

# Crimes of pollution and environmental disaster



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The LIFE+ SATEC project has received funding from the LIFE Programme of the European Union



Lisbon Water and Land Conference.

Italy & Spain experience

Ltn. Col. Massimiliano Corsano – ITA Carabinieri  
Maj. Jose Manuel Quintana Souza –ESP Guardia Civil

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# 1. Environmental pollution

- **art. 452-bis of the criminal code** punish “any person who causes significant and measurable impairment or deterioration : 1) of water or air, or of large or significant portions of soil or subsoil; 2) of an ecosystem, of biodiversity, including agricultural biodiversity, of flora or fauna”
- It’s a crime of **damage** that have for object the environment, viewed as an ecosystem as a whole and in its individual environmental matrices, be they biotic (flora and fauna) or abiotic (water, air or soil)
- «*biodiversity*» is described as “any type of variability between living organisms, including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes to which they are a part; it includes diversity within species, between species and between ecosystems» (1992 Convention on Biological Diversity ratified in the annex to Law 14.2.1994, n. 124)
- Jurisprudence believes that the expression “ecosystem” can be interpreted as «a balanced interaction between living and non-living organisms within a given scope» (Cfr. Cass.pen. Sez.III, 15.3.2017 n. 18934)



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# 1. (*follows*)

- The existence of the crime depends on the realizations of an event that may consist, alternately, in the compromission or in the deterioration of one or more environmental matrices listed in the regulatory text, as consequence of an “abusive” conduct
- The conducts that could cause the pollution can be **commissive** – conduct of commission (e.g. direct input of pollutants into environmental matrices), but also **omissive** – conduct of omission – from who had the legal duty to impede the occurring of the pollution event (e.g. when the person responsible for the contamination does not behave as required by art. 242 of the 152/06 legislative decree, as long as there is proof that the positive behaviour would have prevented the occurrence of the next pollution event)



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## 1.1. the «abusiveness” of the conduct

- There are two different interpretation of the term “abusiveness”: (1)the first one believes that the conducts, in order to be abusive, must be carried out without the authorization measures granted by the public administration; (2)the second one, belief of the majority, considers the conducts abusive if they are made in breach of laws or regulation and administrative requirements
- Jurisprudence believes that are abusive “*not only the conduct carried out in the absence of the prescribed authorizations or on the basis of expired authorizations or manifestly illegitimate or in any case not proportionate to the type of activity requested, but also those placed in violation of state or regional laws or administrative prescriptions*”(Cass.pen., Sez.III, 1.4.22, n. 11998). Recently the jurisprudence concluded that the abusiveness of the conduct may result also from the failure to respect the *best available techniques* (BAT) during the operation of an industrial plant with an integrated environmental permit



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## 1.2. concept of «impairment or deterioration»

- Impairment and deterioration characterize, if significant and measurable, the pollution event
- A consolidated line of jurisprudence states that:
  1. The **compromission** indicate a **functional imbalance** able to affect normal natural process (e.g. a significant lowering of the water of a lake due to repeated unauthorised water withdrawals)
  2. The **deterioration** imply a **structural imbalance**, a decay of state or quality of these processes (e.g. loss of animal species in a watercourse as a result of spillage of polluting chemicals)
- Impairment and deterioration may persist until the situation becomes irremediable. In this case in configurable the more serious crime of environmental disaster
- In order to ensure the subsistence and degree of impairment of individual environmental matrices or of an entire ecosystem, is often necessary to resort to specialized technical checks even if there are situation of macroscopic evidence (e.g. immediate perceivable destruction of flora or fauna)



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## 1.3. the terms «significant and measurable»

