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Cleaning Our Air:

Public Consultation to inform the development of a

National Clean Air Strategy

Submission on behalf of Dublin Friends of the Earth to the Department of Communications, Climate Action & Environment.

Dublin Friends of the Earth (Dublin FoE) are a local branch of Friends of the Earth Ireland. We promote education and action for environmental sustainability and environmental justice. We focus on Ireland's response to environmental challenges such as climate change, air pollution, and the spread of GM crops. We promote research based solutions to these problems that make life better for both people and planet, protecting the Earth for future generations.

We greatly appreciate the opportunity to take part in this consultation. Should the opportunity to support our document with an oral presentation arise, we would be very happy to do so.

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Dublin Friends of the Earth Air Quality submission to DCCAE

This is a submission by Dublin Friends of the Earth (Dublin FoE), a voluntary campaign group, to the National Clean Air Strategy consultation initiated by the Department of Environment and Climate Action initiated on 30 March 2017.

Consultation Questions

1. Do you have a view on what the main elements of a vision for clear air in Ireland should be?

Yes, Dublin FoE advocates strongly that Ireland should transition as quickly as possible from an Ireland in which, according to the World Health Organisation (1), there are 1,500 premature mortalities and 18,200 life years lost per annum due to air pollution, to an Ireland in which citizens feel safe in the knowledge that the air they breathe is not doing damage to their health.

Since all the evidence indicates that the main cause of air pollution is the burning of fossil fuels the main element in eliminating air pollution has to be the urgent phasing out of fossil fuels and their replacement with clean, renewable energy.

In the meantime as long as air pollution black spots remain measures should be taken to separate people from that polluted air, for example with physical barriers or by providing alternative routes or workspace for the people affected.

• Should consideration be given to going beyond statutory compliance with EU standards as set out in EU legislation, and moving towards WHO guideline values in line with the EU 7th Environment Action Programme?

Yes, Government, first and foremost, has a duty of care to all Irish citizens and those who spend time in our country, to ensure the air they breathe is not detrimental to their health. This obligation is in addition to any commitment under EU legislation. The Government's approach therefore should be evidence based and take account, for example, of WHO findings showing there is no safe level for particulate matter, P.M. 10 and P.M. 2.5. The latter is so small, 2.5 microns, or twenty five times smaller in diameter than a human hair, it can reach into the deepest part of the lungs and bloodstream. The WHO estimates there were 7 million air pollution related deaths worldwide in 2012. Breaking this figure down, 40% were from stroke, 40% from heart disease, 11% from chronic obstructive pulmonary disorder, 6% from lung cancer and 3% from acute lower respiratory disease. Ireland needs to reduce its PM 10 and PM 2.5 emissions to below the WHO guidelines. (1)

The EPA Air Quality Report 2015 (2) suggests we adopt the WHO guidelines as the EU and Irish legal standard by which emissions are deemed safe or not, as these WHO guidelines are more stringent, being based on the latest evidence and thus better able to protect our health. As per these guidelines, ozone was exceeded at one site, PM 10 at 16 sites and PM 2.5 at 8 sites in 2015.

(1) http://www.who.int/mediacentre/news/releases/2014/air-pollution/en/
(2) <u>http://www.epa.ie/pubs/reports/air/quality/Air%20Quality%20Report%202015.pdf</u>

There are precedents. In the past Irish Governments have introduced a smoky coal ban, a plastic bag levy, free travel for pensioners, a smoking ban in public places and health warnings and plain packaging of tobacco products. All these measures were introduced voluntarily and helped to safeguard the health of citizens and protect the environment. Although these laws were opposed at the time by vested commercial interests they had the support and later the appreciation of the public.

The EPA has highlighted the crucial importance of engaging and educating the public on the link between air quality and health.

• Are there areas where the national monitoring and research network could be enhanced or augmented so that it can better inform clean air and climate policy?

