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Dissertation

**Environmental Regulation of Oil & Gas exploration and
production under the EU and national law**

by

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Abstract

The present dissertation presents a synopsis of the main environmental provisions concerning oil and gas exploration and production, of various branches of law in for the upcoming oil and gas industry in Greece. The hydrocarbon legislation is fragmented and relatively new. The majority of the national legislation stems from transposed European Union directives and ratified International Treaties Greece. In addition, the environmental concerns are globally an increasingly burning topic. The author attempts to collect the scattered basic laws regarding environmental regulation of hydrocarbons exploration and production. The scope of this dissertation, though, does not extend beyond a brief overview of the most significant environmental legislation of oil and gas exploration and production activities.

Contents

Acknowledgements	ii
Abstract.....	iii
Contents	iv
1. Introduction	1
2. General environmental regulatory framework for hydrocarbon exploration and production.....	6
2.1 Article 914 Greek Civil Code	6
2.2 Article 57 & 59 of Greek Civil Code.....	10
2.3 Article 281 of Greek Civil Code.....	13
2.4 Articles 105-106 of the Introductory Law of the Civil Code	14
2.5 Law 1650/1986 on Environmental Protection	15
2.6 Directive 2004/35 (Presidential Decree 148/2009) the Environmental Liability Directive (ELD)	20
2.7 Directive 94/22 (Law 2289/1995) on Prospecting, Exploration and Production of Hydrocarbons.....	26
2.8 The Greek lease agreements (Laws 4298, 4299, 4300/2014).....	27
2.9 Directive 2011/92 (Law 4014/2011) the Environmental Impact Assessment Directive	32
3. Marine pollution	36
3.1 Law 743/1977 on the Protection of the Marine Environment	36
3.2 Directive 2013/30 (Law 4409/2016) the Safety Directive.....	38
3.3 Directive 2005/35 (Law 4037/2012) Ship-source pollution	43
3.4 Directive 2008/98 (Law 4042/2012) Waste Framework Directive	45

3.5 International Convention on Civil Liability for Oil Pollution Damage “CLC” (Law 314/1976) & FUND Convention (Law 1638/1986)	48
3.6 United Nations Convention of the Law of the Seas (Law 2321/1995).....	53
3.7 International Convention on Oil Pollution Preparedness, Response and Co-operation OPRC 1990(Law 2252/1994)	56
3.8 Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Law 855/1978, 3022/2002)	58
4. Conclusion	63
5. Bibliography	68
5.1 Books	68
5.2 Articles.....	70
5.3 Online sources.....	71

1. Introduction

In Greece the only producing oil fields are in Prinos and North Prinos together with a neighbouring natural gas field in South Kavala.¹ However, the past years the country has embarked on remarkable efforts and managed to create a renaissance in the hydrocarbons explorations and production market. To begin with, in 2014 after many years of stagnation, the Hellenic Parliament approved three concession contracts related to exploring and exploiting hydrocarbons in the Katakolo, in the Patras Gulf (West) marine areas, and in a terrestrial area in the region of Ioannina,² where now seismic surveys are planned for the period 2018-2019 after the airborne survey which recorded airborne soil, was finished.³ What is more, after the individual express of interest of a company, three terrestrial areas of Western Greece, namely Arta-Preveza, Northwest Peloponnese and Aetoloakarnania entered in an international tender and the concession agreements were signed in May 2017⁴, while in October 2017 a concession agreement for “Block 2” in the Ionian Sea was signed.⁵ Moreover, at the time of writing, the country has already attracted strong interest for the new tenders launched in mid-2017 for offshore oil and gas exploration and exploitation for three blocks in the west and south of Greece (south-west Crete, west Crete and an Ionian block) and the final bidding period for the three areas is in late February to early March 2018.⁶

¹ 'Production-Prinos Concession', in *Hellenic Hydrocarbon Resources Management*

<<http://www.greekhydrocarbons.gr/index.php/production/map-prinosconcession>> [accessed December 2017]

² Timoleon Kosmides, 'Concession agreements on hydrocarbon exploration and exploitation rights: General theory and cases (based on the concession agreements of the first international license round', in *Law of Hydrocarbons*, ed. by Nikolaos Farantouris and Timoleon Kosmides (Athens: Nomiki Vivliothiki, 2015) (pp. 250-51).

