 for sales in the Northern Supply Area

<sup>4</sup> All marine vessels but large vessels not using diesel

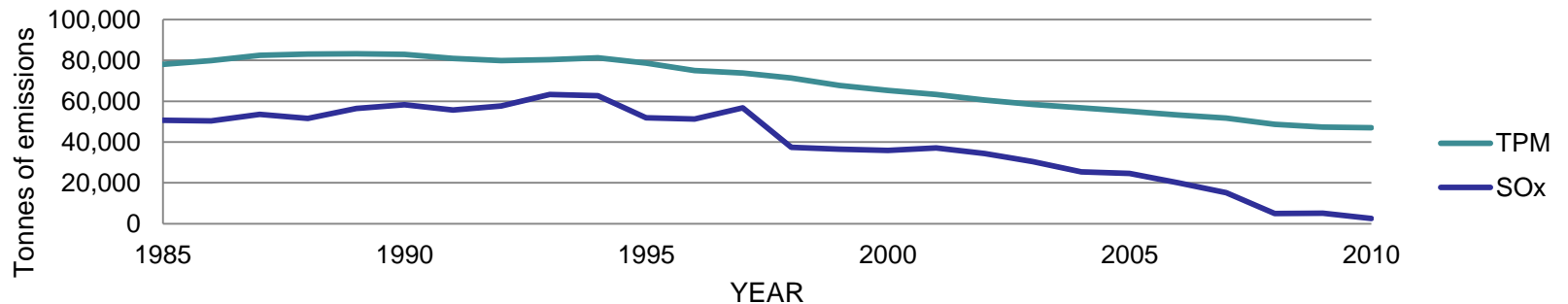


# Regulations are Delivering Improved Air Quality for Canadians

## Nitrogen Oxides (NO<sub>x</sub>) and Volatile Organic Compounds (VOC) emissions from on- and off-road vehicles and engines



## Total Particulate Matter (TPM) and Sulphur Oxides (SO<sub>x</sub>) emissions from on- and off-road vehicles and engines



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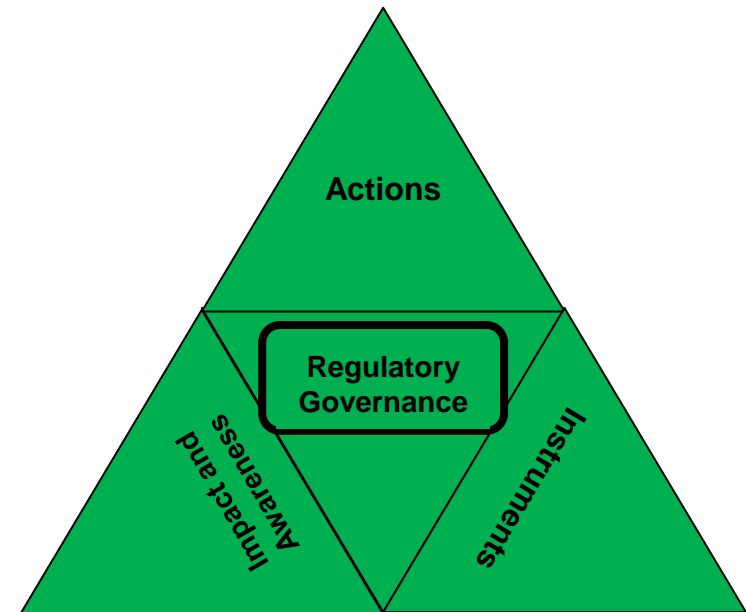
# Regulatory Governance



# Regulatory Governance Connects the Essential Pillars of Environmental Change.

## Example: Essential Elements for Vehicles and Fuels

- **Impact/ Awareness:**
  - What is the environmental issue?
  - **Air pollution and climate change**
- **Actions:**
  - What is the solution?
  - **Cleaner vehicles and fuels**
- **Instrument:**
  - What tool will be used to apply the solution?
  - **Requiring low sulphur fuels and cleaner vehicle standards**
- **Regulatory Governance:**
  - Who will apply, maintain and verify the tools?
  - **Government-led agency writes laws and regulations, administers and enforces requirements**