Yes there are. The present monitoring system is outdated, grossly inadequate and not fit for purpose. It is incapable of providing real time data about pollution black spots and conveying that information to the public using modern systems of communication. Other countries are leading the way and we should learn from them. We will elaborate further in replying to the questions in Section 5, "Understanding the Air Quality Challenge"

2. Are there any other issues you wish to raise in relation to a vision for clean air in Ireland?

Yes, we would like to draw attention to the wide range of benefits that will result from urgent action to improve air quality. There will be a reduction in carbon and other greenhouse gas emissions, thus helping us meet our 2020 targets and our international obligations, which Ireland is failing shamefully to do at present. Lives will be saved and we will have a healthier population. This will ease pressure on the health service and result in financial savings.

Consultation Questions – Residential Sector

1. Are there particular incentives that could be introduced to promote a quicker transition to clean, low carbon heating in the residential sector?

Yes. Dublin FoE believes that further incentives should be provided to encourage a bigger uptake of the Better Energy Home Scheme. For many low and middle income home owners the main impediment is the large capital outlay required. Consideration should be given to an SSIA type scheme dedicated to energy upgrade. Loan and easy repayment schemes should be introduced and extra financial incentives provided to encourage community energy and district heating schemes. For those who take part the cost of loan repayments would be offset in part by reduced energy bills.

These measures should apply to the private rental and social housing sectors too, with targets on energy efficiency set for each and an obligation to meet those targets by a set year such as 2025.

Large scale production of peat briquettes should be phased out as quickly as possible, thus also encouraging adoption of cleaner home heating systems. The pilot energy efficiency scheme for households availing of the Turf Cutting Compensation Scheme (3) as described in 'Cleaning Our Air' (page 30), could be extended as part of this aim.

Grants under the scheme should be extended to include Solar PV and heat pumps. They should favour the installation of renewable heating systems over fossil fuel heating systems to discourage the use of the latter.

The SEAI supported energy efficiency pilot scheme at the EPS Group Company in Mallow (4), where EPS gave loans to its employees for home upgrades, shows how access to cheap finance can be used successfully. Schemes like this should be rolled out nationwide.

• Should Ecodesign standards be required now where biomass combustion is chosen as a renewable energy source to meet Building Regulations requirements?

Yes. In addition there should be minimum ventilation standards to ensure biomass boilers do not adversely affect air quality in homes. They should not be supported in air quality black spots

9. Should consideration be given to requiring all installers of solid fuel appliances to meet a national accreditation or standard (similar to requirements for gas installation etc.)?

Yes.

10. Are there any other issues you wish to raise in relation to air pollution from the residential sector?

The residential sector accounts for 27% of all energy usage in Ireland and emits 10.5 million tons of CO2 annually. Residential air pollution is caused by the burning of fossil fuels to heat homes and water. Consequently a phasing out of fossil fuels must be central to any plan to reduce residential sector air pollution.

We need to improve energy efficiency by raising the standard required for all new buildings. Already steps have been taken in this regard by local Councils in Dun Laoghaire-Rathdown, Fingal, Wicklow and Wexford. These higher standards should be adopted nationwide. Houses on the Madeira Oaks estate in Enniscorthy (4) were cheaper to build than standard houses, yet they have an energy cost of 200 euro a year compared to 2,500 euro in a standard home. They are as airtight as is safe, have significant levels of insulation and use solar heating in place of fossil fuels. This should be the way forward in housing design in Ireland.

We need to upgrade the energy rating of existing buildings with an ambitious programme to retrofit homes, public buildings, schools and hospitals. Barriers that are preventing the greater use of residential and community Solar PV need to be removed.

Investment in energy efficiency to date has been estimated by the SEAI to have saved over €700 million in energy costs, and SEAI also says that savings of €2.4 billion are possible (5).

(5)

^{4) &}lt;u>http://www.irishexaminer.com/business/eps-staff-avail-of-200k-home-energy-upgrade-scheme-405258.html</u>

http://www.seai.ie/Publications/Statistics Publications/Energy Modelling Group Publications/Ireland%e2%8 0%99s-Energy-Targets-Progress-Ambition-and-Impacts.pdf

Community energy, micro-generation and auto generation projects can play an important part in helping to reduce our reliance on fossil fuels and in cutting down on carbon emissions. They need to be supported financially when they are being set up. Once established they need to be guaranteed quick and easy access to the grid and a fair price for excess energy exported to the grid.

