

**Annex to Delivering Cleaner Air
Smoky Coal Ban Regulations - Review and Public Consultation**

Urban Areas By Population (Census 2006) showing EPA Zones and Ban Areas

	Population Including suburbs or environs 2006 Census	EPA Air Quality Zone	Ban Area
Greater Dublin Area	1,045,769	A	1990
Cork City	190,384	B	1995
Limerick City	90,757	C	1998
Galway City	72,729	C	1998
Waterford City	49,213	C	2000
Drogheda	35,090	C	1998
Dundalk	35,085	C	1998
Swords	33,998	A	1990
Bray	31,901	C	2003
Navan	24,851	C	No
Ennis	24,253	C	2011
Tralee	22,744	C	2003
Kilkenny	22,179	C	2003
Carlow	20,724	C	2011
Naas	20,044	C	2000
Sligo	19,402	C	2003
Newbridge	18,520	C	No
Mullingar	18,416	C	No
Wexford	18,163	C	1998
Letterkenny	17,586	C	No
Athlone	17,544	C	2011
Celbridge	17,262	C	2000
Clonmel	17,008	C	2011
Balbriggan	15,559	C	1990
Malahide	14,937	A	1990
Leixlip	14,676	D	2000
Portlaoighise	14,613	D	No
Killarney	14,603	D	No
Greystones	14,569	D	No
Tullamore	12,927	D	No
Carrigaline	12,835	D	No
Castlebar	11,891	D	No
Arklow	11,759	D	1998
Cobh	11,303	D	No
Maynooth	10,715	D	No
Ballina	10,409	D	No
Mallow	10,241	D	No
Wicklow	10,070	D	No
Midleton	10,048	D	No

Maps of EPA air quality zones and coal ban restricted areas can be viewed on the EPA website using the [EPA Envision Map Viewer](#) by selecting the ‘Air Quality’ option from the menu on the left of the envision map viewer screen.

EPA Designated Air Quality Zone C
- Cities (other than Dublin and Cork) and Large Towns Over 15,000 Population

Limerick City comprising the following Electoral Divisions

Abbey A, B, C and D	Ballinacurra A and B	Ballynanty	Castle A, B, C and D
Coolraine	Custom House	Dock A, B, C and D	Farranshone
Galvone A and B	Glentworth A, B and C	John's A, B and C	Killeely A and B
Market	Prospect A and B	Rathbane	St. Laurence
Shannon A and B	Singland A and B	Ballycummin	Ballysimon
Ballyvarra	Limerick North Rural	Limerick South Rural	Roxborough

Galway City comprising the following Electoral Divisions

Ballybaan	Baile an Bhriotaigh	Bearna	An Caisleán Gearr
Claddagh	Dangan	Eyre Square	An Cnocán Carrach
Lough Atalia	Mionlach	Mervue	Murroogh
Newcastle	Nuns Island	Rahoon	Renmore
Rockbarton	Paróiste San Nicolás	Salthill	Shantalla
Taylor's Hill	Wellpark		

Waterford City comprising the following Electoral Divisions:

Ballybeg North and South	Ballybricken West	Ballymaclode	Ballynakill
Ballynaneashagh	Ballytruckle	Bilberry	Centre A and B
Cleaboy	Custom House A and B	Farranshoneen	Ferrybank
Gracedieu	Grange North and South	Grange Upper	Kilbarry
Kingsmeadow	Larchville	Lisduggan	Military Road
Morrisson's Avenue East	Morrison's Avenue West	Morrisson's Road	Mount Sion
Newport's Square	Newtown	Park	Poleberry
Roanmore	Shortcourse	Slievekeale	The Glen
Ticor North and South	Kilculliheen	Aglish	

Drogheda and environs comprising the following Electoral Divisions:

Fair Gate; St. Laurence Gate; West Gate; St. Peter's; and St. Mary's.

Dundalk and environs comprising the following Electoral Divisions:

Dundalk Urban Nos. 1, 2, 3 and 4; Castletown; Dundalk Rural; and Haggardstown.

Bray and environs comprising the following Electoral Divisions:

Bray Nos. 1, 2, 3 and 4; Rathmichael (Bray); and Kilmacanoge.

Navan and environs comprising the following Electoral Divisions:

Navan Urban and Navan Rural.

Ennis and environs comprising the following Electoral Divisions:

Ennis Nos. 1, 2, 3 and 4 Urban; Clareabbey; Doora; Ennis Rural; and Spancelhill

Tralee and environs comprising the following Electoral Divisions:

Tralee Urban; Blennerville; and Tralee Rural

Kilkenny and environs comprising the following Electoral Divisions:

Kilkenny Nos. 1 and 2 Urban; and Kilkenny Rural.

Carlow and environs comprising the following Electoral Divisions:

Carlow Urban; Graigue Urban; Ballinacarrig; Carlow Rural; and Graigue Rural.

