



Levegő Munkacsoport

Agricultural and Garden Waste Burning Legislation in European Countries

compiled by

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The following examples of crop and garden waste burning legislation from European countries will serve as a point of comparison, as well as evidence for why Hungarian legislation needs to be changed.

Definition of ‘waste burning’

The combustion of waste

- (1) with or without control of the combustion air, and
- (2) without an adequate stack or chimney so as to result in the emission of combustion products to the atmosphere in a manner that causes or is likely to cause environmental pollution.¹

Burning of crop residue (or crop burning, or stubble burning) refers to the open burning of crop residue on arable land after harvesting. Burning crop residues is practiced as a means of clearing land rapidly and inexpensively and allowing tillage practices to proceed unimpeded by residual crop material². Stubble burning is widely practiced in cropping systems and is often utilised as a means of reducing stubble loads on the soil surface.³ Burning may also improve disease and pest control in certain crops.⁴

Consequences of crop burning⁵

1. Burning of farm waste causes severe pollution of land and water on local as well as regional scales.
2. Burning of crop residues leads to the emission of a number of atmospheric pollutants:
 - ammonia (NH₃),
 - oxides of nitrogen (NO_x),
 - non-methane volatile organic compounds (NMVOCs),
 - sulphur dioxide (SO₂),
 - carbon monoxide (CO) and
 - particulate matter (PM) including black carbon (BC).
3. Burning residues gives rise to emissions of heavy metals (HM) and dioxin.

¹ *Waste Management (Prohibition of Waste Disposal by Burning) Regulations 2009* (SI 2009/286). Available at: <http://www.irishstatutebook.ie/eli/2009/si/286/made/en/pdf> (Accessed: 13 February 2018).

² Webb, J., Hutchings, N. and Amon, B. (2016). *EMEP/EEA air pollutant emission inventory guidebook – 2016*. EEA Report No 21/2016 Part B Chapter 3: Agriculture, p. 3. Available at: <https://www.eea.europa.eu/publications/emep-eea-guidebook-2016> (Accessed: 15 February 2018).

³ Valzano, F., Greene, R. and Murphy, B. (1997). Direct effects of stubble burning on soil hydraulic and physical properties in a direct drill tillage system. *Soil and Tillage Research*, 42(3), pp. 209-219.

⁴ See ref. 2

⁵ Kumar, P., Kumar, S. and Joshi, L. (2015). *Socioeconomic and Environmental Implications of Agricultural Residue Burning*. New Delhi: Springer.



4. Nutrients loss⁶ – repeated stubble burning can run down soil fertility.⁷
5. Low intensity fires used for removing stubble can have an immediate, direct effect on soil hydraulic properties.⁸
6. Implications for health⁹
 - Some of the pollutants emitted during the burning of crop residue have toxicological properties and are potential carcinogens.
 - Particulate matter released during burning can trigger asthma and worsen bronchial attacks when inhaled.
 - Burning of crop waste also has adverse implications on the health of milk producing and other animals.

The only way to reduce this source of emissions is to effectively cease the activity, so legislation within the EU has largely outlawed the practice of field burning agricultural wastes, albeit with some minor exceptions. The alternative adopted in many countries being that crop residues are ploughed in or used for production or heat and power.¹⁰

⁶ Heard, J., C. Cavers, and G. Adrian. 2001. "Up in smoke— nutrient loss with straw burning." *Better Crops*. 90(3):10-11.

⁷ GRDC (2017). *What happens to nutrients when stubbles burn?* [online], Available at: <https://extensionaus.com.au/crop-nutrition/what-happens-to-nutrients-when-stubbles-burn/> (Accessed: 15 February 2018)

⁸ *See ref. 2*

⁹ Kumar, P., Kumar, S. and Joshi, L. (2015). *Socioeconomic and Environmental Implications of Agricultural Residue Burning*. New Delhi: Springer.

¹⁰ Webb, J., Hutchings, N. and Amon, B. (2016). *EMEP/EEA air pollutant emission inventory guidebook – 2016*. EEA Report No 21/2016 Part B Chapter 3: Agriculture, p. 3

Summary of findings:

	Garden		Crop	Forest (Forest Owner and people acting on their behalf)	
Germany	X ¹¹	LSA (Day Time Limit) Bavaria		Dry Material	
Austria			Dry Material		
France			Dry Material	Dry Material	
UK	Without Smoke Nuisance				
Belgium					
Ireland					
Switzerland	Dry Material (Mar-Oct)		Dry Material (Mar-Oct)	Mar-Oct	
Sweden	Dry Material (Periods vary between regions)				

Legend

Prohibited (National Decision)	Time Restriction
Allowed	Area Specification
Extreme Situations (e.g. plant diseases)	Plant Specification
No data	

¹¹ The national waste treatment law forbids the burning of garden waste, but exceptions are still common in municipal ordinances.



Country Overview

1. United Kingdom	5
2. Germany	8
3. Austria	11
4. Switzerland	13
5. France	15
6. Belgium	18
7. Ireland	19
8. Sweden	20
9. Romania	21



United Kingdom

Crop Residues (Burning) Regulations 1993

The Crop Residues (Burning) Regulations 1993 prohibit the burning of some and regulate the burning of other crop residues. In accordance with Regulation 6, the maximum fine for an offence is £5000.

Regulation 2 (1) defines crop residue as ‘straw or stubble or any other crop residue remaining on the land after harvesting of the crop grown thereon’¹²

Regulation 4: Prohibition of crop burning¹³

‘No person engaged in agriculture shall, on agricultural land, burn any crop residue of a kind specified in Schedule 1 unless the burning is for the purposes of

- (a) education or research;
- (b) disease control or the elimination of plant pests where a notice has been served under article 22 of the Plant Health (Great Britain) Order 1993;
- (c) the disposal of straw stack remains or broken bales.’