It should also be emphasised that air pollution in residential areas is an issue of social justice. A study referenced in 'Cleaning Our Air' (6), found that almost all residential pollution hot spots that were examined are in deprived or very deprived areas. It is crucial that air pollution is addressed as a priority in tandem with energy poverty.

Consultation questions – Transport

1. Could a congestion charge promote a shift to public transport in certain urban areas and deliver a range of interlinked benefits including improving air quality, climate policy and sustainable transport by encouraging greater public transport use or use other low impact modes like cycling or walking.

Yes. Dublin FoE supports clean energy public transport, electric and hybrid vehicles, cycling and walking as the ways to achieve clean air in our cities. This will also help considerably in reduce our climate polluting emissions from the transport sector, which are shamefully projected by the EPA to increase rather than reduce up to 2030. This will only happen if a number of steps are taken, of which a congestion charge is one, based on the most polluting vehicles paying a higher charge.

Traffic on the M50 is reported to be increasing by 10% a year, with many motorists using it as a rat run between just one or two junctions (7). To encourage bus travel from outside the M50, free parkand-ride facilities should be available outside each junction, with Dublin bus services or Luas, as at the Red Cow roundabout, linking with each of those parking facilities.

One simple and radical way to promote public transport would be to provide free or heavily discounted travel for schoolchildren, both on school buses and on public transport services. This would help greatly to cut air polluting heavy traffic on our urban streets and in particular at school gates, where children and parents congregate. It could be introduced on a phased basis, for example, one day a week or for a week each term to start with, thus demonstrating its benefits; and it could rise to three or five days a week over a similar number of years. The cost would be recouped by a reduction in the costs of traffic congestion and the health costs of air pollution.

Public transport needs to be fast, reliable, efficient and cheap. In Dublin the Dart and the Luas have been very successful, taking thousands of cars off the roads. Dedicated bus lanes have shortened travel times and real time information at bus stops and on apps to mobile phones have improved matters for bus users. But public transport needs to be cheaper and we need to convert our urban buses to clean energy.

In the meantime Ireland should conform to the EU Clean Vehicles Directive by retrofitting HGVs and buses with NOX abatement technology.

⁽⁶⁾ htt p://www.dccae.gov.ie/documents/Clean%20Air%20Strategy%20Public%20Consultation.pdf

^{(7) &}lt;u>http://www.irishexaminer.com/breakingnews/ireland/m50-becoming-rat-run-786874.html</u>

There is an urgent need to make the switch to electric and hybrid vehicles. Greater incentives are needed for this. Engineers Ireland have made the point that leadership should come from the top, and Government Ministers and state agencies should set the example by switching to electric and hybrid vehicles (8). Free centre city car parks for public servants should be phased out and public transport encouraged.

The Luas North extension is very welcome as are the proposed traffic changes along the North Quays. The proposed Civic Plaza at College Green will encourage more walking and cycling and discourage through traffic from entering the Dublin city centre. Lack of space for pedestrians at College Green and other city centre locations is at dangerous levels, with pedestrians often forced off the pavement and in danger of being hit by traffic. Having such large numbers of pedestrians in close proximity to traffic fumes adds to air pollution impacts on both citizens and tourists.

Buses, coaches and taxis should be discouraged from keeping engines running for long periods while stationary. An information awareness programme should be instigated among bus, coach and taxi drivers on the health and climate emissions impacts of this.

Financial incentives should be provided to taxi owners to upgrade to electric and hybrid vehicle, Including tax incentives and a scrappage scheme.

Citibike and the bike to work scheme have been great successes and should be extended to Kilkenny, Waterford and other large towns. Investment in bicycle infrastructure is a modern and intelligent move. Plenty of research shows the social, economic, environmental, and health benefits of urban cycling. Studies from Denmark (9) tell us that for every kilometre cycled, society enjoys a net profit of 23 cents, whereas for every kilometre driven by car we suffer a net loss of 16 cents. A recent large-scale University of Glasgow study published in the British Medical Journal (10) shows that commuting by bicycle cuts the risks of heart disease and cancer by almost half. This is a dramatic finding and demonstrates that doubling or trebling the number of regular cyclists in Irish cities and towns will lead to significant health cost savings in time.