1. The terms **significant** denotes incisiveness and relevance “*excluding the less significant facts*” (Cfr. Cass.pen., Sez.III, 21.9.2016 n. 46170). “*It must be excluded that the only exceedance of the tabular limits fixed by the anti-pollution rules automatically results in the significance of the damage produced*” (Cfr. Cass.pen. Sez.III, 9.10.2020 n. 392). Any exceeding of the reference thresholds shall constitute a «wake-up call» for the judge, who is still entitled to a qualitative assessment. He must therefore check whether, by size, repetitiveness, severity and persistence of adverse effects over time, exceeding the risk thresholds may reveal impairment or deterioration
2. It is **measurable** “*what is quantitatively appreciable and, however, objectively detectable*” (Cf. Cass.pen., Sez.III, 15.3.2017 n. 18934). Measurability seems to require the judge to double-check: (a) a concrete assessment of the effects of the polluting conduct that emerges from a comparison between the state of the matrix before and after the event; (b) comparison that must be ascertained through the use of methods of investigation that can lead to the actual lesion of the environment matrix through results with a scientific dignity (Cf. Cass.pen., Sez.III, 13.12.2017, n. 55510 that stigmatises the fact that the contaminant has not been verified downstream of the water body where the dumping took place thereby impeding to estimate the impact on water quality)



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## 1.4. the felony's subjective element

- The crime of environmental pollution can be committed:
  - i. with **dolo generico** (general intent): the subject is aware of being able to determine an environmental pollution
  - ii. with **dolo eventuale** (eventual intent): the subject, protracting its own irregular conduct, knowingly accepts the risk of environmental pollution occurring (e.g. the private operator of an urban waste water treatment plant of a municipality that continues the activity while being aware of the existence of a by-pass which allows the waste water to flow into a submarine pipe without doing any depurative treatment; consciously accepting that way the risk of environmental pollution, cfr. *Cass.pen., Sez.III, 12.62019, n. 26007*)
  - iii. with **colpa generica** – general fault (e.g. malpractice in the management of the activity that has an impact on the environment) and **specifica** – specific fault (e.g. exercising an industrial plant with an environmental impact in the absence of permits or in violation of the same). The legislator has extended the punishability of the crime also to the cases of danger of pollution caused by culpable conduct



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## 1.4.1. the precautionary principle and caution measure

- Can the criminal judge consider the **precautionary principle** (art. 3-ter legislative decree 152/06), or individual precautionary rules inspired by it, as an index of culpable behaviour?
- authoritative doctrine excludes the precautionary principle, understood as a criterion of risk management in conditions of scientific uncertainty regarding the possible harmful effects hypothetically linked to certain activities, products or substances, may be the source of new and precise precautionary rules
- the analysis of the jurisprudential interpretation cannot prescind from the examination of the *leading case* of the Petrochemical of Porto Marghera (Cass. pen, Sez.IV, 17 May 2006, n.4675) where the Supreme Court has established that the entrepreneur has an obligation to take action (to eliminate or reduce the risks) as soon as a possible harm to human health (or the environment) of a certain exposure emerges and this even if the boundaries of danger are not defined precisely yet. In a situation of uncertainty the model entrepreneur must take action



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## 2. The environmental disaster

- art. **452-quater of the criminal code** punishes anyone "out of the cases provided for by art. 434 of the criminal code, abusively causes an environmental disaster. Alternatively, they constitute an environmental disaster: 1) the irreversible alteration of the equilibrium of an ecosystem; 2) the alteration of the equilibrium of an ecosystem whose elimination is particularly costly and achievable only with exceptional measures; 3) an offence against public safety because of the relevance of the fact for the extent of the compromise or its damaging effects or for the number of persons offended or exposed to danger"
- the incipit of the law contains a reserve clause, which limits its scope out of cases of unnamed environmental disaster (Art. 434 of the criminal code) which is carried out by a conduct capable of threatening the environment with damage of exceptional gravity even if with effects that are not necessarily irreversible
- the intention of the legislator was to reiterate that the new rule intended to save cases of application of art. 434 of the penal code with regard to the ongoing trials for facts committed before the entry into force of L. 68/2015 (in this direction also the jurisprudential interpretation, Cass.pen., Sez.IV, 12.12.2019, n. 13843)



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## 2. (*follows*)