Schedule 1¹⁴ specifies five crop residues the burning of which is prohibited: cereal straw, cereal stubble, residues from oil-seed rape, residues from field beans harvested dry, and residues from peas harvested dry.

Regulation 5: Restrictions on burning¹⁵

‘No person engaged in agriculture shall, on agricultural land, burn

- (a) any crop residue of a kind specified in Schedule 1 to which an exemption specified in regulation 4 (a) or (b) applies; or
- (b) any linseed residues,

otherwise than in accordance with the restrictions and requirements set out in Schedule 2¹⁶.’

*Environmental Protection Act Section 152: Burning of straw and stubble etc.*¹⁷

- (1) The appropriate Minister may by regulations prohibit or restrict the burning of crop residues on agricultural land by persons engaged in agriculture and he may (by the same or other regulations) provide exemptions from any prohibition or restriction so imposed.
- (2) Any power to make regulations under this section includes power
 - (a) to make different provision for different areas or circumstances;
 - (b) where burning of a crop residue is restricted, to impose requirements to be complied with before or after the burning;
 - (c) to create offences subject to the limitation that no offence shall be made punishable otherwise than on summary conviction and the fine prescribed for the offence shall not exceed level 5 on the standard scale; and
 - (d) to make such incidental, supplemental and transitional provision as the appropriate Minister considers appropriate.

¹² Available at: <http://www.legislation.gov.uk/ukxi/1993/1366/regulation/2/made>

¹³ Available at: <http://www.legislation.gov.uk/ukxi/1993/1366/regulation/4/made>

¹⁴ Schedule 1 available at: <http://www.legislation.gov.uk/ukxi/1993/1366/schedule/1/made>

¹⁵ Available at: <http://www.legislation.gov.uk/ukxi/1993/1366/regulation/5/made>

¹⁶ Schedule 2 available at: <http://www.legislation.gov.uk/ukxi/1993/1366/schedule/2/made>

¹⁷ Available at: <http://www.legislation.gov.uk/ukpga/1990/43/section/152#commentary-c13748451>



(3) Where it appears to the appropriate Minister appropriate to do so in consequence of any regulations made under the foregoing provisions of this section, the appropriate Minister may, by order, repeal any byelaws of local authorities dealing with the burning of crop residues on agricultural land.

(5) In this section

- “crop residue” means straw or stubble or any other crop residue;
- “the appropriate Minister” means the Minister of Agriculture, Fisheries and Food or the Secretary of State or both of them.

*Clean Air Act 1993*¹⁸

The **Clean Air Act 1993** consolidated previous Acts and other clean air legislation, and together with the regulations and orders made the Act, it provides the current legislative controls. Under the Clean Air Act, local authorities may declare the whole or part of the district of the authority to be a **smoke control area**.¹⁹

*Smoke Control Areas*²⁰:

- Many parts of the UK are smoke control areas where you can't emit smoke from a chimney unless you're burning an authorised fuel or using 'exempt appliances', for example burners or stoves.
- Unauthorised fuels, such as wood, can only be burned in exempt appliances such as some boilers, cookers and stoves.
- You must only use the types of fuel that the manufacturer says can be used in the appliance.
- You can use outdoor barbecues, chimineas, fireplaces or pizza ovens.
- Any of these appliances that release smoke through a chimney of a building - for example a summerhouse - can only burn authorised fuel or must be exempt.
- You're allowed garden bonfires in smoke control areas but you need to follow the rules on bonfires.
- The current maximum level of fine is 1,000 for each offence.

Garden bonfires^{21,22,23}

There are no laws against having a bonfire, but there are laws for the nuisance they can cause.

1. Burning domestic waste: you **can't** get rid of household waste if it will cause pollution or harm people's health. This includes burning it. Instead, you can get rid of household or garden waste by composting or recycling it.
2. Danger to traffic by smoke: under the **Highways Act 1980**, anyone lighting a fire and allowing smoke to drift across a road faces a fine if it endangers traffic

¹⁸ Available at: https://www.legislation.gov.uk/ukpga/1993/11/pdfs/ukpga_19930011_en.pdf

¹⁹ UK Smoke Control Areas. *Smoke Control Areas*. [online] Available at: <http://www.uksmokecontrolareas.co.uk/> [Accessed 25 Feb. 2018]

²⁰ Gov.uk. *Smoke control areas: the rules* [online] Available at: <https://www.gov.uk/smoke-control-area-rules> [Accessed 25 Feb. 2018]

²¹ Gov.uk. *Garden bonfires: the rules rules* [online] Available at: <https://www.gov.uk/garden-bonfires-rules> [Accessed 25 Feb. 2018]

²² East Riding of Yorkshire Council. *Bonfires and the law* [online] Available at: <http://www2.eastriding.gov.uk/c360-page-archive/burning-waste-bonfires/bonfires-and-the-law/> [Accessed 25 Feb. 2018]

²³ Bedford Borough Council. *Bonfires* [online] Available at: https://www.bedford.gov.uk/environment_and_planning/pollution/air_quality/bonfires.aspx [Accessed 26 Feb. 2018]



3. Statutory nuisance: ‘smoke, fumes or gases emitted from premises so as to be prejudicial to health or a nuisance’ (**Environmental Protection Act 1990, s 79 (1)**)²⁴

The **Clean Air Act 1993** also prohibits the emission of dark smoke from any trade or industrial premises or the emission of dark smoke from the burning of trade or industrial waste. And since under **Section 34 of the Environmental Protection Act 1990** it is illegal to dispose of waste that is not from your property, if you burn waste that has been produced from a trade or industrial process in your back garden and this emits dark smoke you can be prosecuted under both the **Clean Air Act 1993** and the **Environmental Protection Act 1990**.