Infrastructure is the key. We need wider, more protected, one-way bike lanes that aren't shared by cars, buses or pedestrians. Bike security and bike parking facilities need to be improved. We need to limit the number and speed of cars in city centres, making public spaces safe and welcoming for everyone. Instead of the paltry funding it receives at present, cycling measures in Ireland should receive 10% of the transport budget, with a parallel reduction in the budget for major roads.

To encourage people to walk to work and within our city we need to increase the number of pedestrian zones, improve the air quality and also provide people with real time information about air pollution so they can plot their route.

Electric cars together with bikes, e-bikes, scooters, electric scooters, electric trains and trams will provide the opportunity for a cleaner, greener mobility future that assigns dirty diesel cars and trains, which choke cities and commuters, to the scrapyard of obsolescence. It is no longer a question of whether this happens — but how quickly.

http://www.engineersireland.ie/EngineersIreland/media/SiteMedia/communications/publications/engineersireland-state-of-ireland-2016.pdf?ext=.pdf

(9)

http://ec.europa.eu/environment/integration/research/newsalert/pdf/transport transitions in copenhagen 41 8na1_en.pdf

(10) <u>http://www.scotsman.com/news/health/cycling-to-work-cuts-cancer-and-heart-disease-risk-in-half-1-4423796</u>

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2. Should consideration be given to the introduction of Low Emission Zones in urban areas?

Yes. These are common and are working effectively throughout Europe. As the major health dangers from diesel emissions are becoming apparent many cities are deciding to limit or ban such vehicles from city centres from 2020. We should consider doing the same starting with periods of high congestion.

Since the introduction of a €5 charge for vehicles to enter central Milan on weekdays, a 14.5% reduction in traffic numbers and a 6-17% reduction in emissions has been recorded (Gibson and Carnovale, 2015). This is estimated to provide healthcare savings of up to US\$3 billion annually. Similar 'cordoned' zones in Singapore, Stockholm and London have led to reductions in traffic

volumes and the introduction of a charged 'low-emission zone' (LEZ) in Germany reduced mean PM10 levels by 9%.

3. Should consideration be given to incorporating air quality considerations into vehicle taxation?

Yes. We have the highest percentage sale of diesel vehicles and among the lowest sale of electric and hybrid cars. Vehicle taxation worked in shifting the balance from petrol to diesel. It can be helpful once again in shifting the balance from diesel and petrol to electric.

• If so should these considerations be addressed to VRT, motor tax or fuel taxes or a combination of all three?

All three have merit. VRT and motor tax can be used to encourage people to buy cleaner energy vehicles and a fuel tax on fossil fuels can discourage unnecessary journeys and encourage a shift over to public transport, electric vehicles and other clean modes of transport.

4. How can the issue of DPF (Diesel Particulate Filter) removal best be tackled?

Initially with a publicity campaign pointing out the seriousness of DPF removal and the consequences it has for public health. Then by making it an offence punishable by fine and penalty points.

• Should consideration be given to creating a specific offence for removal of a DPFs and/or advertisement of its removal?

Yes.

· Could the NCT be expanded to include DPF examination?

Yes.

5. In the wake of the VW emissions scandal, how can 'in use' vehicle emissions be better regulated?

By random checks and by NCT testing.

• Should a programme of national emission testing be conducted in Ireland, as has been done in other countries, to assess real driving emissions from vehicles on the roads?

Yes.

8. Are there additional air pollution sources or impacts from aviation or rail that should be considered?

Yes. Intercity trains warming diesel engines and idling, especially in covered railway stations represent a serious health hazard from emissions, including particulate matter. Connolly Station, Dublin, is a case in point, where Dart commuters have to pass along the mainline platform to access their trains. In both Connolly and Heuston stations CIE personnel and those working in retail kiosks are required to work for eight hours a day in enclosed emission laden environments. Is the technology available to enable trains warming engines or idling to run on electricity while in the station? If not then means have to be found to separate the people from the pollution.