³ 'Tender bid rounds-2012 Open Door', in *Hellenic Hydrocarbon Resources Management*

<<http://www.greekhydrocarbons.gr/index.php/tenders/2012-open-door>> [accessed December 2017]

⁴ 'Press release: Lease agreements for three terrestrial areas were signed today at the Ministry', in *Ministry of Environment and Energy* <<http://www.ypeka.gr/Default.aspx?tabid=785&snid=524&language=el-GR>> [accessed December 2017]

⁵ Ilias Bellos, 'Total, Edison sign lease agreement for Ionian hydrocarbon block with Greece', in *ekathimerini.com* <<http://www.ekathimerini.com/222846/article/ekathimerini/business/total-edison-sign-lease-agreement-for-ionic-hydrocarbon-block-with-greece>> [accessed December 2017]

⁶ 'Offshore Ionian and Crete Tenders 2017', in *Hellenic Hydrocarbon Resources Management* <<http://www.greekhydrocarbons.gr/index.php/tenders/2017tenders>> [accessed January 2018]

According to the revised Law 2289/1995, which is the main law regarding licensing hydrocarbon operations, *exploration* includes any appropriate method aiming at the discovery of hydrocarbons including drilling, while *production* includes the extraction of hydrocarbons, any treatment necessary to make them marketable as well as their storage and transportation to the loading facilities for further disposal, while refining is not included. Moreover, under article 2, the rights of prospecting, exploration and exploitation of hydrocarbons in onshore areas, submarine and sub-lake areas, where the Greek state has sovereignty or sovereign rights in accordance with provisions of the United Nations Convention on the Law of the Sea, belong exclusively to the Greek state. Meanwhile, under the aforementioned law the management of the above-mentioned rights is exercised on behalf of the Greek state by the competent authority, namely the Hellenic Hydrocarbon Resources Management, established in 2011.

Hydrocarbon legislation varies globally, but regulatory environmental requirements are commonplace in oil-producing and oil-consuming countries, as safety management in the oil and gas industry concerning environmental protection has become nowadays a standard practice⁷. The majority of the oil and gas production stems from onshore operations, because the cost is much less than offshore operations.⁸ On the other hand, nowadays more than 90% of oil and 60% of gas in EU is produced offshore⁹. At the same time, EU is becoming increasingly dependent on imported hydrocarbons and consequently energy security is a top priority due to the vulnerability in this sector. Meanwhile, in Greece oil is the dominant energy source, accounting for approximately 55 per cent of the country's total primary energy supply, and almost all of the crude oils used in Greece are imported.¹⁰ Hence, Greece just like EU is dependent on external factors -mainly Russia which is the

⁷ Nadine Bret-Rouzaut and Jean-Pierre Favennec, *Oil and gas exploration and production* (Paris: Editions Technip, 2011) (p. 278).

⁸ Christos Chasapis and Timoleon Kosmides, *Civil Liability in the case of the production of Hydrocarbons and other related activities*, ed. by Nikolaos Farantouris and Kosmides Timoleon (Athens: Nomiki Vivliothiki, 2015) (p. 491).

⁹ See Michalis Kritikos, 'EU safety rules for offshore exploration and exploitation activities of oil and natural gas: new regulatory challenges in uncharted waters', in *Law of Hydrocarbons*, ed. by Nikolaos Farantouris and Timoleon Kosmides (Athens: Nomiki Vivliothiki, 2015) (p. 73).

¹⁰ Yannis Kourniotis and Ioanna Lamprinaki, 'Greece', *The oil and gas law review*, November 2015 (p. 96).

dominant energy supplier- thus EU is seeking desperately to limit energy consumption or increase the domestic supply.¹¹

Clearly, there are two kinds of pollution; operational, that comes from platforms installation and decommissioning, the drilling mud and chemical products produced, and pollution from accidents. However it is estimated that oil spills stemming from accidents represent only 3-4% of the total oil spilt in the oceans annually.¹² Theoretically, the risk for pollution from onshore operations is considered less significant, because an oil spill in the sea could cause more easily an ecological catastrophe.¹³ The latter is considered potentially far more dangerous and with a bigger, irreversible impact beyond national borders.¹⁴ Thus, the past years EU has taken legislative initiatives in order to harmonize member states' law in regard to civil liability of "certain persons whose activities have caused or are likely to cause significant environmental damage"¹⁵, as well as the environmental regulation and safety of offshore hydrocarbons operations. Another reason for these initiatives is that European Union, pursuant to articles 3, 11 and 191 par.1 of the Treaty of Functioning of EU (TFEU), tries to incorporate environmental protection in all policy areas, by adopting a holistic approach¹⁶. Specifically, the three-dimensional principle of sustainable development is stipulated in article 11 TFEU promoting the integration of environmental concerns into all EU policies.¹⁷ This concept has managed to delink economic growth (which goes hand-in-hand with energy) from environmental degradation and aims to

¹¹ Jürgen Lefevere, 'A climate of change: An analysis of progress in EU and international climate change policy', in *Environmental Protection: European Law and Governance*, ed. by Joanne Scott (New York: Oxford Editions, 2009) (pp. 184-85).

