



**Roinn Cumarsáide, Gníomhaithe
ar son na hAeráide & Comhshaoil**
Department of Communications,
Climate Action & Environment



Towards a National Clean Air Strategy

Environmental Services Training Group Conference

24th May 2017

Minella Hotel, Clonmel

David Dodd
Environment Advisory Unit
DCCA

Outline

- Clean Air Strategy: Consultation
 - Health Impacts
 - Aligned policies
- Consultation overview
- Science to Policy
- Sectoral Issues: Examples
 - Residential
 - Agricultural
 - Transport



Clean Air Strategy - Consultation



Roinn Cumarsáide, Gníomhaithe
ar son na hAeráide & Comhshaoi
Department of Communications,
Climate Action & Environment

Cleaning Our Air

Public Consultation to inform the development of
a National Clean Air Strategy








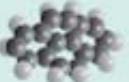




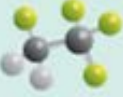

- Clean air vision
- Sectoral issues
 - Residential
 - Transport
 - Agriculture
 - Energy
 - Industry
- Air quality infrastructure
 - monitoring, modelling, research
- Communication and Awareness



AIR POLLUTION IN IRELAND













MAJOR AIR POLLUTANTS

 <p>PM Particulate Matter</p>	 <p>Nitric oxide (NO) Nitrogen dioxide (NO₂) Oxides of Nitrogen - NO_x</p>	 <p>SO₂ Sulphur Dioxide</p>	 <p>O₃ Ozone</p>
 <p>VOC Volatile Organic Compounds</p>	 <p>PAHs Polycyclic Aromatic Hydrocarbons</p>	 <p>NH₃ Ammonia</p>	 <p>CO Carbon Monoxide</p>
 <p>CH₄ Methane</p>	 <p>N₂O Nitrous Oxide</p>	 <p>HFCs Hydrofluorocarbons</p>	 <p>CO₂ Carbon Dioxide</p>

▲ Greenhouse gases (GHGs)

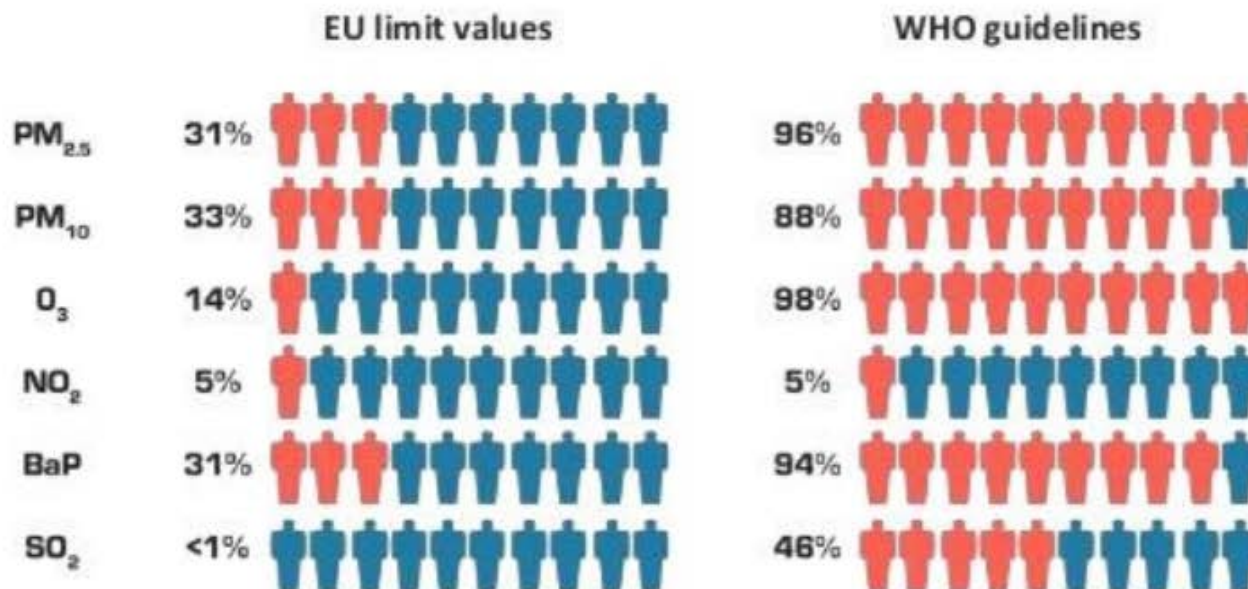
KEY AIR POLLUTANT SOURCES

 <p>Residential</p>	 <p>Transport</p>	 <p>Industry</p>	 <p>Commercial</p>
 <p>Agriculture</p>	 <p>Power</p>	 <p>Waste</p>	 <p>Natural</p>
 <p>Shipping</p>	 <p>Aircraft</p>	<p><i>* please note that the order of pollutant or pollutant sources is not a reflection of their quantity or level of impact</i></p>	



Exposure to harmful levels of air pollution

EU urban population exposed to harmful levels of air pollution, according to:



Up to a third of Europeans living in cities are exposed to air pollutant levels exceeding EU air quality standards. And around 90 % of Europeans living in cities are exposed to levels of air pollutants deemed damaging to health by the World Health Organization's more stringent guidelines.