Most bonfire problems can be investigated under nuisance legislation. In practice, for a bonfire to be a statutory nuisance, it would have to be a recurrent problem, interfering substantially with the comfort or enjoyment of neighbouring properties.

Procedure for reporting a statutory nuisance²⁵

Councils must investigate complaints about issues that could be a ‘statutory nuisance’ as defined in the Environmental Protection Act 1990.

If they agree that a statutory nuisance is happening, has happened or will happen in the future, councils must serve an abatement notice (usually on the person responsible).

Councils must serve an abatement notice on people responsible for statutory nuisances, or on a premises owner or occupier if this isn’t possible. This may require whoever’s responsible to stop the activity or limit it to certain times to avoid causing a nuisance and can include specific actions to reduce the problem.

If someone doesn’t comply with an abatement notice they can be prosecuted and fined:

- A lump sum (the amount is set by the court)
- Further fines for each day they fail to comply (the amount is set by the court)

Councils can also take action to stop or restrict the nuisance by:

- Carrying out works and making the person given the notice pay for them (this can include seizure and confiscation of equipment)
- Applying to the High Court for an injunction (if a prosecution isn’t adequate)

Those served with an abatement notice can appeal to a magistrates court within 21 days of getting the notice.

²⁴ Available at: <http://www.legislation.gov.uk/ukpga/1990/43/section/79>

²⁵ Gov.uk. *Statutory nuisances: how councils deal with complaints*. [online] Available at: <https://www.gov.uk/guidance/statutory-nuisances-how-councils-deal-with-complaints> [Accessed 25 Feb. 2018]



Germany

In Germany, waste legislation is regulated at the federal level, primarily through the Circular Economy Act (*Kreislaufwirtschaftsgesetz – KrWG*) and the statutory ordinances which supplement it. The purpose of this Act is to promote the circular economy in order to conserve natural resources and to ensure the protection of human health and the environment in the generation and management of waste. German legislation is heavily influenced by European law with the *KrWG* serving to transpose Directive 2008/98/EC of the European Parliament.²⁶ While the federal government is charged with regulating waste disposal related matters, the regional states have jurisdiction over those aspects of waste disposal that are not already regulated by federal law.²⁷

The *KrWG*, which first came into force in its current form in February 2012 through the Act Reorganising the Law on Closed Cycle Management and Waste, regulates the prevention, recovery and disposal of waste, as well as any other activities of waste management. It defines bio-waste as ‘biodegradable plant or animal waste or biodegradable waste consisting of fungoid material, such as

1. garden and park waste,
2. landscape management waste,
3. food and kitchen waste from households, restaurants, caterers and retail premises and comparable waste from food processing plants, and
4. waste from other areas of origin comparable to the waste designated in numbers 1 to 3, by type, nature or material characteristics.’ (§ 3 (7))

The Act stresses the importance of re-using, recycling and recovering waste, prioritising these over the disposal of waste. *KrWG* sections 6 and 7 refer to this:

‘§ 6 (1) Activities for prevention and waste management shall be in the following order:

1. prevention
2. preparing for re-use
3. recycling,
4. other recovery, in particular energy recovery and backfilling operations
5. disposal

§ 7 (2) Waste producers or holders shall be obliged to recover their waste. The recovery of waste shall have priority vis-à-vis its disposal.’

§15 (2) When waste disposal is unavoidable, the law states that ‘waste shall be disposed of in such a manner that the public interest is not impaired. An impairment shall be deemed to have occurred in particular if

1. human health is impaired,
2. animals and plants are endangered,
3. water bodies and soil are harmfully influenced,
4. harmful influences on the environment are caused by air pollution or noise,

²⁶ Available at: http://www.bmub.bund.de/fileadmin/Daten_BMU/Download_PDF/Abfallwirtschaft/kreislaufwirtschaftsgesetz_en_bf.pdf

²⁷ Umwelt Bundesamt (2014). *Waste regulations*. [online] Available at: <https://www.umweltbundesamt.de/en/topics/waste-resources/waste-management/waste-regulations> [Accessed 27 Feb. 2018]



5. the aims, principles and other requirements of regional planning, and the interests of nature conservation, landscape management and urban development, are not considered, or
6. public safety and public order are otherwise threatened or disturbed.²⁸

Due to the consequences of waste burning (e.g. air pollution), which in accordance with the above cited **§15 (2)** qualify as the impairment of public interest, burning should not be allowed. However, the *KrWG* does not explicitly prohibit the burning of bio-waste, and due to this loophole in the legislation, municipal statutes can permit the burning of garden waste at specified times. Many states and municipalities make exceptions and have ‘Brenntagen’ (or burning days) on which garden waste can be burned at precisely defined times.²⁹

§ 7 of the *Agrarzählungen-Verpflichtungenverordnung (AgrarZahlVerpflV)* prohibits the burning of stubble fields.³⁰

The Ordinance on the disposal of plant waste outside of waste disposal plants (*Pflanzenabfallverordnung – PflAbfV*), regulates the extent to which the disposal of plant waste outside of waste disposal plants is permissible, contrary to **§28 (1)** of the *KrWG (PflAbfV, §1 (1))*.

§1 (2) For the purposes of this Regulation, ‘plant waste’ is waste consisting exclusively of plants or parts of plants and arising from the maintenance or management of overgrown land.