¹² Kostas Fytianos and Konstantini Samara-Konstantinou, *Environmental Chemistry* (Thessaloniki: University Studio Press, 2009) (p. 324).

¹³ Chasapis and Kosmides, *Civil Liability in the case of the production of Hydrocarbons and other related activities*, ed. by Farantouris and Kosmides (p. 491).

¹⁴ Victoria Athanasopoulou, 'Marine pollution from floating oil and natural gas drilling platforms', in *Law of Hydrocarbons*, ed. by Nikolaos Farantouris and Timoleon Kosmides (Athens: Nomiki Vivliothiki, 2015) (p. 194).

¹⁵ Martin Hedermann-Robinson, *Enforcement of European Union Environmental Law- Legal Issues and Challenges* (Oxon & New York: Routledge, 2015) (p. 600).

¹⁶ Maria Lee, *EU Environmental Law: Challenges, Change and Desicion-Making* (Oregon: Hart Publishing, 2005) (pp. 43-45).

¹⁷ Ingmar von Homeyer, 'The evolution of EU environmental governance', in *Environmental Protection: European Law and Governance*, ed. by Joanne Scott (New York: [n.pub.], 2009) (pp. 19-22).

reconcile competing policy objectives and by making environmentally friendly economic growth a realistic solution¹⁸.

The purpose of this thesis is to trace the legal framework concerning environmental regulation of hydrocarbon exploration and production in Greece. The national legal system is composed from general, “genuine” national provisions, but it also includes more specialized EU transposition laws, as well as laws ratifying international conventions, as Greece is an EU member state and a signatory in a number of treaties and conventions concerning the environmental regulation of oil and gas industry.

Admittedly, the principle of the *primacy of European Union law* played key role in the configuration of the legal framework as stated above. The *supremacy principle* means that primary and derivative EU law prevails over national law in case of conflict between them, including even the supremacy over the Constitutions of the member states¹⁹. Under this system of precedence, EU primary or secondary legislation prevails over all national laws, no matter if they antedate or postdate them²⁰. This principle is accepted by national judges to a great extent, except for the supremacy over the Constitutions²¹. Thus, many member states in practice review the constitutionality of EU law under national constitutional law²².

Likewise, under specific criteria EU law may have direct effect which means it confers rights on individuals that the national courts recognize and enforce²³. Under article 249 par.2 of the Treaty on the Functioning of the EU, Regulations are directly applicable, while Directives must be transposed into national law within a deadline. However, some Directives may have direct effect if not transposed on time, provided that the provisions are unconditional, sufficiently clear and precise.²⁴ Specifically, if the provision is specific, unreserved and clear-cut involving the domestic legal order, namely private persons or

¹⁸ Lee, *EU Environmental Law: Challenges, Change and Decision-Making* (pp. 36-37).

¹⁹ Ioannis Karakostas, *Environment and Law: Law on the management and protection of environmental goods*, 3rd edn (Athens: Nomiki Vivliothiki, 2011) (p. 46).

²⁰ Ioannis Karakostas, *Greek & European Environmental Law*, 1st edn (Athens: Ant.N.Sakkoulas, 2008) (p. 50).

²¹ Karakostas, *Environment and Law: Law on the management and protection of environmental goods* (p. 46).

²² Eugenia Sachpekidou, *European Law* (Athens-Thessaloniki: Sakkoula, 2011) (p. 505).

²³ Karakostas, *Environment and Law: Law on the management and protection of environmental goods* (pp. 46-47).

²⁴ Sachpekidou, *European Law* (pp. 488-89).

member States' precise obligations, then the provisions have direct effect.²⁵ In this case, the Directives are applied and grant rights to private or legal persons against the state, not the other way round (*reversed vertical effect*) under the aforementioned criteria.²⁶ It is doubtful if the environmental provisions fulfill these requirements of direct application, as they mostly set general principles and objectives addressed to the EU institutions²⁷.

²⁵ Karakostas, *Greek & European Environmental Law* (p. 51).

²⁶ *Idem* (pp. 52-53).

²⁷ *Idem* (pp. 51-52).