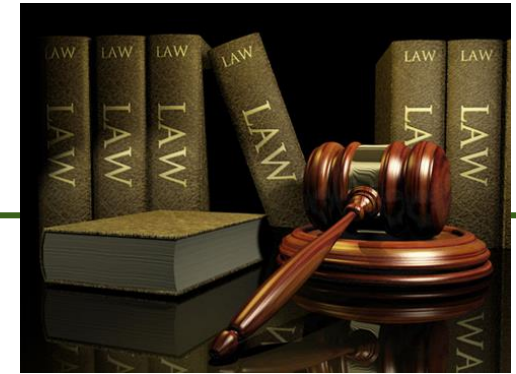
# 1. People: a Regulatory Organization

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- Responsible ministry, department or agency
- Regulatory team
  - Industry experts, fuel industry and vehicles industry, (to determine what is feasible)
  - Legal (to draft legislation or regulations in accord with local laws)
  - Trade experts (to evaluate trade impacts)
  - Communications
- Integration/Synthesis
  - Government requirements – cost/benefit analysis
  - Liaison with industry – compliance promotion
- Compliance Promotion and Enforcement



## 2. Tools: Regulatory Authority (Canada Example)



### • Law or enabling Authority

- This could involve either:
  - specific requirements enacted by a legislature or,
  - broader legislation which would enable specific requirements to be put into place by the government alone.
- The *Canadian Environmental Protection Act, 1999* (CEPA 1999) has specific provisions for regulations of fuels and vehicles (Divisions 4 and 5 of Part 7 of the Act) [www.ec.gc.ca/lcpe-cepa/](http://www.ec.gc.ca/lcpe-cepa/)

### • Regulations

- There can be a large number of specific requirements and these can be included in regulations:
  - The standards themselves, or reference to other eg. U.S. standards
  - Test methods, timing of enactment, etc.
- Regulations must be recommended by the Minister of the Environment.
- Regulations must then be approved by of the Governor General in Council (Cabinet).
- There is mandatory consultation with the public, including industry (60 days for fuel quality regulations).

***Regulatory flexibility in general increases regulatory complexity and the administrative requirements under the regulations for both industry and the government***

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# 3. Processes: Enforcement (Canada Example: Fuels and Vehicles)

## Fuel Suppliers' Requirements:

- Testing by refiners and importers on regulated fuel quality parameters
- Fuel sample retention and record keeping
- Reporting of test data
- Requirement for Independent Audit

## Environment Canada (Fuels)

- Spot testing at the pump
- Refinery, terminal inspections
- Analysis of reported data

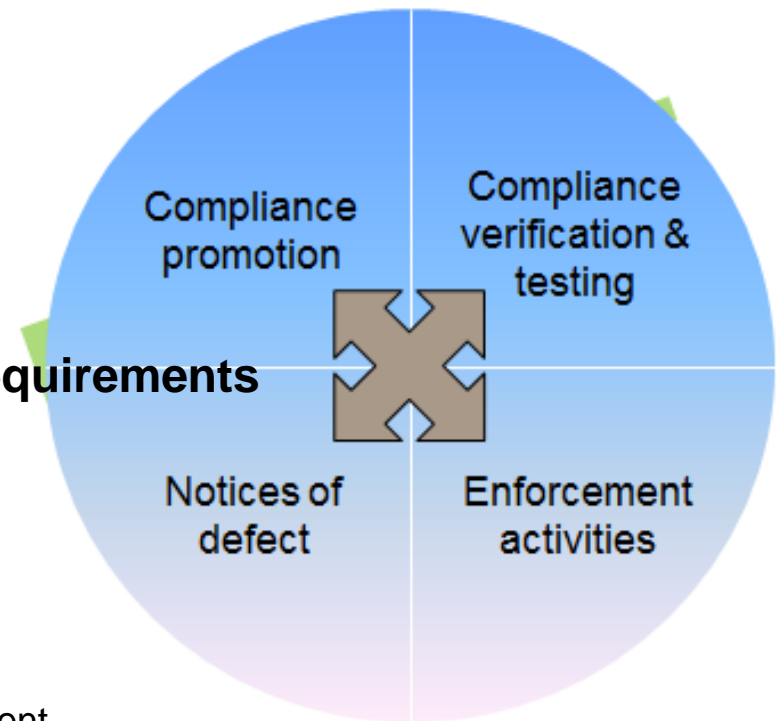
## Vehicle Manufacturers and Importers Requirements

- Certification and testing to EPA standards
- Vehicle labelling
- Notices of defect
- Reporting of fleet data