§2 (1) The relevant authorities may permit the incineration of plant waste outside waste disposal installations for the purpose of disposal on a case-by-case basis in the following cases:

1. In the case of persons who are subject to the obligation to recover the waste (under §7Abs.2 of the *KrWG*), but whose duty cannot be fulfilled for reasons stated in § 7 Abs. 4 of the *KrWG* and a transfer to the public waste disposal company is not possible or is economically unreasonable;
2. In the case of persons who are subject to the obligation to transfer plant waste to a public disposal company (under §17Abs. of the *KrWG*), where it is not possible or economically unreasonable to transfer the waste;
3. Cases which do not involve the impairment of the welfare of the public;
4. Cases where the neighborhood is not unavoidably affected by the circumstances.

§2 (2) The burning of vegetable waste should only be authorized on the land where it was produced.

§2 (3) The relevant authorities may set time or area limitations and may provide ancillary provisions for the protection of the general public and the neighborhood.

§4 The burning of plant waste and is prohibited

1. During long periods of dry weather,
2. During long periods of humid weather,
3. In the rain, and
4. During strong winds.

§5 Not complying with the above stated provisions can result in a fine of up to € 100,000 (§ 69 (3) of the *KrWG*).

²⁸ *Ibid. s 15 (2)*

²⁹ Blechschmidt, P. (2016). Verbrennen verboten. *Süddeutsche Zeitung*. [online] Available at: <http://www.sueddeutsche.de/geld/gartenabfaelle-verbrennen-verboten-1.3117096> [Accessed 23 Feb. 2018].

³⁰ Available at: <http://www.gesetze-im-internet.de/agrarzahlverpflv/AgrarZahlVerpflV.pdf>

Federal states' and municipal ordinances further regulate waste management in the country.

Example: Bavaria

The Bavarian Ordinance on the Improvement of Air Quality in Clean Air Areas (*Bayerische Luftreinhalteverordnung – BayLuftV*).³¹

§ 3a amends § 4 of the *PflAbfV* to state that plant waste from gardens can only be burned outside of urban areas and only on the land where they are generated.

Example: Wittenberg

Ordinance on the incineration of vegetable garden waste in the district of Wittenberg³²

§1 (1) Between the 15th of October and the 30th of November and between the 15th of February and the 31st of March, plant waste from gardens may be incinerated: Monday to Friday from 9am to 5.30pm and Saturdays from 9am to noon.

§1 (2) In the remainder of the Wittenberg district, vegetable waste from horticulturally used soils may be incinerated between 9:00 pm and 5:30 pm on Mondays to Fridays from 9:00am to 5:30pm and Saturdays from 9:00am to noon.

§3 Restrictions and safety regulations

- (1) Vegetable garden waste must be dry and must emit little smoke.
- (2) Before burning, the waste needs to be restacked in order to make sure no animals are residing within the stack of plant waste.
- (3) Minimum distances from certain buildings and facilities:
 1. 25 m from residential buildings, other buildings and public buildings and traffic areas;
 2. 100 m from the forest, recreational facilities and power plants;
 3. 300 m from medical facilities, such as clinics and medical centers, playgrounds and sports facilities.

§ 4 Burning prohibitions

- (1) The burning of leaves of all types as well as green waste from mowing is prohibited.
- (2) The burning of vegetable garden waste is prohibited:
 1. In the case of inversion weather conditions (smog, fog);
 2. In the case of forest fires of level 3, 4 and 5;
 3. During strong winds (over 38.8 km/h);
 4. On legal holidays.

³¹ Available at: <https://www.verkuendung-bayern.de/gvbl/jahrgang:2016/heftnummer:20/seite:438>

³² Available at: https://www.landkreis-wittenberg.de/download/21762/verbrennungsverordnung_2015_09_15.pdf



Austria

In Austria, waste management is mainly regulated at the federal level, principally by the Waste Management Act (*Abfallwirtschaftsgesetz – AWG*), and the Act on the Prevention of Air Pollution (*Bundesluftreinhaltegesetz – BLRG*), but ordinances issued by the *Landeshauptleute* can modify the requirements of waste management at the state level.

Abfallwirtschaftsgesetz (AWG)^{33,34}

Since it first came into force, the AWG has been amended to transpose the Directive 2008/98/EC of the European Parliament, meaning that much like the *Kreislaufwirtschaftsgesetz* in Germany, it prioritises prevention, preparing for re-use, recycling and other recovery over disposal of waste. Furthermore, AWG specifies that the goal of waste management should be to achieve EU recycling targets. The amendment also incorporated the IPCC emission limit values, making the AWG a powerful tool against air pollution and greenhouse gas emissions.

§ 1 (1) The law states that in accordance with the precautionary principle and sustainability, waste management must be geared towards

1. Avoiding harmful or adverse effects on humans, animals and plants, their livelihoods and their natural environment, or keeping the negative impacts on human well-being as low as possible
2. Keeping the emissions of air pollutants and greenhouse gases as low as possible among other things
3. Conserving resources (raw materials, water, energy, landscape, land, landfill volumes)
4. Ensuring that the materials recovered are no more hazardous than the primary raw materials
5. Depositing the treated waste in a manner that is safe for future generations

Bundesluftreinhaltegesetz (BLRG)^{35,36}

Due to difficulties implementing and executing the European Directive on Air Quality (2008/50/EG), the provisions of the Act on the Prohibition of the Burning of Biogenic Materials (1993) were integrated into the *Bundesluftreinhaltegesetz* in 2010.

§3 (1) of the Act prohibits both the one-off and the area-wide burning of materials outside designated facilities.