Naas comprising the following Electoral Divisions:

Naas Urban.

Sligo and environs comprising the following Electoral Divisions:

Sligo East, North and West; and Knockaree.

Newbridge and environs comprising the following Electoral Divisions:

Droichead Nua, Droichead Nua (Newbridge) Urban; Droichead Nua, Droichead Nua (Newbridge) Rural; and Morristownbiller.

Mullingar and environs comprising the following Electoral Divisions:

Mullingar North and South Urban; Mullingar Rural; and Castle.

Wexford and environs comprising the following Electoral Divisions:

Wexford Nos. 1, 2 and 3 Urban; and Wexford Rural.

Letterkenny and environs comprising the following Electoral Divisions:

Letterkenny Urban; Ballymacool; Castlewray; Corravaddy; Edenacarnan; Letterkenny Rural; and Magheraboy.

Athlone and environs comprising the following Electoral Divisions:

Athlone East and West Urban; Athlone East Rural; and Moydrum.

Celbridge and environs comprising the following Electoral Divisions:

Celbridge; and Donaghcumper.

Clonmel and environs comprising the following Electoral Divisions:

Clonmel East and West Urban; Clonmel Rural; and Inishlounaght.

Balbriggan and environs comprising the following Electoral Divisions:

Balbriggan Rural; and Balbriggan Urban

Glossary.

Bagging Operator -- A person or body which carries out the business of bagging coal for residential supply.

Coke -- The solid residue of impure carbon obtained from bituminous coal and other carbonaceous materials after removal of volatile material by destructive distillation. It is used as a fuel and in making steel.

Emission inventory -- An estimate of the amount of pollutants emitted into the atmosphere from major mobile, stationary, area-wide, and natural source categories over a specific period of time such as a day or a year.

Fossil fuels -- Fuels such as coal, oil, and natural gas; so-called because they are the remains of ancient plant and animal life.

Global warming -- An increase in the temperature of the Earth's troposphere. Global warming has occurred in the past as a result of natural influences, but the term is most often used to refer to the warming predicted by computer models to occur as a result of increased emissions of greenhouse gases.

Greenhouse effect -- The warming effect of the Earth's atmosphere. Light energy from the sun that passes through the Earth's atmosphere is absorbed by the Earth's surface and re-radiated into the atmosphere as heat energy. The heat energy is then trapped by the atmosphere, creating a situation similar to that which occurs in a car with its windows rolled up.

Greenhouse gases -- Atmospheric gases such as carbon dioxide, methane, chlorofluorocarbons, nitrous oxide, ozone, and water vapour that slow the passage of re-radiated heat through the Earth's atmosphere.

Indoor air pollution -- Air pollutants that occur within buildings or other enclosed spaces, as opposed to those occurring in outdoor, or ambient air. Some examples of indoor air pollutants are nitrogen oxides, smoke, asbestos, formaldehyde, and carbon monoxide.

micro- (μ) -- The metric prefix for one millionth of the unit that follows.

microgram (μg) -- One millionth of a gram: $1\ \mu\text{g} = 10^{-6}\ \text{g} = 0.001\ \text{mg}$.

micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) -- The mass in micrograms of a substance contained within a cubic meter of another substance or vacuum. This is the standard unit of measure for the mass density (concentration) of particles suspended in air; also sometimes used for the concentration of gases in air.

micrometer (μm), micron -- One millionth of a meter: $1\ \mu\text{m} = 10^{-6}\ \text{m}$.

Nitrogen oxides (NO_x) -- An air pollutant. Nitrogen oxides are produced from burning fuels, including gasoline and coal. Nitrogen oxides are smog formers, which react with volatile organic compounds to form smog. Nitrogen oxides are also major components of acid rain.

Ozone -- A gas which is a variety of oxygen. The oxygen gas found in the air consists of two oxygen atoms stuck together; this is molecular oxygen. Ozone consists of three oxygen atoms stuck together into an ozone molecule. Ozone occurs in nature; it produces the sharp smell you notice near a lightning strike. High concentrations of ozone gas are found in a layer of the atmosphere - the stratosphere - high above the Earth. Stratospheric ozone shields the Earth against harmful rays from the sun, particularly ultraviolet B. Smog's main component is ozone; this ground-level ozone is a product of reactions among chemicals produced by burning coal, gasoline and other fuels, and chemicals found in products such as solvents, paints, and hair sprays.

Particulates: particulate matter (PM₁₀) -- Particulate matter is a criteria air pollutant and is a finely divided particle with an aerodynamic diameter of 10 micrometers or less. Particulate matter includes dust, soot and other tiny bits of solid materials that are released into and move around in the air. Particulates are produced by many sources, including burning of diesel fuels by trucks and buses, incineration of garbage, mixing and application of fertilizers and pesticides, road construction, industrial processes such as steel making, mining operations, agricultural burning (field and slash burning), and operation of fireplaces and wood stoves. Particulate pollution can cause eye, nose, and throat irritation and other health problems.