2. General environmental regulatory framework for hydrocarbon exploration and production

Liability for environmental pollution resulting from oil and gas exploration and production can be established in a plethora of provisions. The majority of them provide a civil claim for compensation but environmental liability is also present in the Greek legal order. Moreover there are criminal and administrative sanctions. Environmental civil and criminal liability is a new dimension in environmental law that has been developed only recently. It is not a panacea for sure, because it is a far-from-perfect instrument, as it is often difficult to determine the source of the pollution or the polluter in order to implement the provisions²⁸.

2.1 Article 914 Greek Civil Code

Tortious liability for environmental pollution related to hydrocarbon exploration and production can be established in Greek Civil Code provisions on tortious acts (articles 914-938) which aim at remedying the damage incurred²⁹. Under article 914, which is the basic provision for liability in tort GCC, any person who caused damage unlawfully and through fault to another shall be liable for compensation. Hence, the person primarily responsible for the damage shall compensate the claimant.

The provision requires human behavior, an unlawful act or omission, damage and causal link between the action and the damage³⁰. The aforementioned are the cumulative substantive elements for claiming compensation.³¹ These preconditions shall be invoked and proved by the claimant in order to claim successfully compensation against the person

²⁸ Martin Hedermann-Robinson, *Enforcement of European Union Environmental Law- Legal Issues and Challenges* (pp. 593-94).

²⁹ Panos Kornilakis, *Law of Obligations- Special Part I*, 2nd edn (Athens-Thessaloniki: Sakkoula, 2012) (pp. 459-60).

³⁰ Chasapis and Kosmides, *Civil Liability in the case of the production of Hydrocarbons and other related activities*, ed. by Farantouris and Kosmides (p. 420).

³¹ Ibid.

who by an unlawful behavior has caused the damage³². Any such claimant can apply before Civil Courts for recovery of damages sustained for pecuniary losses.³³

It is obvious that the provision follows the principle of “no liability without fault” on the part of the wrongdoer³⁴. Fault can be either willful misconduct or negligence³⁵. Fault means that the offender either foresaw and accepted the results of their behavior (willful misconduct) or even that although they had foreseen the result and did not accept it, they proceeded to the behavior, or that they didn’t foresee the result (thus not accept it) although they could and should have (negligence).³⁶ Concerning the criterion on negligence, the care required is the one that the average prudent human would have exhibited, had they found themselves in the specific position under similar conditions.³⁷

Furthermore, the unlawfulness is a blank norm, which means that the content of it cannot be defined by the provision of the article 914 itself but it is found in the legal order, especially in provisions that prohibit or permit such a behaviour, protecting a right or a legitimate private (rather than public) interest³⁸. The blank norm of the unlawful act is broadly interpreted hence it includes the violation of the general duty of providence and care³⁹. As a result suitable measures in order to avoid environmental pollution need to be taken, even if they are not stipulated specifically in provisions, otherwise a claim on tort liability may flourish⁴⁰. In other words, unlawfulness is affirmed not only when it is opposed to a prohibitive or imperative rule of law or when it is reprobated by substantive law and its purposes, but also in case of offence of the obligation of diligent administration

³² Eugenia Dacoria, 'Tort Law in Greece. The state of art', in *eclass.uoa.gr* <<https://eclass.uoa.gr/modules/document/file.php/LAW110/Tort%20law%20Dacoria.doc>> [accessed 2018 January]

³³ Ioannis Pavlakis, 'Tort, Personal Injury & Compensation', in *Greek Law Digest* <<http://www.greeklawdigest.gr/topics/aspects-of-greek-civil-law/item/26-tort-personal-injury-compensation>> [accessed December 2017]

³⁴ Panos Kornilakis, *Law of Obligations- Special Part I* (p. 471).

³⁵ Asterios Georgiadis, *Law of Obligations-General Part* (Thessaloniki: Sakkoulas, 2011) (p. 347).

³⁶ Karakostas, *Greek & European Environmental Law* (p. 184).

³⁷ Kornilakis, *Law of Obligations- Special Part I* (p. 511).

³⁸ Idem (pp. 476-78).

³⁹ Chasapis and Kosmides, *Civil Liability in the case of the production of Hydrocarbons and other related activities*, ed. by Farantouris and Kosmides (p. 419).