§3 (3) specifies the following exceptions to the ban:

1. Campfires
2. Barbeques

³³ Available at:

<https://www.ris.bka.gv.at/GeltendeFassung.wxe?Abfrage=Bundesnormen&Gesetzesnummer=20002086>
[Accessed 25 Feb. 2018]

³⁴ Lebensministerium (2011). *Federal Waste Management Plan 2011*. [online] Available at:

<https://www.bmnt.gv.at/suchergebnisse.html?queryString=Federal+Waste+Management+Plan+2011> [Accessed 25 Feb. 2018]

³⁵ Available at:

<https://www.ris.bka.gv.at/GeltendeFassung.wxe?Abfrage=Bundesnormen&Gesetzesnummer=20002155>
[Accessed 23 Feb. 2018]

³⁶ Justice and Environment (2011). *Climate Change Legislation Austria*. [online] Available at:

[http://www.justiceandenvironment.org/_files/file/2011%20CC%20AT\(1\).pdf](http://www.justiceandenvironment.org/_files/file/2011%20CC%20AT(1).pdf) [Accessed 25 Feb. 2018]



3. Military and fire brigade disaster relief exercises, as well as civilian self-protection training carried out by the fire brigades
4. The selective burning of used material in difficult to reach alpine regions in order to prevent shrub encroachment

§3 (4): Through ordinances, local authorities can grant temporal and spatial exemptions from the prohibition on the burning of biogenic materials for

1. The burning of pest and disease-susceptible materials when strictly necessary for the effective control of pests and diseases and no other ecologically sound method is applicable
2. Frost protection practices,
3. Fires for traditional folkloric events
4. The burning of straw stubble, if absolutely necessary for the cultivation of winter crops, provided that a rotting of the straw in the soil due to drought is not to be expected

In accordance with **§8 (1)**, failure to comply with the law may result in a fine of up to €3630.



Switzerland

In Switzerland, the incineration of waste is regulated by the Air Pollution Regulation (*LRV*), and, where necessary, by municipal ordinance.

*Luftreinhalte-Verordnung (LRV)*³⁷

This regulation, which first came into force in 1985, aims to protect humans, animals, plants, their communities and habitats as well as the soil from harmful or noxious air pollutants, by regulating emission limits in the country (Article 1).

Since its 1992 amendment, the LRV also explicitly regulates waste incineration outdoors. **Article 26a** states that waste may only be incinerated or thermally decomposed in dedicated facilities, while **Article 26b** specifies the exceptions to this:

1. Natural forest, field and garden waste may only be incinerated outside if they are dry enough to only produce a small amount of smoke
2. In individual cases, the authorities may permit the incineration of insufficiently dry forest, field and garden waste if there is an overriding interest and no excessive emissions would result.
3. The authorities may restrict or prohibit the incineration of forest, field and garden waste outside installations for certain areas or periods when excessive emissions are to be expected.

Massnahmenplan Luftreinhaltung

As mandated by **Article 31** of the LRV, an Air Pollution Control Action Plan needs to be set up to deal with excessive emissions of air pollutants. This responsibility has fallen on the Governing Council of the Canton of Zurich, – a canton which regularly exceeds the limits for particulate matter, nitrogen dioxide and ozone mandated by the LRV – which has been continuously implementing and updating the Plan since 1990.

The Air Pollution Control Plan 2008 (Massnahmenplan Luftreinhaltung) was adopted in 2009 and has been successfully implemented for the most part. With regards to the incineration of forest, field and garden waste, the 2009 plan stated that³⁸:

§ 17(1) Pursuant to Article 26b (1) of the LRV, forest, field and garden waste may not be incinerated outside between November and February, with the exceptions of barbecues and traditional folkloric events.

§ 17(2) Pursuant to Article 26b (2), the responsible forest ranger can authorize the burning of forest waste (non-dry waste included) in the following cases:

1. Acute occurrence of forest pests,
2. Risk of log jam in rivers,
3. Forest management in inaccessible areas,
4. Extreme forest damage events.

³⁷ Available at: <https://www.admin.ch/opc/de/classified-compilation/19850321/201801010000/814.318.142.1.pdf> [Accessed 25 Feb. 2018]

³⁸ Available at: [http://www2.zhlex.zh.ch/appl/zhlex_r.nsf/0/491A2457939FF3CFC1257F6A0024B0FF/\\$file/713.11.pdf](http://www2.zhlex.zh.ch/appl/zhlex_r.nsf/0/491A2457939FF3CFC1257F6A0024B0FF/$file/713.11.pdf)



§ 17(3) Pursuant to Article 26b (2) of the LRV, the municipality may authorize the burning of field waste in the following cases

1. Risk of log jam in rivers,
2. Hedge and pasture care in inaccessible areas

In 2016, a partial revision of the Plan was conducted. The revised Plan contains new measures concerning the burning of wood, agriculture, traffic and industrial and commercial activities, as well as adjusted measures relating to other sources of emissions. According to estimates in this revision, the implementation of the new Plan would result in a 33% reduction in the excessive nitrogen oxide (NO_x) emissions, in addition to reductions of 25% of excess particulate matter (PM₁₀), and 5% of ammonia (NH₃) emissions. The Plan also aims to accelerate the reduction of emissions of volatile organic hydrocarbons (VOC), so that the emissions target can be achieved by 2020.³⁹

³⁹ Kanton Zürich Amt für Abfall, Wasser, Energie und Luft (2016). *Massnahmenplan*

Luftreinhaltung: Teilrevision 2016. [online] Available at:

https://awel.zh.ch/content/dam/audirektion/awel/luft_asbest_elektrosmog/mapla/dokumente/Massnahmenplan_Luft_20160115.pdf [Accessed 25 Feb. 2018]



France

*The Minister Circular of 18.11.11 on the prohibition of outdoor burning of green waste*⁴⁰

In accordance with Annex II of Article R. 541-8 of the Environmental Code, green waste, defined as elements resulting from the mowing of lawns, the pruning of hedges and shrubs, brush clearing and other similar practices, is considered household waste if produced at the household level. Similarly, biodegradable waste from gardens and parks falls under the category of municipal waste, legally seen as household and similar waste.