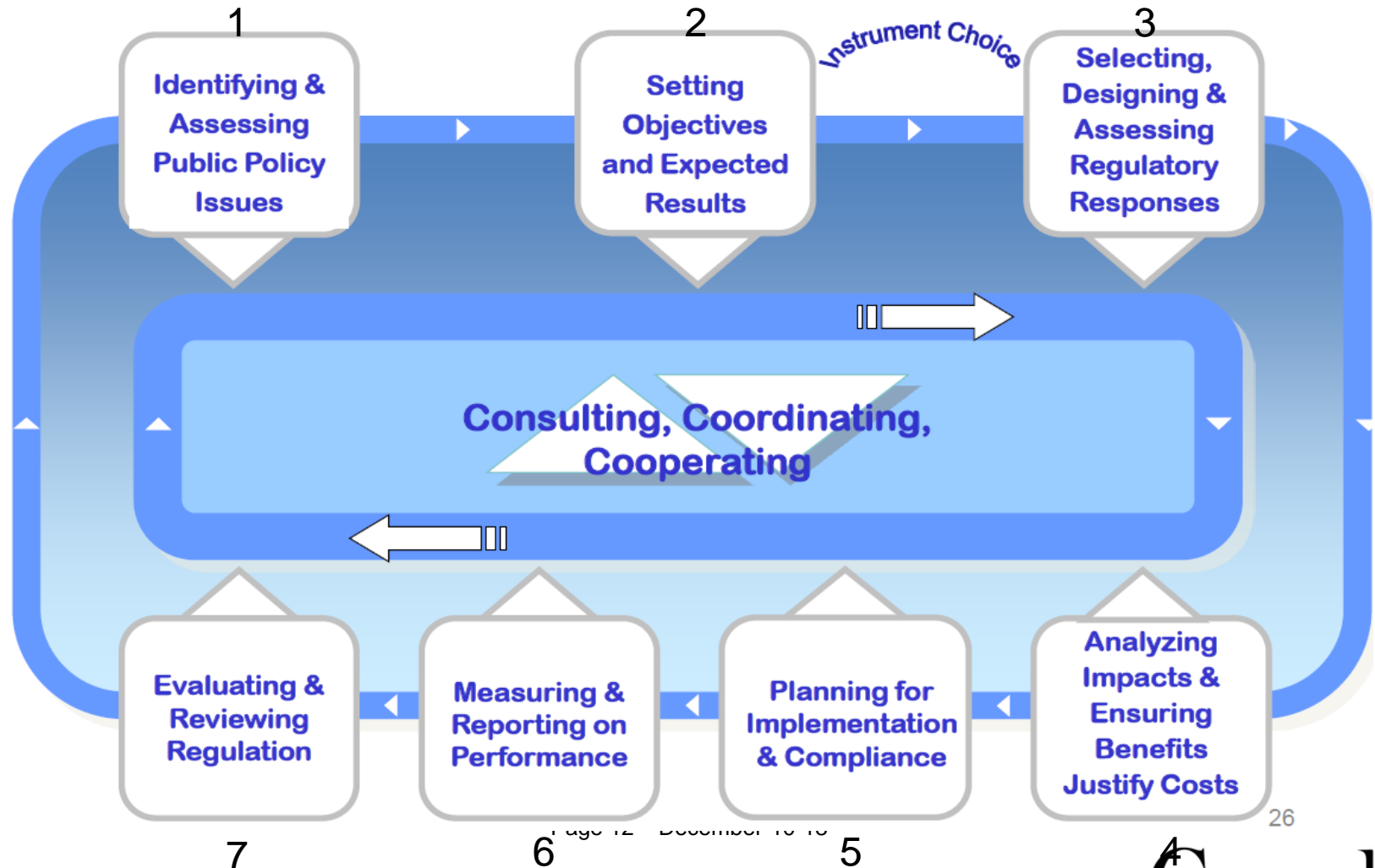
## Environment Canada (Vehicles)

- Spot testing of individual vehicles and equipment
- Monitoring of notices of defect, and follow-up

## Charges Under CEPA, as warranted (criminal law powers)



# Life cycle approach to regulating



# Regulatory Action in Canada

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- Environmental issues are a shared jurisdiction between provincial and federal authorities, stemming from the Canadian Constitution
  - Fuels are regulated by the provinces and by the federal government and both entities may regulate the same parameter (e.g. renewable fuels)
  - Both regulatory schemes must be complied with
- Federal regulations for fuels relate to issues with environmental and/or health concerns, including:
  - Sulphur levels (gasoline, diesel)
  - Benzene (gasoline)
  - Lead (gasoline)
- The Canadian General Standards Board (CGSB) develops national voluntary fuel standards which can be adopted into provincial regulations
  - Focus on operability and the fuels fitness for a particular use