⁴⁰ Eugenia Dacoria, 'Tort Law in Greece. The state of art', in *eclass.uoa.gr* <<https://eclass.uoa.gr/modules/document/file.php/LAW110/Tort%20law%20Dacoria.doc>> [accessed 2018 January]

that the average and prudent citizen demonstrates, according to the principle of objective good faith.⁴¹ This is specified in environmental regulation by the contractual obligations of providence and security according to the entirety of legislation.⁴² In order to substantiate tortious liability *the theory of the provision's purpose* is nowadays used, which examines which goods the provision aims to protect.⁴³ Like in article 29 of law 1650/1986,⁴⁴ the behavior shall offend a right within the protective purpose of the provision infringed, namely the offended legal right is included in the rights protected, according to the protective purpose of the provision.⁴⁵

Next, providing evidence of the causal link in environmental offences is difficult, because either the result is the consequence of the behaviour of multiple people or because it is impossible to define to what extent and level the offender's behaviour contributed to the damage.⁴⁶ Nonetheless, in case a third party intervenes in the causality between the behavior and the damage, the damage is accounted as a result of the external intervening cause if the causal link is discontinued.⁴⁷

Last, tortious liability does not cover all acts of environmental degradation and pollution because environmental pollution does not always cause damage to civil rights and interests, which means that the behavior is not illegal under tortious provisions. Undoubtedly, it is the personal damage that defines the extent of the compensation, which often does not cover a wider ecological catastrophe, as the damage that shall be remedied is the one that offends private legal rights; therefore, the restorative compensation is limited to it.⁴⁸ Nevertheless, the compensation includes both positive loss and lost profit.⁴⁹ What is more, the compensation in Greek civil law has a remedying purpose, not a punitive one, and this is the reason that the GCC stipulates physical restoration under article 297 par.2.⁵⁰

⁴¹ Karakostas, *Greek & European Environmental Law* (p. 169).

⁴² Karakostas, *Environment and Law: Law on the management and protection of environmental goods* (p. 462).

⁴³ Kornilakis, *Law of Obligations- Special Part I* (pp. 527-28).

⁴⁴ See next chapters

⁴⁵ Karakostas, *Greek & European Environmental Law* (p. 178).

⁴⁶ *Idem* (pp. 194-95).

⁴⁷ Karakostas, *Environment and Law* (p. 382).

⁴⁸ Karakostas, *Greek & European Environmental Law* (pp. 206-07).

⁴⁹ *Idem* (p. 205).

⁵⁰ *Idem* (pp. 200-01).

However, in many cases the restoration to the prior condition might not be possible due to physical and scientific reasons.⁵¹

On the contrary, article 922 stipulates an exception to fault-based liability. Specifically, it provides that a master or a person that assigned a person or an employee to perform a service is liable for the damage caused unlawfully to a third party by the employee or the person assigned, during the course of the service. This is justified by the fact that the master exposes the auxiliary persons to a source of risk, while the master benefits from the same source for himself or herself⁵². This means that the beneficiary should also shoulder the losses stemming from the same source. In such cases both are jointly and fully liable towards the victim⁵³. Regarding the subjective field of the provision, a contract between the employer or master and the employee or the person assigned is not essential⁵⁴. Most significantly, the provision covers an interpersonal relationship or one that can take place occasionally; hence it is not crucial if and how the auxiliary person has been employed, as long as the latter acted under the advice and orders of the principal person on how they must accomplish their obligations⁵⁵.

In addition, pursuant to article 926 GCC which regulates the external relation of the parties, if the damage was caused by multiple people, all of them are liable concurrently. For example if two oil industries omit to repair a joint platform for drainage and consequently damage is caused from the pollution, they are both liable. Moreover, under article 927 GCC, if multiple people have acted simultaneously or successively and it cannot be defined who caused the damage, all of them are jointly liable and the court decides about the distribution of the liability, depending on the measure of their fault. Otherwise, if the liability cannot be distributed, the damage is divided among them equally. Hence, the claimant can apply for compensation from either only one or more of such jointly liable

⁵¹ Idem (p. 207).

⁵² Kornilakis, *Law of Obligations- Special Part I* (p. 538).

⁵³ Chasapis and Kosmides, *Civil Liability in the case of the production of Hydrocarbons and other related activities*, ed. by Farantouris and Kosmides (p. 422).

⁵⁴ Kornilakis, *Law of Obligations- Special Part I* (pp. 539-41).

⁵⁵ Eugenia Dacoronía, 'Tort Law in Greece. The state of art', in *eclass.uoa.gr* <<https://eclass.uoa.gr/modules/document/file.php/LAW110/Tort%20law%20Dacoronía.doc>> [accessed 2018 January]

persons⁵⁶. In case the compensation is paid fully by one of the jointly liable persons, the rest of them are released from the respective duty⁵⁷. Consequently, the person who has paid the compensation in its entirety is entitled to seek recourse from the others under article 927 which regulates the internal relations.