A Clean Air vision for Ireland (1/2)

- Clean air is vital to good **public health** and good **environmental quality**
- There is **no safe level** of air pollution
- Ensure all Air Quality (AQ) levels are below **WHO** AQ guideline values



A Clean Air vision for Ireland (2/2)

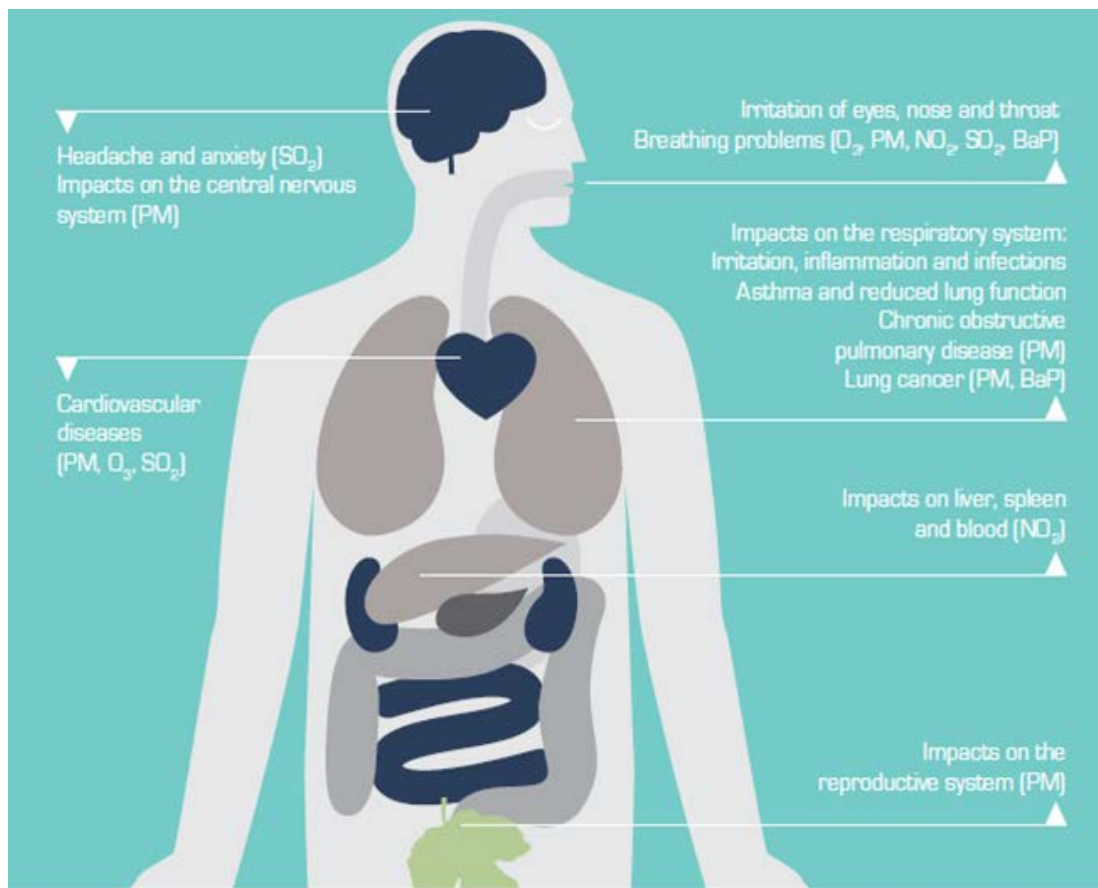
- Aligned **climate and air quality policy** for a low carbon, high air quality future
- A switch from using polluting solid fuels to **low smoke, low carbon** fuels and alternative technologies
- Achievement of National, European and international emission ceilings and commitments



Health impacts of Air Pollution

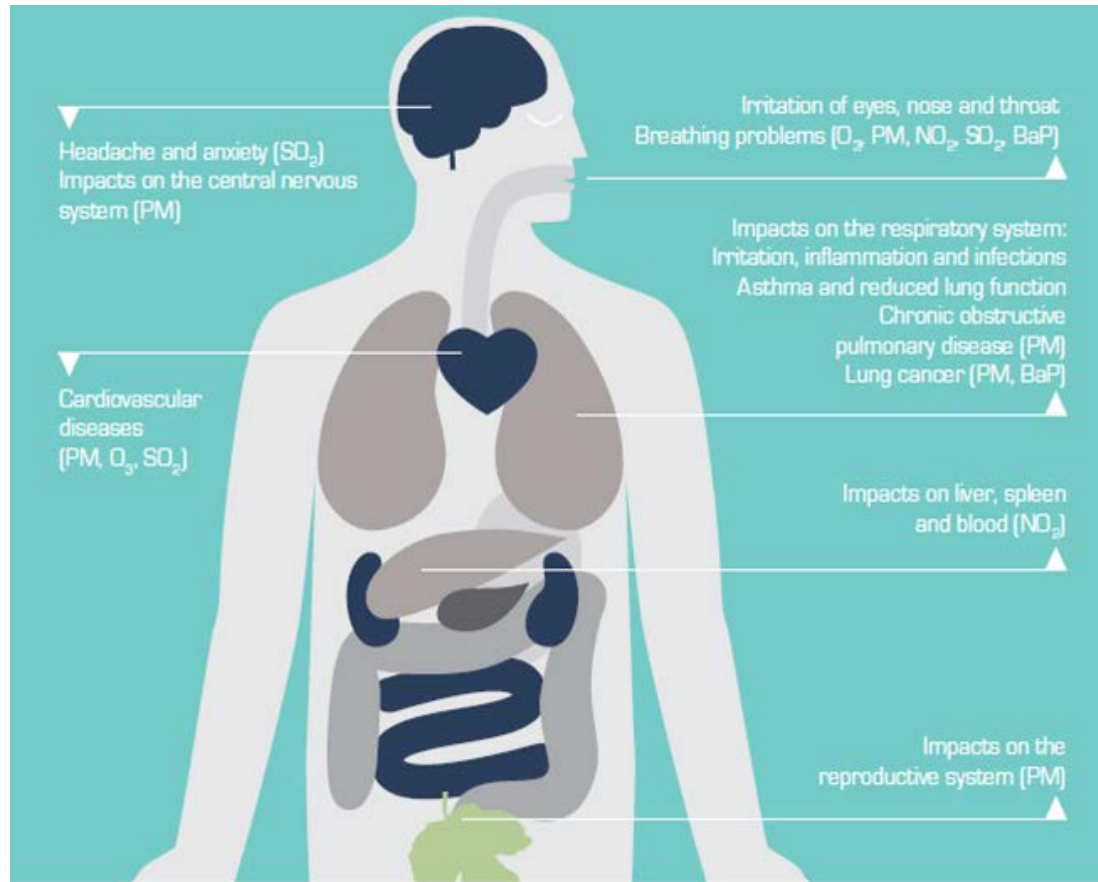
- **Premature mortality (2013)**

- ~500,000 in EU
- **1,600** in Ireland
 - ~1,500 Particulate matter (PM)
 - ~100 NO₂ and Ozone