- The two type of offence are very different both in terms of typicality and in terms of sanctions
  - i. art. 434 of the criminal code protects the legal good of «*public safety*» and is a crime to early consumption because the realization of the mere real danger of the disaster is suitable to consume the crime (imprisonment from 1 to 5 years) while the occurrence of the event acts as an aggravating circumstance (imprisonment from 3 to 12 years)
  - ii. art. 452-quater, instead, protects the legal good of the «*environment*» in the first 2 events indicated by the norm through a case of damage and event (imprisonment from 5 to 15 years) while the third event is a «*multi-offensive*» offense in which the legal assets of »*environment*» and «*public safety*» are protected
- therefore, as of 22.5.2015, all anthropogenic phenomena that result in damage to the environmental matrices will be part of the new discipline dictated respectively by art. 452-bis and 452-quater also included the case of disaster outlined in nr. 3) of art. 452-quater when the fact, for the extension of the compromise or of its harmful effects or for the number of persons offended or exposed to danger, also produces a «*special*» offense to the public safety



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## 2.1. the three alternatives events

- in the first 2 events described by the rule the offended legal good is the environment; they can take shape regardless of any assessment of the dangerous effects for human health resulting from environmental impairment
- the material object, common to both events, is represented by the **balance of an ecosystem** and the difference consists in n. 1) an irreversible alteration is described while in n. 2) an alteration *"the elimination of which is particularly costly to achieve only by exceptional measures"*
- To determine whether and under what condition there is an **altered** ecosystem in its natural equilibrium compared to the time before the conduct of environmental damage which is necessary to refer to:
  - a. to *«universal scientific»* laws (very rare indeed) that are able to affirm that the verification of an event is invariably accompanied by the verification of another event
  - b. To *"statistics"* laws which merely state that the occurrence of an event is accompanied by the occurrence of another event in a certain percentage of cases and with a relative frequency



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## 2. (follows)

- This presupposes the availability of data to be taken as a benchmark of comparison between the ex ante situation and the ex post situation (e.g. Environmental Impact Study - SIA- which defines the state of environmental quality in its different matrices and biodiversity)
- the available scientific knowledge will be necessary also in order to determine the reversibility of the event
- when the alteration of the ecosystem can be said to be «*particularly expensive and achievable only with exceptional measures*»? This assessment could be made in the light of 3 variables: (1) objective costs; (2) solvency of the polluter; (3) timing of implementation of the intervention
- the third event is represented by a form in which the legal goods are offended environment and public safety. For the jurisprudence we must necessarily refer to "*behaviours **anyway affecting the environment**, in respect to which the danger to public safety represents a direct consequence even in the absence of the other situations contemplated by the rule*" (Cf. Cass.pen., Sez.III, 3.7.2018 nr. 2990). For example, the substance that compromised the ecosystem was also assessed as dangerous on the basis of an epidemiological study that revealed a hazard to the exposed and a significant excess of mortality for the main related pathologies



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### 3. Investigative Cases

#### **A practical case of environmental disaster: PFAS contamination in the Veneto Region (Italy)**

In 2013, it was discovered that the aquifer of the Veneto Region, with an approximate area of 370 square kilometres, was contaminated by PFOA\*, a chemical compound belonging to the PFAS family, i.e. perfluoroalkyl substances.

\*PFOA was invented in 1947 by the company 3M and has been produced by DuPont since 1951.



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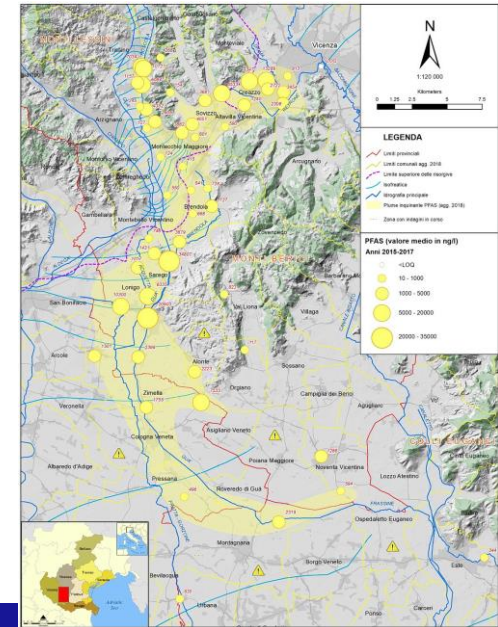