All in all, this provision due to its nature as a general clause has the advantage that it covers a large number of offenses but the injured usually encounter the practical difficulty of providing evidence of the causal link and the extent of it. This is especially true for hydrocarbons exploration and production activities due to the technical complexity of the tasks and the large number of employees. As a result this provision is often unavailable regarding many cases of hydrocarbon pollution because it is difficult to prove the causal link between the act or the omission and the damage.

2.2 Article 57 & 59 of Greek Civil Code

Environmental protection can also be achieved indirectly for breach of the right to personality under article 57 of the Civil Code provoked by illegal hydrocarbon operations leading to degradation of the environment or offences of other rights resulting from hydrocarbon exploration or production. The right of personality is offended when a right, that is considered part of the right to personality, is impeded in such a way that its public benefit stemming from its use is distorted or annulled or it is impossible to use it and that the offence is illegal.⁵⁸

Concerning the first condition, personality includes all the tangible and intangible elements, which compose the physical, emotional, intellectual, moral, and social human existence.⁵⁹

⁵⁶ Asterios Georgiadis, *Law of Obligations-General Part* (Thessaloniki: Sakkoulas, 2011) (pp. 240-42).

⁵⁷ Ioannis Pavlakis, 'Tort, Personal Injury & Compensation', in *Greek Law Digest* <<http://www.greeklawdigest.gr/topics/aspects-of-greek-civil-law/item/26-tort-personal-injury-compensation>> [accessed December 2017]

⁵⁸ Karakostas, *Environment and Law: Law on the management and protection of environmental goods* (p. 58).

⁵⁹ Eugenia Dacoronia, 'The development of the Greek Civil Law. From its Roman - Byzantine origins to its contemporary European orientation'

<<https://eclass.uoa.gr/modules/document/file.php/LAW110/development%20of%20Greek%20Law.doc>>

Primarily, the exact scope of the concept of personality is not defined in law, in order to ensure that it adapts to the socioeconomic changes.⁶⁰

In addition, article 57 is a blank rule of law because the specification of the notion of illegality must rely on the entirety of the legal system, similarly to the illegal character of the offence in article 914.⁶¹ According to the prevailing opinion, the provision of article 57 provides for an absolute right, and each time the aspects of it are violated, the violation is always illegal, except for the case that the law expressly permits the specific interference.⁶² Hence, it comes as no surprise that the illegality of article 914 is often based on the infringement of article 57. Only if there is a reason that removes the illegal character of the behaviour, for instance defence or consent, the offence is legal.⁶³ As a result, each infringement must be considered illegal as long as a reason removing the illegal character does not concur.⁶⁴ As a consequence there is no requirement for a specific provision of law to be breached. What is more, even if the offender has the right to perform a specific act or omission (for example in case an operator has been granted a permit to conduct exploration and production), if the right to unpolluted environment is more important or the act of the offender is performed in an abusive way, then there is a breach of the personality right⁶⁵. According to the aforementioned opinion, the defendant shall invoke a provision that removes illegal character, while according to another view the plaintiff shall prove that the violation infringes a specific provision of law.⁶⁶ Therefore, there is a shift in the burden of law.

Further, the actions stemming from article 57 are cessation of the offence, omission in the future in case of an imminent threat of recurrence and compensation under article 914. Furthermore, the cessation includes the annihilation of the consequences and the restoration

⁶⁰ Ibid.

⁶¹ Karakostas, *Greek & European Environmental Law* (p. 151).

⁶² Dimitrios Papasteriou, *General Principles of civil law*, 2nd edn (Athens-Thessaloniki: Sakkoula, 2009) (pp. 218-19).

⁶³ Karakostas, *Greek & European Environmental Law* (p. 151).

⁶⁴ Papasteriou, *General Principles of civil law* (p. 219).