Health impacts of Air Pollution

- **Respiratory disease**
- **Cardiovascular disease**
 - Heart attack and stroke
- **Recent findings...**
 - Links to brain function
 - Cognition in children
 - Low birth weights
- **WHO classify air pollution**
 - Carcinogenic to humans
 - Health effects at low levels



Alignment with other strategies/policies



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Consultation overview

- March 1st to April 28th 2017
- 120 + submissions
 - Government Departments
 - Government agencies and semi-state bodies
 - ENGOs
 - Local Authorities
 - Industry / Industry Reps.
 - Members of the public



The thumbnail image shows a slide with the following content:

- Logo:** A blue harp icon on a white background.
- Text:** "Roinn Cumarsáide, Gníomhaíthe ar son na hAeráide & Comhshaoil" and "Department of Communications, Climate Action & Environment".
- Title:** "Cleaning Our Air".
- Subtitle:** "Public Consultation to inform the development of a National Clean Air Strategy".
- Images:** A 2x3 grid of six images: a factory chimney emitting smoke, a cow in a field, a large ship, a landscape with a cloudy sky, a close-up of a car's air intake, and a sunset over a landscape.





Friends of the Earth Ireland



Wyeth



BORD NA MÓNA



IRISH WASTE MANAGEMENT ASSOCIATION



Arigna Fuels



ervia



Gas Networks Ireland



Local Authority Submissions



**Cork
County Council**
Comhairle Contae Chorcaí

**Comhairle Contae
Fhine Gall**
Fingal County
Council



Comhairle Contae Thiobraid Árann
Tipperary County Council



Dublin City Council
Comhairle Cathrach Bhaile Átha Cliath



Comhairle Contae County Council



LA issues raised: examples

- **Monitoring** capacity (ambient, ammonia, Black carbon and indoor AQ)
- **Health** impacts and guideline limits
- Illegal burning, **stoves**, planning issues
- Review of **finances**
- National clean air **awareness** campaign
- **Smoky Coal ban** implementation issues –(all Ireland Ban)
- Cross border HGV Registration check for coal dealers
- **Research** needs (e.g. AQ and health)
- **Training** requirements



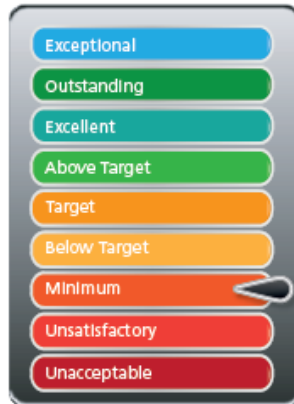
LA issues raised: examples (cont'd)

- Cycle lanes and bike schemes
- Use of **Drones** (and FPNs) for Illegal burning
- **Incentivisation** of public service vehicles for low carbon low emission vehicles
- **Odours**, slurry spreading
- **APA 1987** – not fit for purpose (section 24)
- **Technical guidance** needed for some areas (e.g. odour, AQ modelling, stoves)
- Data from CEMS should be online
- **Research** needs (e.g. AQ and health)
- **Enforcement** capacity (regional approach ? E.g. WERLA?)

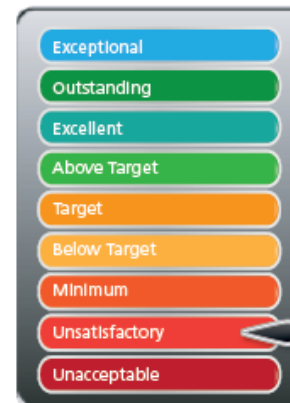


Air Indicators and National Average assessments observed

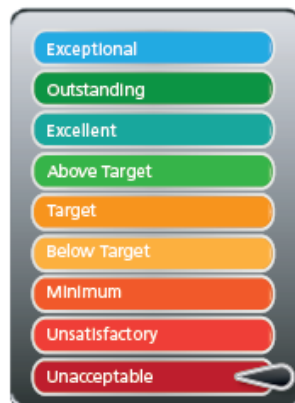
A. Inspections of sites under Deco Paints



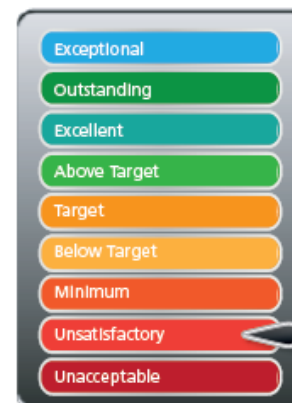
B. Inspections of sites under Solvents Regs



C. Inspections of sites under Petroleum Vapours Regulations



D. Inspections of sites under Solid Fuel Regulations



WATER

Average – Clean Air Issues

Tuesday 23 May 2017

WEXFORDPEOPLE.IE

INDEPENDENT.IE

THE IRISH TIMES

Thu, Oct 15, 2015



Opinion | Courts

Letters | Columnists | Edit

Friday 3 March 2017

NEWS

FARMERS JOURNAL

News | Beef

Budget 20

CONNACHT TRIBUNE

BLACKBERRY HEARING

Hearing Aids from €499 PER EAR

Better hearing, much better prices

THE SUN

Burning is would be t quality an

Cara Augustenborg
March 3 2017 2:30 AM



The cost of air pollution to the Sta

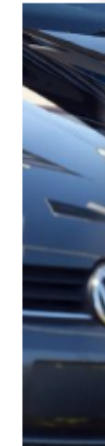
The silo mentality is th when it comes to enviro