Consultation Question - Agriculture Sector

6. To minimise air pollution releases to the atmosphere and reduce associated impacts on air quality and climate, could current regulation and guidance be improved to promote alternatives to burning practices?

Yes. Illegal gorse burning during the prohibited period of 1 March to 31 August should be quantified and investigated, with data on the costs to fire services and forestry plantations, as well as the likely damage to vegetation and wildlife. During a three day spell at the end of March 2017, a total of fifteen gorse fires were attended by fire services across the country (11). In late April, large areas on both sides of Kenmare Bay were set on fire, as well as hillsides in Gougane Barra where at least 350 acres of forestry were destroyed (12).

A sample count of such fires could be carried out in March 2018 a wide range of groups, involving gardai, local authority officials, Macra na Feirme members, tourism networks and concerned citizens. This could be followed by an information and awareness campaign in rural areas on the air pollution as well as other risks of gorse fire. This would aim to make it socially unacceptable to support the setting of such fires. The current legislative proposals to extend the periods in which such gorse burning would be allowed are also of great concern.

We need better education and awareness of the hazards of illegal burning on farms and at private residences especially in relation to dioxins – prosecution and fines for those breaking the law.

⁽¹¹⁾ http://www.thejournal.ie/gorse-fires-ireland-3309105-Mar2017/

^{(12) &}lt;u>http://www.irishtimes.com/news/environment/firefighters-battle-widespread-gorse-fires-in-cork-kerry-1.3058214</u>

Consultation Question – Energy Sector

3. How could transparency regarding large emissions sources regulated under the IED be improved? Should data from continuous emissions monitoring systems be made more readily available online?

Industrial Emissions Directive (IED): emissions should be documented daily and available online. The EPA is responsible for the IED and there are 780 private licensed industrial and waste facilities in Ireland. Their emissions should be available to view online on at least a daily basis. The new thermal treatment facility in Poolbeg, Dublin has just commenced operation and the EPA will have full access to their air pollution control system. Real-time emissions data is apparently being made available online.

4. Are there any other issues you wish to raise in relation to energy policy and clean air?

Despite the recent encouraging growth in electricity from renewables, mainly wind, Ireland remains overwhelmingly reliant on imports of fossil fuels for the vast bulk of our energy supply.

Dublin FoE believes strongly that public engagement and public participation in national energy policy is fundamental for the transition away from imported fossil fuels to clean home produced renewable energy. Citizens need to be informed of the vital importance of this project through information in the mass media, workshops, public meetings and debates around the country.

Ireland has excellent clean renewable energy resources. With the right policy framework we could become a centre of excellence for renewable energy design and manufacturing with an active and growing job market in clean technologies and communities at the heart of the transition.

More needs to be done to support and encourage community energy efficiency and micro generation projects. Local investment keeps money local and supports jobs and communities. The Climate Council has identified the termination of peat-firing of power stations as an obvious step in reducing polluting emissions. These stations provide just 9% of our electricity but produce 22% of our emissions from electricity generation. Moreover, peat-firing is subsidised to the tune of 120 million euro a year. These subsidies should be used to provide retraining and alternative jobs for those displaced by the earliest possible closure of peat-fired power stations.

Coal consumption in electricity generation increased by 20% in 2016, primarily as a result of the cheap cost of importing coal last year. We need to terminate the use of coal to generate electricity at Moneypoint. In the meantime we should introduce further disincentives to prevent its increased use.

Grant aid from the Sustainable Energy Authority of Ireland through Better Energy Homes and Better Energy Communities should not be limited to energy efficiency measures but should include community renewable energy generation projects.

We should promote and give incentives to all businesses, with help from the National Standards Authority of Ireland, to attain ISO 14001 environmental and/or ISO 5001 energy mgmt accreditation. These focus an organisation to operate in an environmentally responsible way and conserve resources, of which energy is a key component. Current status is documented and goals are set to reduce waste, conserve resources and move towards being carbon neutral where possible.