*Article 84 of the Règlement Sanitaire Départemental*⁴¹

Under the provisions of **Article 84 of the Règlement Sanitaire Départemental**, the open burning of any waste is prohibited. The treatment or destruction of household and other waste with the aid of individual incinerators is also prohibited. Exceptions to the rule may, however, be granted by the Prefect based on the proposal of the health authority and only following consultation with the Departmental Hygiene Council. Such derogations can only be granted where it is not possible to use other authorized means for eliminating the waste produced by the petitioner. This type of disposal should not have any negative health impacts for the neighborhood.

Similarly, **Article L. 541-21-1 of the French Environment Code**⁴² states that people who produce or are in possession of a significant amount of bio-waste, need to ensure its recovery, which excludes any disposal of green waste through burning.

Agricultural green waste is not as highly regulated by the Règlement Sanitaire Départemental. **Article D615-47 of the Code rural et de la pêche maritime**⁴³ prohibits the burning of straw residues and residues from oilseeds, protein crops and cereals (with a few exceptions), however, the Prefect may authorize the burning of this waste for agronomic or phytosanitary reasons.

Agricultural burning: with the authorization of a prefectural decree, farmers and livestock keepers may undertake agricultural burning as a form of clearing. This is practiced mainly in mountainous or hilly areas, and brush and crop residues in seedlings are not considered waste.

Prescribed burning: this type of preventive fire is lit by firemen or foresters before the fire risk season and aims to destroy the litter and brush under the trees.

As stated in **Article L131-9 of the Code forestier**⁴⁴, incinerations and prescribed burning may be carried out, with the written consent or tacit agreement of the owners of the forest, and only by the state, the local authorities or authorized trade union associations.

⁴⁰ Available at: http://www.ineris.fr/aida/consultation_document/6903

⁴¹ Available at: https://www.grand-est.ars.sante.fr/sites/default/files/2017-02/RSD_67.pdf

⁴² Available at:

<https://www.legifrance.gouv.fr/affichCodeArticle.do?idArticle=LEGIARTI000031066116&cidTexte=LEGITEXT000006074220>

⁴³ Available at:

<https://www.legifrance.gouv.fr/affichCodeArticle.do?cidTexte=LEGITEXT000006071367&idArticle=LEGIARTI000006594215>

⁴⁴ Available at:

<https://www.legifrance.gouv.fr/affichCodeArticle.do?idArticle=LEGIARTI000025245887&cidTexte=LEGITEXT000025244092&dateTexte=20180225>



The open burning of green waste is also prohibited:

- In the event of a forecast or occurrence of a pollution episode (particulate matter (PM₁₀), ozone (O₃) or nitrogen dioxide (NO₂)), the burning of green waste by individuals and professionals will be strictly prohibited throughout the territory.
- All year round in urban areas;
- All year round in peri-urban and rural areas where there is a collection system and/or waste disposal facility for the commune or group of communes.
- For individuals and professionals whose land is located in a forest fire prevention plan zoning (PPRif),

Where burning is allowed, it must occur between 11am and 3.30pm during the months of December, January and February, between 10am and 4.30pm during the other months of the year, subject to other legislative prohibitions; and all the green waste needs to be dry.

Example: Prefect of Marne – Reglementant les feux de plein air dans le departement de la Marne⁴⁵

Article 1(2): wood owners shall be prohibited from lighting a fire on their property, or at less than of 200 meters from woods, forests, plantations etc.

- During the period from March 1st to September 30th
- Outside of this period, when the average wind speed is greater than 30 km/h
- In exceptional cases, if the dry season extends to October, the period of prohibition may be extended.

Article 2: Provisions concerning the incineration of biogenic waste (excluding green waste from individuals, businesses and local authorities, and excluding crop residues)

- This article concerns the burning of biogenic waste which is difficult to decompose, grind up or otherwise dispose of
- Can only be burned after an official permission to be given by the authorities
- After sunrise and before sunset
- For the duration of the fire, sufficient personnel (at least 2 people), equipped with the necessary tools, must remain present, and if needed, take all necessary measures to limit the spread of the flames.

Article 3: the open burning or burning in an individual incinerator of green waste by individuals, businesses or local authorities, defined as waste resulting from the mowing of lawns, the size of hedges and shrubs, pruning, brushing and similar practices is not allowed.

Article 5: It is forbidden to burn straw stubble or crop residues at a distance of less than:

- 300 m from deposits of liquefied gases and deposits of flammable materials;
- 200 m from urban areas, woods and plantations,
- 100 m from motorways, national and departmental roads, railways, as well as hangars and mills,
- 10 m from other roads.

Where the burning of such green waste is authorized, it shall be subject to the following provisions:

- A declaration must be sent to the town hall of the municipality (Departmental Fire and Relief Service and Departmental Directorate of Territories) at least 48 hours before the proposed time of burning.