A lack of joined up thinking h while ignoring negative impa UK governments incentivised address climate change while linked to human cancers, hea

Over scan Slurry s under ai

By Thomas Hubert on 26 April 2017

Volkswag



Volkswaen l West/AFP/G



Splash plates are deeme

The Government is t splash-plate slurry s

Wed, Oct 7

The num after the Irish roa

While the recently p beyond existing affo pollutants other tha here is health and h

The discussion pap

FARM IRELAND

Tuesday 23 May 2017

AGRI-BUSINESS DAIRY BEEF SHEEP TILLAGE MACHINERY RURAL LIFE SCHEMES EU FORESTRY & ENVIRO

Authorities use satellite data to detect illegal fires in 17 counties



Blaze alert: A fire rages out of control near the iconic Gougane Barra church in Co Cork Photo: John Delea

Wayne O'Connor
May 14 2017 2:30 AM

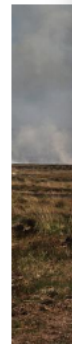
Gorse fires that wreaked havoc in the west of Ireland last week were so vast they could be seen from space.

Nasa satellites captured pictures of the west coast while the fires raged.

Independent.ie

HI 20°C | LO 12°C DUBLIN CHANGE

Home | Life | Lifestyle



Smoke rises

START

Country



Having n Ireland a cocoon of levels in

Search Go

FarmIreland.ie 18,064 likes
Like Page Contact Us

Be the first of your friends to like this

More Forestry & Enviro



Comment: Going electric makes sense for the planet and the wallet



Cork farmers 'lead way on controlled fire training'



Burning issue - the annual threat of gorse fires



Extra charges in €1.9m 'fraudulent forestry investment scheme' case

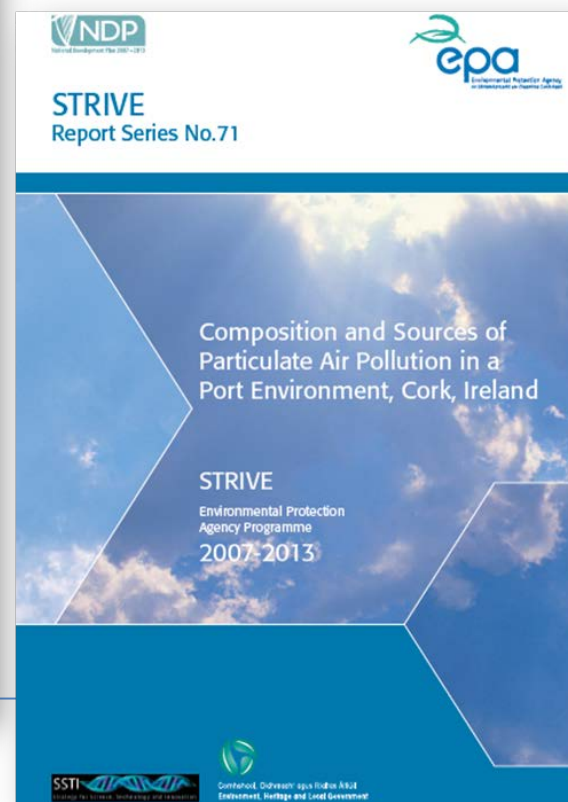
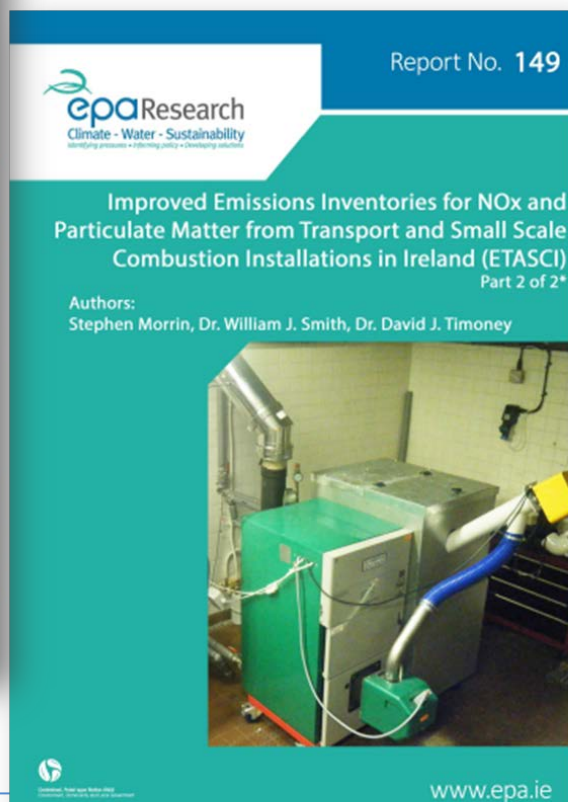
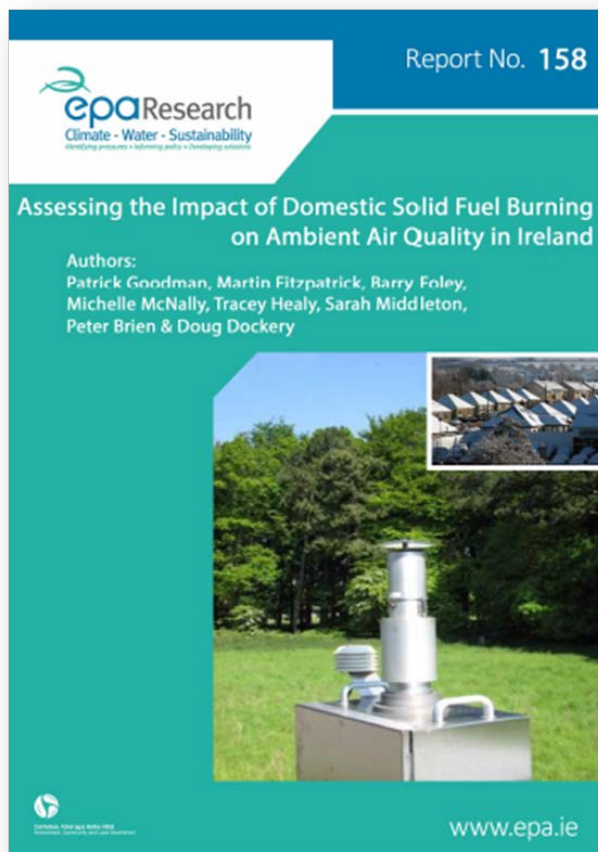