# 3. Investigative Cases

## A practical case of environmental disaster: PFAS contamination in the Veneto Region (Italy)

In 2018, it was discovered that the same aquifer was also contaminated with the compounds GenX and C6O4, i.e. the new generation PFAS.

In this map (from the ARPAV website) you can see the extent of PFAS pollution



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## 3. Investigative Cases

**A practical case of environmental disaster:**

### **PFAS contamination in the Veneto Region (Italy)**

The source of the contamination from the outset was identified as the company MITENI, based in the municipality of Trissino (Vicenza), which began producing PFAS compounds in the 1970s.





### 3. Investigative Cases

#### **A practical case of environmental disaster: PFAS contamination in the Veneto Region (Italy)**

In the case of PFOA contamination (the old generation PFAS compound), the presence of the compound in the groundwater was found in hundreds of square kilometres.

In the case of the contamination discovered in 2018 by GenX and C6O4 (new generation PFAS compounds), these substances polluted the aquifer for 26 and 75 square kilometres respectively .

PFAS contamination has also created health problems because the resident population (around 300,000 inhabitants) has been drinking PFAS-polluted water for years without knowing it.

Scientific studies have shown that exposure to PFAS causes health problems, such as increased cholesterol and a number of related diseases that are currently being investigated.



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# How is environmental damage estimated?

Seriousness... environmental impact... danger to other species... reversibility...

Ambiguous concepts.

Always put in relation to the environment, the consequences, the previous state.

Great prosecutorial difficulty.

Need for technical reports.



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- According to the time of occurrence of the impact (Law 21/2013 (amended by Law 9/2018) Annex VI, Part B):

**Short-, medium- and long-term effect:** that whose incidence may manifest itself, respectively, within the time included in an **annual cycle, before five years, or in a longer period.**

- Severity of the damage

Penalty regime depending on the law. Divided into minor, serious and very serious infringements.

- Reversibility of the damage (RD 2090/2008, 22 december, approving the Regulations for the partial development of law 26/2007, 23 October, on Environmental Liability, art.2). Definitions:

Capacity of a receptor to recover, in relation to its life cycle or us expectations, its basic state in a certain time scale.



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Other definitions of reversibility (non-legislative).

- The level of reversibility is interpreted on the basis of the **nature of the impact and the nature of the affected component** (natural or socioeconomic). In the case of negative impact, it represents the **possibility and period of intrinsic regeneration of the affected component to recover the initial conditions or towards a state of natural equilibrium**, once the actions that caused it have ceased.

The valuation of this attribute is classified as:

- (1) Reversible
- (2) Irreversible

Pais, G., Gutiérrez, G., & Cura, R. (2015). Methodological Guide for the Economic Valuation of Ecosystem Goods and Services (EGS) and Environmental Damage.

- Capacity of the environment to return to its natural values by its own means.



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# The ecological disaster of the Mar Menor



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## Contaminant sources:

- Wastewater
- Mining Sediments
- Tourism
- Agriculture
- Livestock
- Other impacts

## Consequences of pollution

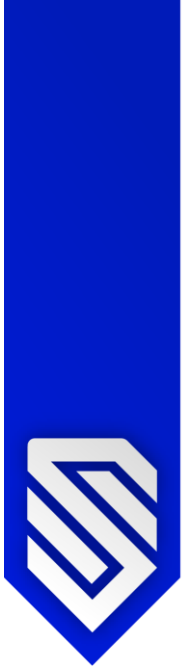
- "Green soup".
- Eggs and microalgae

## Proposals for solutions



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Thanks for Your attention

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