⁴⁵ Available at: <http://www.allier.chambagri.fr/pages-hors-menu-internet/juridique/brulage.html>



- A buffer strip at least 10m wide must be left around the plot.
- No burning shall be carried out on an area greater than 10 hectares or on multiple plots at a time.
- The fire can only be ignited in calm weather conditions (average wind speed lower than 30km/h) and only after sunrise. The fire must be completely extinguished before sunset.
- At least 2 people must be present at all times.

Article 8:

- If the circumstances require it, the mayor may prohibit all open burning.
- For any destruction, degradation or unintentional deterioration of property belonging to another caused by fire, the penalty can be up to 1 year of imprisonment and a €15,000 fine.

Example: French Department 61 Orne – Arrête permanent reglementant le brulage des dechets vegetaux a l'air libre⁴⁶

A prefectural decree in the French department of Orne (2016) prohibits several burning activities and regulates many others.

Article 1: The open burning or burning with the aid of individual incinerators of green waste, defined as waste resulting from the mowing of lawns, the size of hedges and shrubs, pruning, brushing and similar practices, is prohibited.

Article 2: Exceptions to Article 1

- (a) Burning directly related to forestry and agricultural activities (such as the pruning of hedges or fruit trees) and those of other plant residues affected by neither CAP⁴⁷ conditionality, nor other prohibitions.
- (b) Maintenance of parks and gardens by private individuals domiciled in rural areas and owning a property exceeding 5000 m².

Article 3: Burning is prohibited during episodes of air pollution

Article 6: Apart from the burning authorized in Article 2, the following situations may lead to an individual derogation from the prefecture:

- Burning to avoid the spread of invasive plants, diseased plants or infested trees
- Restoration and maintenance of natural environments and watercourses located on plots that are sometimes very difficult to access with motorized vehicles.

Article 7: in the case of burning for the purposes specified in Article 2, the following conditions must be respected:

- In the case of forest management, the fire must be carried out in accordance with the requirements of the Forest Code;
- A person in the possession of means of communication needs to preside over the burning site throughout the duration of the fire;
- The green waste burned cannot be too wet;
- Burning can only be conducted during the day (recommended times: between 11am and 3.30pm during the months of December, January and February and between 10am and 4.30pm during the remainder) and only outside periods of prohibitions specified above (e.g. during episodes of air pollution).

Article 9: Any violation of this order exposes the violators to a fine.

⁴⁶ Available at: http://www.orne.gouv.fr/IMG/pdf/arrete_brulage_vegetaux_1er_juillet_2016_cle7a5854-1.pdf

⁴⁷ Common Agricultural Policy (European Union agriculture policy)



Belgium

Article 7 of the *27 June 1996 – Waste Directive’ (MB 02.08.1996)*⁴⁸ prohibits the incineration of waste and given the Directive’s definition of waste (any substance or object which the holder discards or intends or is required to discard), all fires are prohibited.

Similarly, *Articles D. 159, para. 2, 1 and D. 167, para. 1, 1 ° of the Environmental Code*, criminalize the incineration of household waste in the open air or in installations not complying with the provisions of the decree of 27 June 1996 on waste, with the exception of incineration natural dry wastes from forests, fields and gardens, as regulated by the Rural Code and the Forest Code.

Flanders⁴⁹:

Flemish environmental legislation, the *Vlarem*, prohibits the open burning of all waste, including green waste. However, *Chapter 6.11 of Title II of the Vlarem* specifies a few exceptions.

*Chapter 6.11. Open incineration Article 1*⁵⁰

Without prejudice to the Rural Code, the Forests Decree of 13 June 1990 and the Nature Conservancy Decree of 21 October 1997, the incineration in the open air of any substances is prohibited except in the following cases:

1. The burning of bio-waste in forests and nature reserves if its removal or processing is otherwise not possible. This activity may only take place if the municipal authority has issued a written permission or if this activity is included as a management measure in an approved management plan or licensed by the Agency for Nature and Forests as provided for in the Forests Decree and the Nature Conservancy Decree;
2. The incineration of waste resulting from agricultural activities if the removal or processing of said waste on site is not possible;
3. Preservation of elements of the landscape if in situ removal or processing of the bio-waste waste is not possible;
4. It is necessary from a phytosanitary point of view;
5. Incineration of dry untreated wood when making a campfire;
6. Incineration of dry untreated wood or a solid fossil fuel in a heater;
7. Incineration of animal waste, in accordance with the provisions stated in Article 6 of the Order of the Government of Flanders of 21 June 2013 on animal by-products and finished products. This activity may only take place with the written permission of the supervisor;
8. Incineration of dry flammable material, with the exception of waste material, dry untreated wood and undecorated Christmas trees in connection with folkloristic events. This activity may only take place if the municipal authority has given written permission and only if the activity takes place at a distance of more than 100 m from housing;
9. Fire-extinguishing exercises, carried out by the fire brigade of a municipality, region or company or by the civil protection forces.

⁴⁸ Available at: <http://environnement.wallonie.be/legis/dechets/degen019.htm>

⁴⁹ Department of the Environment. *What does the law say?* [online] Available at: <https://www.lne.be/wat-zegt-de-wet> [Accessed 27 Feb. 2018]

⁵⁰ Available at: <https://navigator.emis.vito.be/mijn-navigator?woId=62334>



Ireland

The burning of waste is an illegal practice and is an offence under the Waste Management Act⁵¹, 1996, as amended, the Air Pollution Act, 1987⁵² and the Waste Management (Prohibition of Waste Disposal by Burning) Regulations, 2009⁵³.

*S.I. No. 286/2009 – Waste Management (Prohibition of Waste Disposal by Burning)*⁵⁴

Article 4(3): Household waste shall not be disposed of by burning either within a building, the curtilage of a building, any self contained part of a building used for the purposes of living accommodation or its curtilage other than in accordance with.