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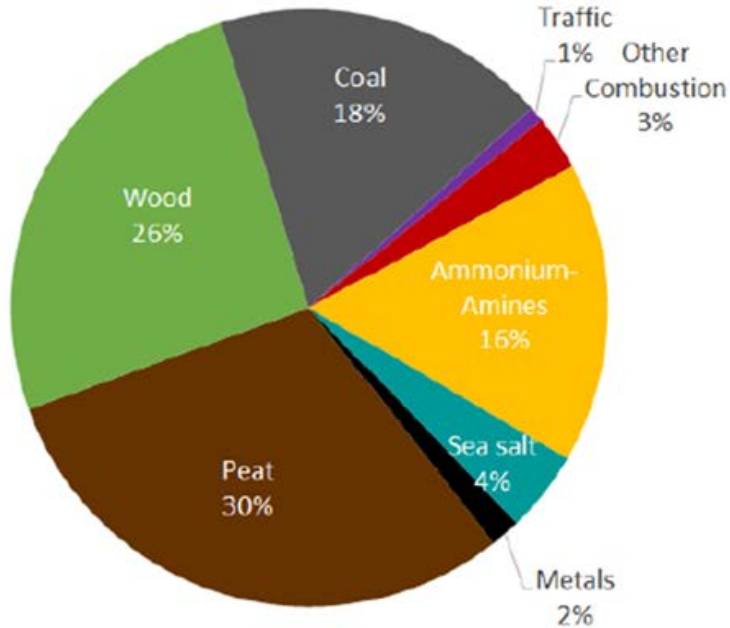