# Regulatory Governance Toolkit that Environment and Climate Change Canada supported development of.

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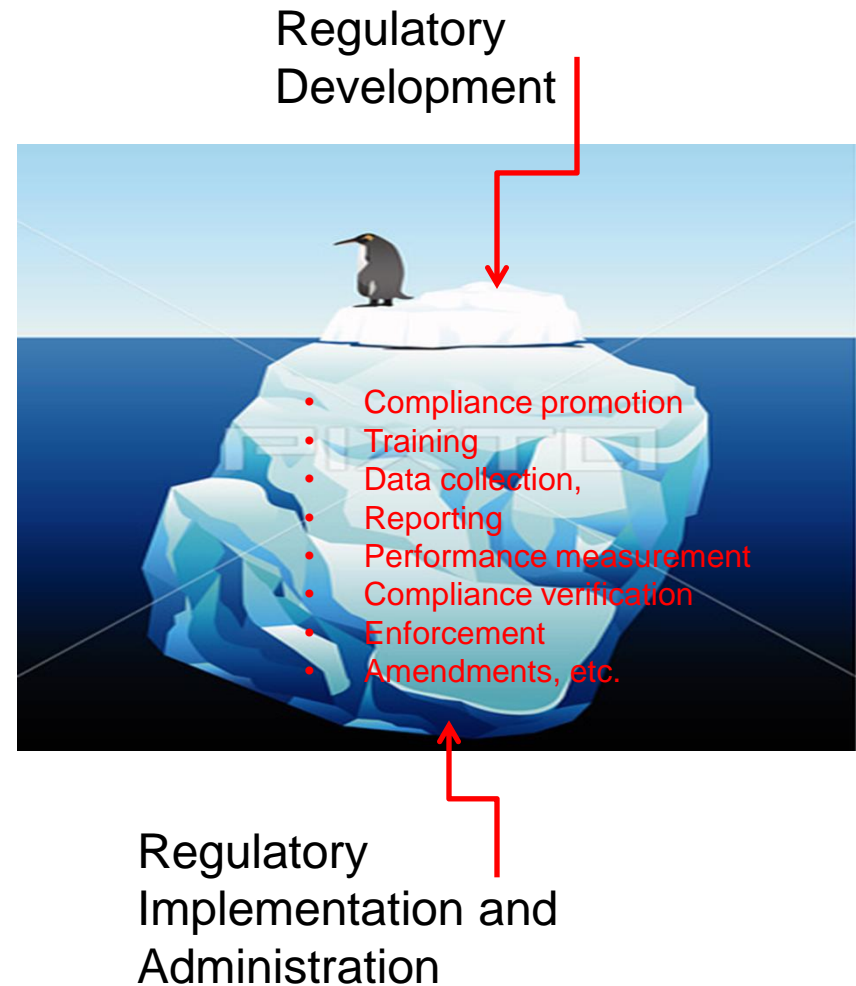
- Developed under the Partnership for Clean Fuels and Vehicles (PCFV)
  - <https://www.unenvironment.org/explore-topics/transport/what-we-do/partnership-clean-fuels-and-vehicles>
- This toolkit guides policy makers in developing countries towards the development of a regulatory framework to address vehicle emissions and fuel quality, including technical and policy background and case studies of existing regulatory approaches.
- This toolkit:
  - First summarizes the impact of fuel sulfur content on vehicle emissions and assesses the implications for the phase-in of tighter new vehicle standards.
  - The second part then looks at why countries are moving towards very low sulfur levels in fuels and the impact of sulfur on advanced vehicle pollution control technologies.
  - The third part provides a set of tools that can be used to move towards cleaner fuels and vehicles regulations.
  - The last section summarizes the approaches including regulatory governance taken by various countries to require or stimulate lower sulfur fuels and more stringent vehicle standards.
- <https://www.unenvironment.org/partnership-clean-fuels-and-vehicles-regulatory-toolkit>



# Lessons learnt

## Regulation Extends Well Beyond Its Creation

- Consulting with industry is key to the design of a successful regulation
- Alignment with major trading partners enables a level playing field
- The more complex a regulation, the tougher it is to enforce
- But – complex regulations allow for industry flexibility
- Extensive training of enforcement officers and regulatees helps ensure compliance
- Designing the regulation is the ‘tip of the iceberg’ – implementation and administration is resource intensive and requires a long term commitment



# Final Words: Policy and the Impossibility of Perfection

“...a gradual improvement in outcomes over the long term is a worthy policy goal. No rational person expects or demands miracles; the impossibility of perfection is a fact of the world, not an argument for inaction.”

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# Thank you and Questions?

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