7. Should consideration be given to bringing forward the date from 2022 for the introduction of Ecodesign standards for residential stoves.

Although the EU Ecodesign Regulations for solid fuel stoves don't come into force until 2022 serious consideration should be given to introducing them at an early date for all new installations.

Consultation Questions – understanding the Air Quality challenge

2. How can data from the various observation activities carried out in Ireland be better used or developed to enhance responses to air quality and climate challenges?

Our present system of air quality monitoring is outdated and not fit for purpose. The monitoring sites are too few and are not located where pollution is highest and potentially most damaging to human health. There are no means by which citizens can estimate their personal exposure. In a TCD study carried out by Associate Prof. Aonghus Mc Nabola and Prof. Laurence Gill (13) they say "This can be quantified by recording personal exposure data over 24-hour periods on a real-time basis incorporating different activities (e.g. commuting, shopping, working, sleeping, etc.) and different locations."

They go on to state "The current research study aims to gather sufficient data of this nature to be used in the development of predictive modelling tools. Data has been collected for one such pollutant, particulate matter (PM), with the use of a real-time Aerocet-531 nephelometer monitor.

Then there is the Citi-Sense Project (14) in which citizens in eight EU cities have been provided with a range of monitoring tools and mobile apps that allow them carry out real time studies of the air quality they encounter. They then feed that information into a central data bank where it is processed and made available through mobile apps and a dedicated website. All this has become possible due to improvements in technology that has made monitoring equipment portable and cheap. The Citi-sense project is co-funded by the EU.

^{(13) &}lt;u>https://www.tcd.ie/civileng/research/environment/air/exposure-analysis/</u>

^{(14) &}lt;u>https://m.youtube.com/channel/UCaDdfpvLONuybNBV9cNGIbQ</u>

Currently there are 31 monitoring stations in the Republic of Ireland, with plans to increase to 66, plus another 14 indicative monitoring stations making a total of 81. This is welcome but Dublin FoE believe the number should be increased in the longer term, something the public will demand as evidence of the health damage of air pollution becomes more widely known. Scotland currently has 88 monitoring stations.

In Scotland, the public can access all air quality information on a specific website called http://www.scottishairquality.co.uk. In Ireland the public have to know to search the EPA website. Access must be direct, quick, straightforward and logical for the public. This is not the case in Ireland.

On the Scottish website one can enter one's postcode and find out the air quality for that area. Would this be another way to use Eircode?

This website also has a section for children to engage interactively with this topic.

On the Scottish Know and Respond App one can sign up for alerts and be contacted for free in advance when air quality is forecast to reach moderate, high or very high which allows those with specific health issues to plan accordingly. In Ireland, such a system would greatly increase awareness of the risks of air pollution damage to health; and hundreds of thousands of sufferers from asthma, other respiratory diseases and/or heart conditions would welcome the opportunity to reduce their exposure to air pollution.

Quality of the air monitoring stations/equipment: the current and proposed locations must be in the closest position possible to the sources of pollution in order to gain accurate readings. Are they directly next to traffic sources for example? The technology must be of the highest quality to enable real time data to be transmitted in real time.

Black carbon monitoring should be added to the capability of all monitoring sites as it is a pollutant which penetrates the respiratory system and is present in diesel emissions.

5. How can the monitoring capacity that exists in universities be best harnessed to inform knowledge of air pollution sources?

Universities and their students can play a very important part in air quality monitoring and in developing modelling systems that estimate individual exposure in a variety of situations. For example, P.M. exposure for a commuter passing through Connolly Station twice a day may be low but for a ticket checker working on the platform all day it may be very high.

Every third level institution in the country should have several monitoring stations on its campus which can be used as part of students' education if they study chemistry, health or environmental sciences. Analysis of their data plus other research in this area could advance our understanding of air quality issues in Ireland and feed into the EPA's overall monitoring efforts. Also, the successful Green Schools programme and the college/university equivalent (Green Campus) could incorporate an air quality element which they could monitor with relatively inexpensive equipment. The Green Campus programme includes one hospital and should be rolled out in all hospitals nationwide.