Science to Policy



Science informing policy

SAPPHIRE Killarney:
ATOFMS Composition
Mass Concentration



77% of PM_{2.5} from solid fuel burning



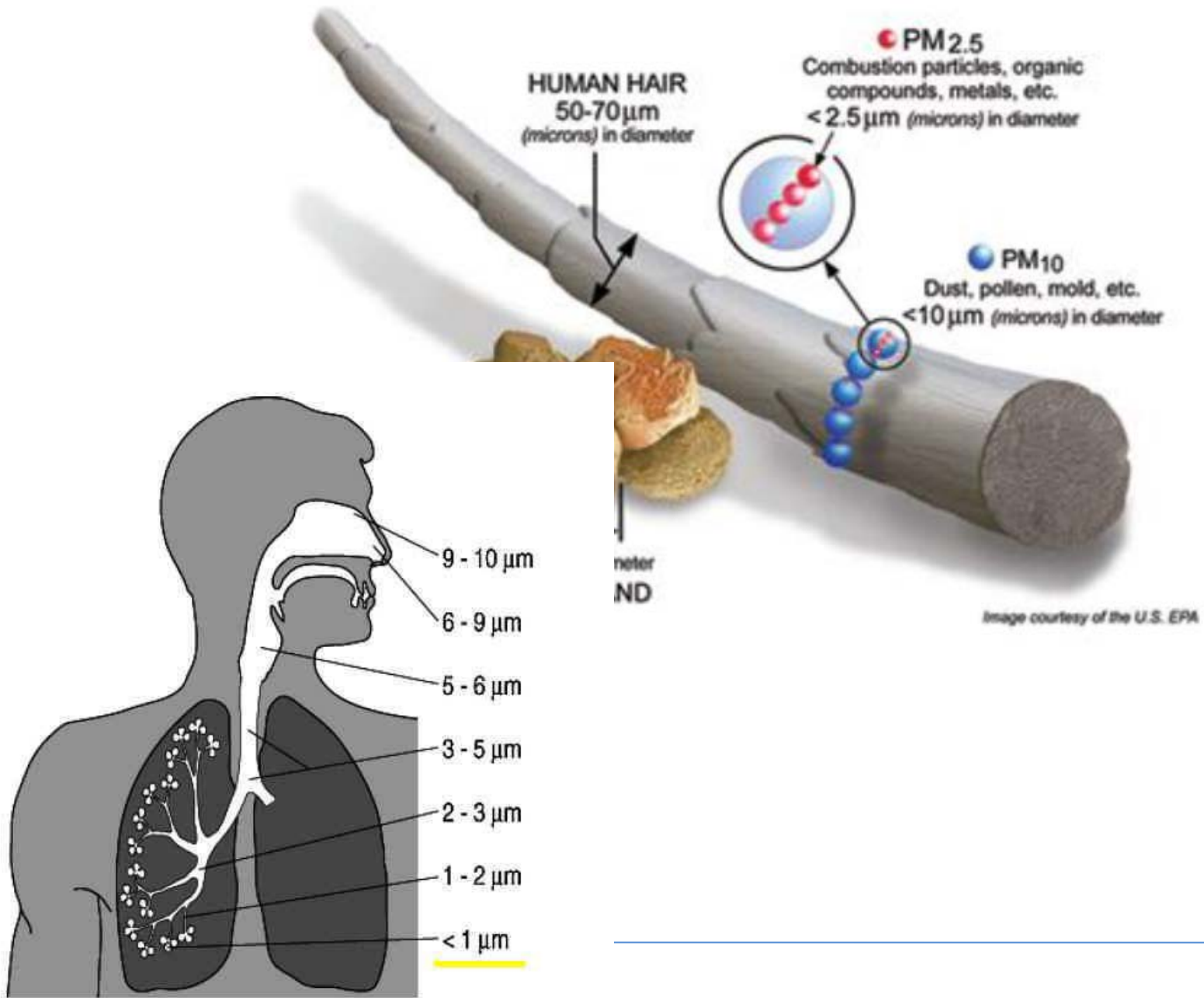
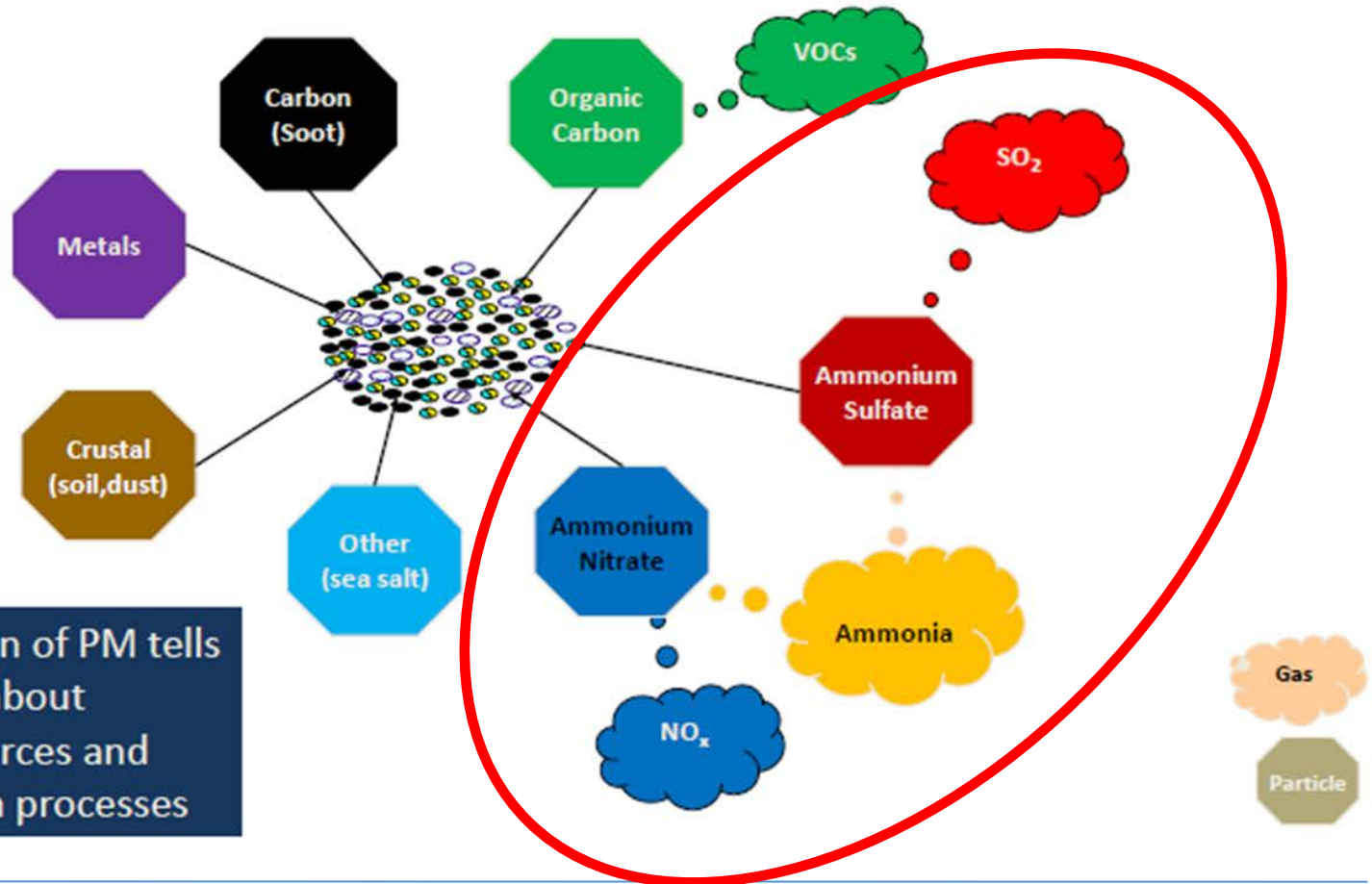


Figure 2 Particle deposition in respiratory system

PM Composition

Primary Particles
(directly emitted)

Secondary Particles
(from precursor gases)



Composition of PM tells us about the sources and formation processes



(Source :Kings College London)

Outline

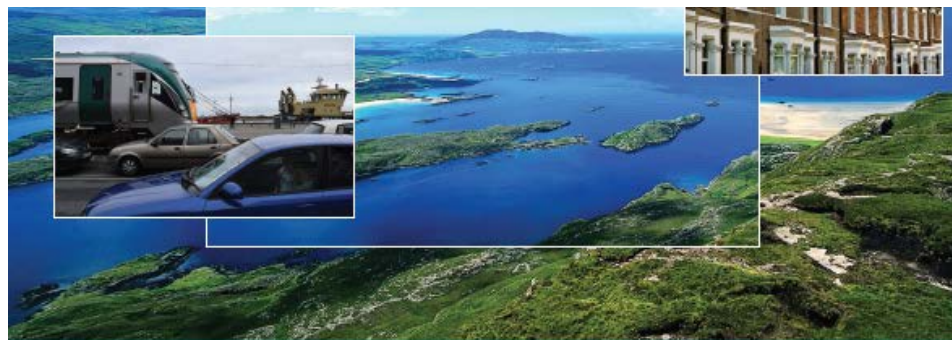
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Air Quality in Ireland 2015

Key Indicators of Ambient Air Quality

“Any shift from burning of solid fuel to cleaner, more energy efficient methods of home heating will result in cleaner air quality for the consumer, their family and neighbours with a resultant improvement in their health”.





Residential issues - Rural



- Improved energy efficiency
- Improved emissions? (depends on quality of appliance and fuel etc.)
- Potential Illegal Waste burning activity ?