Particulates: particulate matter (PM_{2.5}) -- Includes tiny particles with an aerodynamic diameter less than or equal to a nominal 2.5 microns. This fraction of particulate matter penetrates most deeply into the lungs.

Petcoke or petroleum coke -- a high energy solid fuel derived from the oil refining process that is often blended with other residential solid fuels to add energy and 'burn' to the fuel.

Pollutants (pollution) -- Unwanted chemicals or other materials found in the air. Pollutants can harm health, the environment and property. Many air pollutants occur as gases or vapours, but some are very tiny solid particles: dust, smoke, or soot.

Polycyclic Aromatic Hydrocarbons (PAHs) -- Organic compounds which include only carbon and hydrogen with a fused ring structure containing at least two benzene (six-sided) rings. PAHs may also contain additional fused rings that are not six-sided. The combustion of organic substances is a common source of atmospheric PAHs.

Restricted areas and restricted fuels -- The areas defined in the Air Pollution Act, 1987 (Marketing, Sale and Distribution of Fuels) Regulations, 1998 -2011, where the 'smoky' coal ban applies. Restricted fuels is the term used to describe fuels whose marketing, sale or distribution is prohibited in a restricted area, namely, 'smoky' coal and any solid with a sulphur content greater than 2%.

Smog -- The word smog is a contraction of the words smoke and fog as was first used to describe pollution in the form of smoke and fog. More recently it has been applied to the brown haze created by emissions of nitrogen oxides and hydrocarbons from motor vehicles in strong sunlight. This is more accurately referred to as 'photochemical' smog.

Smokeless solid fuel -- A manufactured smokeless coal briquette or ovoid which can contain smoky bituminous coal but is processed and blended with other products to reduce smoke emissions.

Sulphur dioxide (SO₂) -- A gas produced by burning coal, most notably in power plants. Sulphur dioxide is closely related to sulphuric acid, a strong acid. Sulphur dioxide plays an important role in the production of acid rain.

Volatile organic compounds (VOCs) -- Organic chemicals all contain the element carbon (C). Organic chemicals are the basic chemicals found in living things and in products derived from living things, such as coal, petroleum, and refined petroleum products. Many of the organic chemicals we use do not occur in nature, but were synthesized by chemists in laboratories. Volatile chemicals readily produce vapours at room temperature and normal atmospheric pressure. Vapours escape easily from volatile liquid chemicals. Volatile organic chemicals include gasoline, industrial chemicals such as benzene, solvents such as toluene and xylene, and tetrachloroethylene (perchloroethylene, the principal dry cleaning solvent). Many volatile organic chemicals, such as benzene, are also hazardous air pollutants.

Air Quality Legislation

Acts

- [Air Pollution Act 1987](#) (No. 6 of 1987),
- [Environment \(Miscellaneous Provisions\) Act 2011](#) (No. 20 of 2011)

Regulations

Principal Regulations providing for the smoky coal ban

- Air Pollution Act, 1987 (Marketing, Sale and Distribution of Fuels) Regulations 1998 ([S.I. No. 118 of 1998](#)),

Amending Regulations

- Air Pollution Act, 1987 (Marketing, Sale and Distribution of Fuels) (Amendment) Regulations 2000 ([S.I. No. 278 of 2000](#)),
- Air Pollution Act, 1987 (Marketing, Sale and Distribution of Fuels) (Amendment) Regulations 2003 ([S.I. No. 111 of 2003](#)),
- Air Pollution Act, 1987 (Marketing, Sale and Distribution of Fuels) (Amendment) Regulations 2004 ([S.I. No. 713 of 2004](#)),
- Air Pollution Act, 1987 (Marketing, Sale and Distribution of Fuels) (Amendment) Regulations 2011 ([S.I. No. 270 of 2011](#)),
- Air Pollution Act, 1987 (Marketing, Sale and Distribution of Fuels) (Amendment) (No. 2) Regulations 2011 ([S.I. No. 714 of 2011](#)).

Other Air Quality Regulations

- Arsenic, Cadmium, Mercury, Nickel and Polycyclic Aromatic Hydrocarbons in Ambient Air Regulations 2009 ([S.I. No. 58 of 2009](#)),
- Air Quality Standards Regulations 2011 ([S.I. No. 180 of 2011](#)),
- Air Pollution (Fixed Payment Notice) Regulations 2011 ([S.I. No. 713 of 2011](#)).

All of the above can be viewed on the Irish Statute Book website - www.irishstatutebook.ie

Selected Bibliography.

50 years on. The struggle for air quality in London since the great smog of December 1952.
Mayor of London Office.

http://legacy.london.gov.uk/mayor/environment/air_quality/docs/50_years_on.pdf