8. Are there examples of other types of technology that could be used for air quality purposes?

Yes, there are now a wide range of portable cheap monitoring devices that can be used to measure a variety of air pollutants. These can be acquired by schools, as part of the Green Schools Programme to check air quality in their area and to check individual exposure. They can also be used by Universities, with twenty five campuses now signed up to the Green Eco Campus Programme. Cycling and environmental organisations can also take part in a citizen's monitoring

programme. All this information can be fed into a central data bank and processed to give us real time information of our air quality.

Are there other issues you wish to raise in relation to the monitoring, modelling and forecasting of air quality?

The EPA recognises there is a need to increase the number of air quality monitoring sites in cities and throughout the country. Dublin FoE advocates that this should be done urgently.

Consultation Questions – Communication and Awareness

1. How can the general public best be made more aware of the health impacts of air pollution?

Climate change topics in general are not taken seriously by the media in Ireland. The national broadcaster, RTE, has a duty to report more widely on these issues as they affect people's lives today, and especially to bring the matter of air pollution to the attention of the residents of Ireland as it is now a serious public health issue. If the public is not made aware, there will be no real demand for change.

The Dept of Health and the HSE must get involved. Air pollution is causing a shocking 1,500 premature deaths a year (15). Thousands more suffer serious illness and the public have no knowledge of this fact. The already burdened health service deals with the fall out from those with lung, heart and other conditions, especially the increasing number of children with asthma. The Dept of Health must work with the Dept of Communications, Climate Action and Environment and Transport, Tourism and Sport to get policies in place and be honest with the public and make them aware of the facts on this issue.

Real time air quality indications could be displayed on public screens. This could be done by showing them in rotation on existing electronic signs in urban centres, Dublin Bus RTPI screens, traffic information screens in or approaching towns/cities and on multi-storey car park screens. Air quality information screens can be seen at four locations in Seville, Spain for example. (16). This could be done through dedicated mobile apps, similar to the one available from Met. Eireann to inform us of the weather, and by public announcements on local radio and TV and on EPA and Met

Éireann websites. Such public information would raise public awareness very quickly and directly, and would stimulate media discussion of the health risks of air pollution and the necessary measures to safeguard our health.

Incorporation of an air quality element into the National Tidy Towns competition (Clean Air Award) is very welcome. This will get communities thinking about the issue and be proactive to protect its inhabitants and make them realise that air pollution occurs everywhere, not just in big cities.

⁽¹⁵⁾ http://www.dccae.gov.ie/documents/CAD%20conclusions%20%20Final.pdf

^{(16) &}lt;u>http://aqicn.org/map/seville/#@g/37.3361/-5.9518/11z</u>

2. Is enough information readily available to the general public about air quality where they live and work?

No, and this could be done by implementing the suggestions above.

3. National awareness campaigns have been undertaken on issues like Waste (Race against waste) climate change (change.ie) and energy efficiency (the Power of One campaign). What issues might a national clean air awareness campaign encompass and how could its impact be measured?

Citizens need to be made aware of the dangers to their health from air pollution, how they can play their part in improving it and what they can do to minimise risk to themselves and their families. There needs to be a campaign using mass media to increase awareness, similar to the tobacco smoking campaign. Its impact will be measured by changes in personal behaviour and by the pressure put on public representatives to take action to improve our air quality.

· Are there particular issues that would benefit from an awareness raising campaign, for example,

what choices can the individual make that reduce air pollution in a person's area?

Yes there are. Individuals may decide to retrofit their homes to make them more energy efficient, change their heating system to a cleaner one, change from a diesel car to an electric or hybrid one, cycle or walk to work, walk the children to school or if that's not possible organise a car pool to reduce car miles.

· Should a clean air theme be developed for the Green Schools programme?

Yes. Already some schools are carrying out air monitoring studies in their area. Equipment is now so cheap that such studies are possible for all schools.

Furthermore, the success of the Green Schools Programme is being replicated by the Green EcoCampus Programme at third level, with twenty five campuses already taking part. Third level students can make a significant contribution to air quality monitoring.