⁶⁵ Alexia Varotsou, 'Legal framework for water protection and management in Greece', in *Greek Law Digest* <<http://www.greeklawdigest.gr/topics/physical-cultural-environment/item/96-water-protection-and-management>> [accessed December 2017]

⁶⁶ Karakostas, *Greek & European Environmental Law* (p. 152).

to the status quo ante while the omission in the future prevents future offence⁶⁷. In addition, the action can be raised irrespective of the existence of fault, and may result in a prohibitive or mandatory injunction.⁶⁸ Moreover, if the defendant is at fault, claims for compensation and the restitution of moral damage can be raised under article 59. Personality and environment go hand in hand because any degradation of the latter offends the human being and their personality; hence environment is considered an inviolable part of the right to personality.⁶⁹ The environment as a protected good in the context of “the framework right” to personality is defined as the goods that constitute living space on the basis of which the personality is created and develops and which are essential for the survival, healthy living and safeguarding of the quality of life.⁷⁰ Therefore, it is not limited to the things that are common to all or of common use, but it extends to invariably all the environmental goods.

Concerning the claim for termination of the violation, the offender shall remove the consequences and reinstate the common use and benefit in the previous situation, but this might not be possible if the offence resulted in total obliteration.⁷¹ Concerning the claims for the omission, it can be raised even if there is no offence yet, but there are well-founded reasons to believe that it will happen, especially if the suspected violation is irremediable.⁷² Moreover, regarding the claim for compensation, the offender shall retribute the pecuniary damage if tortious liability is fulfilled.⁷³ In cases of harm to health or honor, pursuant to article 59 a claim for restitution of moral damage can be raised if there is illegality. According to established jurisprudence, fault is not required, however the courts disagree.⁷⁴ In this case, the amount awarded as pecuniary satisfaction depends on the type and the

⁶⁷ Idem (pp. 60-61).

⁶⁸ Eugenia Dacornia, 'The development of the Greek Civil Law. From its Roman - Byzantine origins to its contemporary European orientation'
<<https://eclass.uoa.gr/modules/document/file.php/LAW110/development%20of%20Greek%20Law.doc>>

⁶⁹ Karakostas, *Environment and Law* (p. 292).

⁷⁰ Karakostas, *Greek & European Environmental Law* (p. 148).

⁷¹ Karakostas, *Environment and Law: Law on the management and protection of environmental goods* (p. 300).

⁷² Karakostas, *Greek & European Environmental Law* (p. 157).

⁷³ Papasteriou, *General Principles of civil law* (pp. 222-23).

⁷⁴ Karakostas, *Greek & European Environmental Law*, (pp. 160-61).

extent of the pollution and not the degree of fault, being not a penalty but a mean for restitution.⁷⁵

In summary, the right to personality is a very useful and versatile provision because it adapts to the socioeconomics conditions and the. This is especially true for the sector of the hydrocarbons, because it is characterized by constantly evolving changes in its technological sector. Moreover this versatility is also vital due to the fact that environmental damage may be multi-faceted and affect aspects that might not be covered by other more specific provisions.

2.3 Article 281 of Greek Civil Code

Environmental regulation of oil exploration and production can also be achieved through article 281 Greek Civil Code, namely the abuse of right. This article stipulates that “the exercise of a right is prohibited, when it manifestly exceeds the limits dictated by good faith, or good morals, or the social or the economic purpose of the right”⁷⁶. According to established jurisprudence, article 281 shall limit all private rights including rights derived from juridical acts or from rules of public order extending beyond civil law.⁷⁷

Thus, it represents the principle of sustainable development in law.⁷⁸ If someone exceeds the aforementioned limitations of the right to use environmental goods, then article 281 can be activated. Nonetheless, the aforementioned vague clauses are determined judicially based on objective considerations and not the personal motives of the oblige.⁷⁹ Additionally, article 281 is itself a rule of public order which means that it cannot be impeded by a contrary agreement.⁸⁰ It can potentially fulfil the conditions of article 914

⁷⁵ Karakostas, *Environment and Law: Law on the management and protection of environmental goods* (p. 303).

⁷⁶ Eugenia Dacornia, 'The development of the Greek Civil Law. From its Roman - Byzantine origins to its contemporary European orientation'

<<https://eclass.uoa.gr/modules/document/file.php/LAW110/development%20of%20Greek%20Law.doc>>

⁷⁷ Ibid.

⁷⁸ Ioannis Karakostas, *Greek & European Environmental Law*, 1st edn (Athens: Ant.N.Sakkoulas, 2008) (p. 63).

⁷⁹ Dimitrios Papasteriou, *General Principles of civil law*, 2nd edn (Athens-Thessaloniki: Sakkoula, 2009) (p. 296).

⁸⁰ Idem (p. 301).

GCC and therefore give rise to an action for compensation.⁸¹ The jurisprudence hasn't resolved the issue of whether article 281 shall be taken into account *ex officio* by the court, or if it shall be raised by the plaintiff.⁸²

This provision is considered last resort, when it is difficult to invoke and prove other provisions. It is very general and required specialisation ad hoc in order to judge if its conditions are fulfilled. In this sense, it is a supplementary, secondary provision in the environmental regulatory grid.