Article 5(1) specifies exceptions:

- (a) the burning of waste relates solely to material consisting of uncontaminated (free of dangerous substances, preservatives or other artificial impregnation or coating) wood, trees, tree trimmings, leaves, brush, or other similar waste generated by agricultural practices, but excluding garden and park wastes and cemetery wastes and wastes arising from infrastructural development works, provided that such burning is done as a final measure following the application of the following waste hierarchy—
 - (i) waste arisings are reduced in accordance with best agricultural practice,
 - (ii) waste is reused where practicable,
 - (iii) is recycled through shredding and use as compost or wood chip- pings, where practicable, and
 - (iv) is salvaged for use as fuel where practicable,

and specifies the requirements for burning in exceptional cases listed above:

- (b) where none of the options in sub-paragraph (a) are practicable or economically viable such waste may be disposed of by burning subject to the following conditions—
 - (i) the person carrying out the disposal shall take all reasonable measures to limit the overall nuisance or possibilities for endangering human health or causing environmental pollution or damage to adjoining hedgerows or habitats,
 - (ii) no accelerants may be used when undertaking the disposal activity,
 - (iii) the person carrying out the disposal shall notify the local authority concerned in advance of the intention to carry out the disposal

Furthermore, **Article 5(d)** allows the burning of untreated or uncontaminated (free of preservatives, paints, varnishes, laminate or other artificial impregnation or coating) wood waste and other similar materials in barbecues for the purpose of cooking food.

Under the *Wildlife (Amendment) Act of 2000 §46*, it is an offence for any person to burn any vegetation on uncultivated land between the 1st of March and 31st of August each year.

⁵¹ Available at: <http://www.irishstatutebook.ie/eli/1996/act/10/enacted/en/print.html>

⁵² Available at: <http://www.irishstatutebook.ie/eli/1987/act/6/enacted/en/html>

⁵³ Available at: <http://www.irishstatutebook.ie/eli/2009/si/286/made/en/print>

⁵⁴ Available at: <http://extwprlegs1.fao.org/docs/texts/ire95128.doc>



Sweden

In Sweden, there are time restrictions on the burning of garden waste in urban areas. Only the burning of dry waste is permitted, and only at day time during the weeks designated for this purpose (weeks 16-18 and 41-43 of the year). In certain weather conditions (e.g. dry weather), the fire department may ban all burning.⁵⁵

Legislation can differ throughout the country, for example, in Malmö it is prohibited to burn garden waste between the 1st of April and the 30th of September.⁵⁶

⁵⁵ Värmdö Kommun (2017). *Burning of garden waste*. [online] Available at: <http://www.varmdo.se/byggaboochmiljo/brandskyddochsotning/eldningavtradgardsavfall.4.63c5311513f7b9eaf4e57d.html> [Accessed 27 Feb. 2018]

⁵⁶ Malmö stad. *Burning garden waste* [online] Available at: <http://malmo.se/Bo-bygga--miljo/Boende--narmiljo/Avfall--atervinning/Att-elda-tradgardsavfall.html> [Accessed 27 Feb. 2018]



Romania

*Law No. 211 of 2011*⁵⁷

Much like the German KrWg and the Austrian AWG, this law transposes Directive 2008/98/EC of the European Parliament, thus requiring the same hierarchy of waste treatment:

1. prevention
2. preparing for re-use
3. recycling,
4. other recovery, in particular energy recovery and backfilling operations
5. disposal

thus stressing the importance of all other actions before waste disposal.

*Order No. 163 of 28 February 2007 for the approval of the General Norms of Fire Protection*⁵⁸

Article 97

- (1) The use of open fire in areas at high risk of fire or during windy weather conditions is forbidden.
- (2) The preparation of food using open fire on the premises of establishments, recreation areas and households is allowed only in designated areas, given good weather conditions and a safe distance from construction sites, warehouses, agricultural areas, forests etc.
- (3) The burning of waste (including green waste) and other combustible materials is only allowed in designated areas or plots, and only if necessary measures are taken to prevent the propagation of the fire to the surrounding areas (ensuring permanent supervision of the fire, as well as its extinction).
- (4) Stubble burning can only be carried out provided necessary measures have been taken to prevent the propagation of fire to the surrounding areas (ensuring the permanent supervision of the fire).
- (5) The use of open fire is not allowed at distances of less than 40m from explosive hazards: combustible gases and liquids, flammable vapors, explosives, etc.; 10 m from combustible materials or substances such as wood, paper, textiles, asphalt, bitumen, oil etc. without constant supervision and adequate safety measures.

Article 99 (3) Burning activities referred to in art. 97 (4) shall be executed only if granted a permit to work with fire.

In accordance with *Government Resolution No. 537 of 6 June 2007 regarding the sanctioning of contraventions of the general norms of fire protection*⁵⁹, the burning of waste (including green waste) and other combustible materials, without having obtained a permit and without having taken the necessary safety measures to prevent the spread of fire to the surrounding areas constitutes an offence punishable with a fine between 1 000 and 2 500 lei.

⁵⁷ Available at: <http://environ.ro/images/legislatie/Legea-211-2011-REPUBLICATA.pdf>

⁵⁸ Available at: http://www.dsu.mai.gov.ro/wp-content/uploads/2015/07/OMAI_163_din_2007.pdf

⁵⁹ Available at: <http://www.preventive.ro/legislatie-pdf/HG-nr-537-din-2007-privind-stabilirea-si-sanctionarea-contraventiilor-la-norme-de-prevenire-si-stingere-a-incendiilor.pdf>