Wood, coal, turf Stove



Asking price: €100

Make an offer:

Place offer

Seller: [bunco18](#)
Feedback: 25  1 
Location: Portlaoise, Laois

Entered/Renewed: 2 days ago
Ad Views: 528

[SEND MESSAGE](#) [LEAVE FEEDBACK](#) [WATCH AD](#) [Report Ad](#)



Solid fuel garage stove



Asking price: €200

Make an offer:

€200 PRICE NON-NEGOTIABLE

Place offer

Seller: [oohboo](#)
Feedback: 82  0 
Location: Cavan, Cavan

Entered/Renewed: 1 week ago
Ad Views: 356

[SEND MESSAGE](#) [LEAVE FEEDBACK](#) [WATCH AD](#) [Report Ad](#)



Description (last update: 3 months ago)

Condition: New

Hi output garage stove ,grate included will burn anything! No offers below asking price!



Residential issues - Urban



- Improved energy efficiency
- Increased emissions
- Increased solid fuel use
- Potential Illegal Waste burning activity ?



Residential - solutions?

- Shallow and deep retrofitting
- Low smoke low carbon solid fuels
- Alternative technologies – heat pumps, PV
- Fuel/Appliance standards – mandatory WFQA
- Registration/certification for stove/flue installation?
- Enforcement/planning conditions.....



New Builds – no chimneys!



Existing housing stock

FUNDING

[> Better Energy Homes](#)[> Better Energy Warmer Homes Scheme](#)[> Warmth and Wellbeing](#)[> Better Energy Communities](#)[> Electric Vehicle Grant Scheme](#)[> Energy RD&D](#)[> Ocean Energy Prototype Development Fund](#)[> EXEED Certified Pilot Grant Scheme](#)[> Whistleblower Policy](#)

Better Energy Communities

Better Energy Communities



Better Energy Communities 2017 was officially launched on 6th December by Denis Naughten T.D., Minister for Communications, Climate Action and Environment. SEAI will offer €30 million in grant supports for community energy projects in 2017. This represents a 50% increase in funding from the 2016 grant levels - an additional €10 million for this. The scheme, which is administered by the Sustainable Energy Authority of Ireland (SEAI), has supported 300 community energy efficiency projects over the last five years. As a result over 15,000 homes and hundreds of community, private and public buildings have received energy efficiency upgrades, supporting several hundred jobs each year.

In 2016 funding provided for energy efficiency upgrades to more than 2,600 homes and almost 300 community and commercial facilities. The total investment in energy efficiency is almost €48 million, supporting more than 700 direct and indirect jobs right across the country. A full list of the projects funded in 2016 can be found by clicking on the below link

Technology Leap



(e.g. Air source heat pump)



Existing housing stock - Retrofit

- Example – ‘Superhomes’
- Deep retrofits
- ‘Fabric First’
- Project Manager led
- Mix of technologies



(Source: TEA ‘Superhomes’ site visit Tipperary Aug 2016)

Agriculture – Issues?



- Ammonia/nitrous oxide issues
- Fertiliser use
- Odour issues
- Scrub burning/land clearance....



Slurry pit



Toxic gas



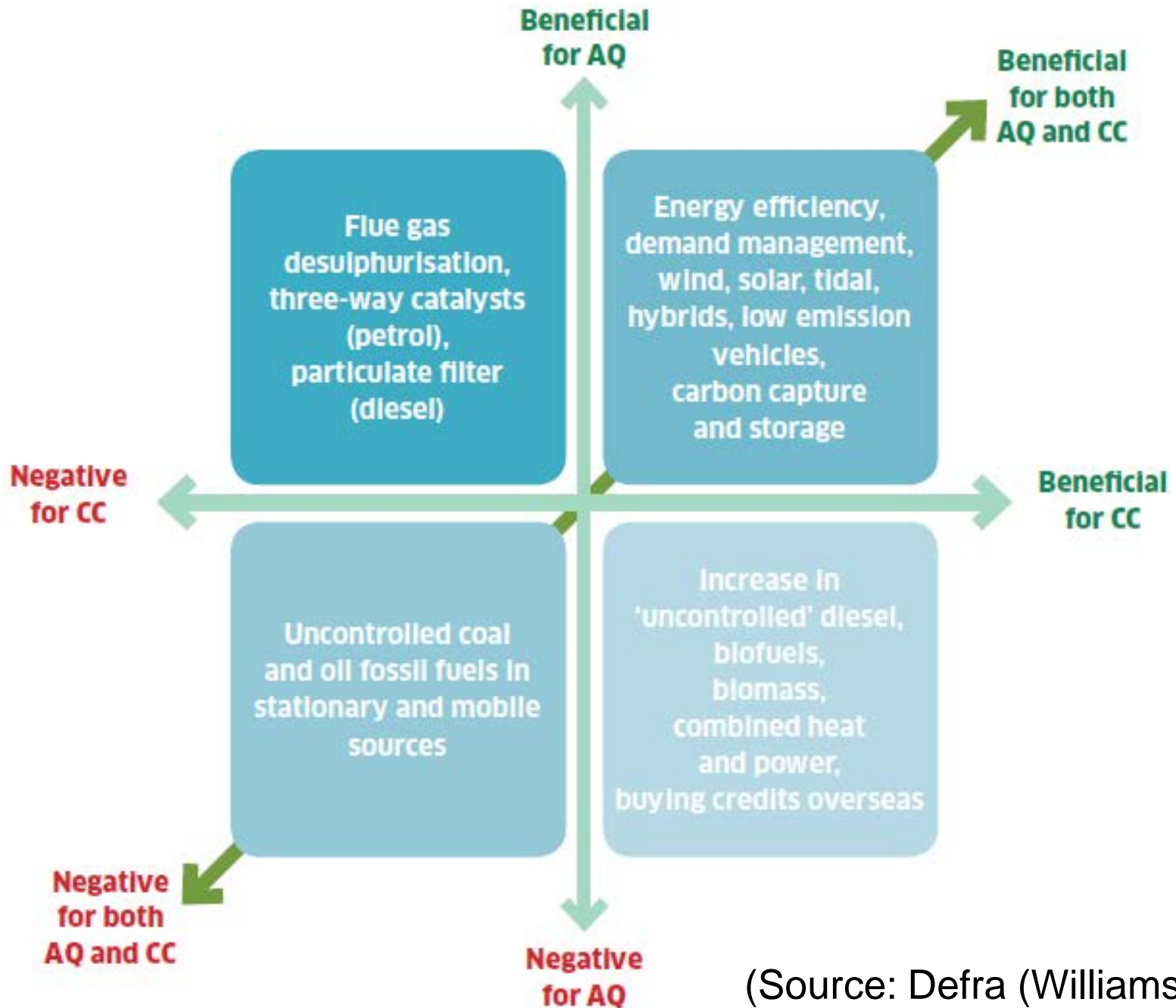
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Agriculture – Solutions?

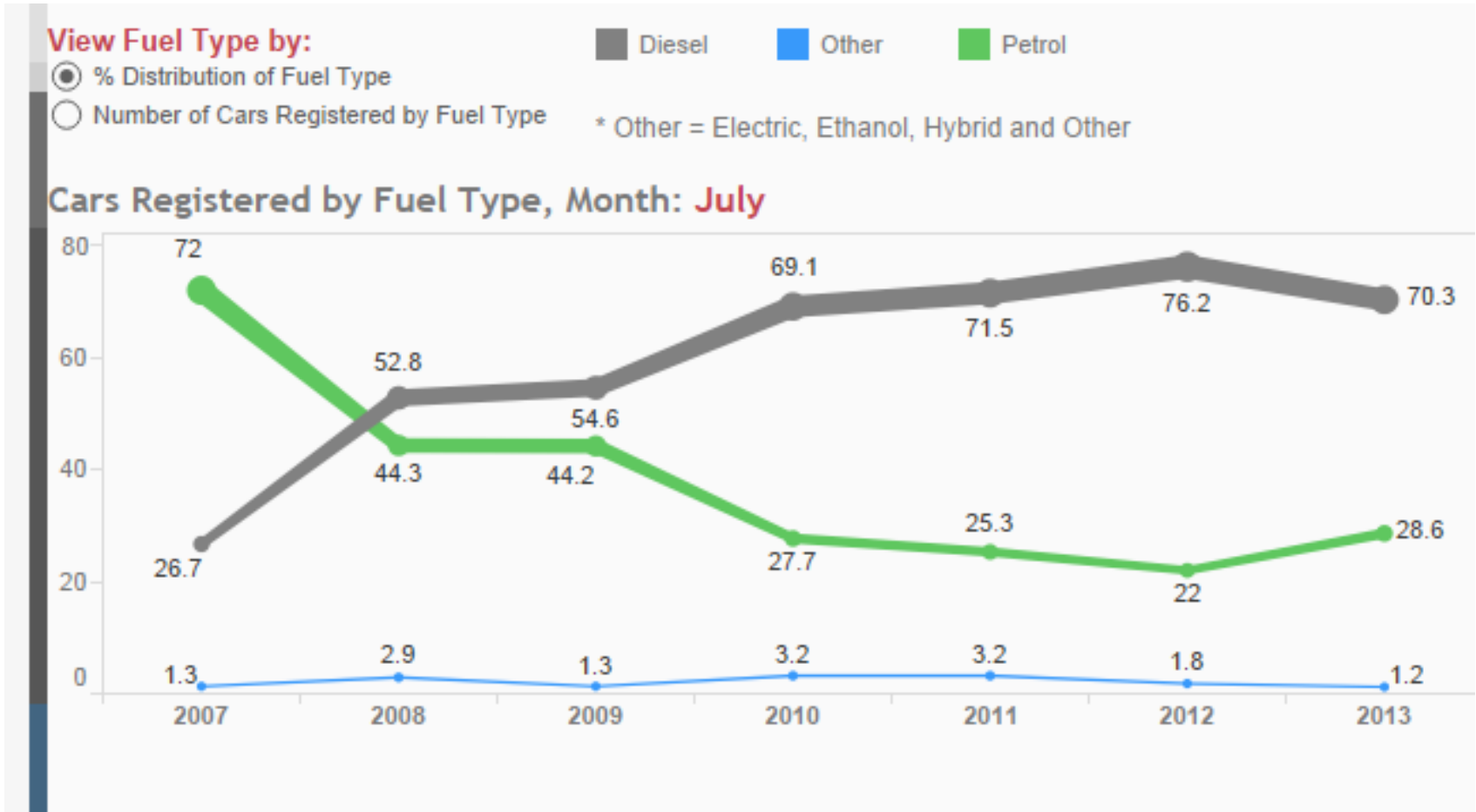
- Low emission slurry spreading – trailing shoe/hose/injection
- Anaerobic Digestion
- Slurry covers/lagoons
- Fertiliser/feed amendments.....





(Source: Defra (Williams) 2010)

Petrol V Diesel Registrations 2007-2013



(Source: CSO/All Island Research Observatory)

Transport – issues?

- Increasing private transport numbers
- Increasing share of diesel cars over petrol
- Diesel Particulate Filter (DPF) Removal
- Real World Emissions issue (RDE)
- Increasing congestion in urban areas



Transport – solutions?

- **Electrification** of private and public transport
- **Cleaner** transport fuels – CNG/biomethane
- Rebalancing of **vehicle tax** for diesel/petrol
- New Real World **Emissions** issue (RDE) regulations
- **Investment** in other transport modes – e.g. cycling infrastructure/‘walkability’



Clean Air Strategy - Timeline

- Consultation Paper was open for consultation until **April 28th**
- Cross Departmental Working Group
- SEA Screening Assessment
- Public Engagement Seminars
- Final Strategy Publication **Q4 2017**



Go raibh maith agaibh



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