2.4 Articles 105-106 of the Introductory Law of the Civil Code

A democratic state should protect its citizens from damage even if it is the state itself that appeals against the legal interests of citizens. For instance, the state could infringe environmental rights when judging an environmental impact assessment or enforcing its application or when infringing other environmental provisions concerning hydrocarbons.⁸³ Articles 105 and 106 of the Introductory Law of the Greek Civil Code stipulate that in case that a public authority or employee causes damage with an illegal act or omission in exercising the public authority entrusted to them, against the legal interests of the citizens, the citizen shall claim compensation. The conditions are a) act or omission in the course of exercising public authority b) damage c) causal link between them d) infringement of a law that protects or awards a specific right e) imputation to the State.⁸⁴ However, there is no public liability if the provision infringed does not support a specific right but has been institutionalized solely in favour of the public interest. Furthermore, civil liability of the state is established jointly with the liability of the employee and the state has the right of recourse.

This provision could be used in case of a joint venture of a state and a private hydrocarbons company. Therefore it is a vital piece in the regulatory puzzle of the environmental regulation

⁸¹ Karakostas, *Environment and Law: Law on the management and protection of environmental goods* (p. 401).

⁸² Papasteriou, *General Principles of civil law* (p. 303).

⁸³ Karakostas, *Environment and Law: Law on the management and protection of environmental goods* (p. 129).

⁸⁴ *Idem* (pp. 129-30).

of hydrocarbons activities. However it covers only damage against the legal interests of a person, it doesn't stipulate environmental liability in general.

2.5 Law 1650/1986 on Environmental Protection

Law 1650/1986, which constitutes until today the Framework Law on the Environment, provides for civil liability as well as penal and administrative sanctions in regard with any natural or legal person who causes pollution or degradation of the environment. The law is in accordance to the article 24 of the Constitution that stipulates environmental protection.⁸⁵

At first glance this law aims to protect mainly human health, but after a closer look on article 1 par.2 it is clear that the environment is autonomously protected via its provisions. It stipulates horizontal “catch-all” provisions, which is indicative of the legislative will to utilize all fields of law in order to achieve the environmental protection⁸⁶. Undoubtedly, it implements *the preventive principle*.⁸⁷ In fact, the environment is considered in this law a legal value itself, as an essential condition for human life and the collective quality of living and therefore it is protected whether or not private rights have been infringed.⁸⁸ The problem is that the provision doesn't differentiate according to the extent and the intensity of the pollution or degradation. For example the powerful hydrocarbon industries that are great sources of risk for environmental catastrophes are in the same place with minor environmental pollution from private persons. What is more, the exceptions provided place the financial burden of internalizing the damage to the whole society.⁸⁹ Therefore, according to a teleological interpretation, the law shall be applied only to cases in which there are risky industries involved.⁹⁰

⁸⁵ Theodoros Panagopoulos, *Environmental Law*, 4th edn (Athens: Ath.Stamoulis Editions, 2004) (pp. 113-14).

⁸⁶ Karakostas, *Greek & European Environmental Law* (p. 99).

⁸⁷ Anastasios Tahos, *Basic provisions of environmental protection* (Athens-Thessaloniki: Sakkoula, 2007) (p. 409).

⁸⁸ Karakostas, *Greek & European Environmental Law* (p. 103).

⁸⁹ Chasapis and Kosmides, *Civil Liability in the case of the production of Hydrocarbons and other related activities*, ed. by Farantouris and Kosmides (p. 424).

⁹⁰ Tahos, *Basic provisions of environmental protection* (pp. 408-09).

Specifically, article 28 stipulates criminal penalties for environmental pollution. This article was amended with article 7 of the law 4042/2012, in order to transpose the Directive 2008/99 on the protection of environment through criminal law. In the past the Directive 92/43 was also transposed via law 1650/1986. As a result of heterogeneous amendments, a few interpretational problems arised.⁹¹ The penal sanctions can be converted in pecuniary according to article 82 of the Greek Criminal Code, becoming similar with the administrative fines.⁹² However, the aforementioned monetary penalties imposed constitute a criminal sanction and are imposed separately from the administrative fines provided by article 30 of the law.

Particularly paragraph 1 of article 28 stipulates that any person carrying out an activity or business without the required authorization or approval, or exceeds the limits of the permit or approval granted and degrades the environment, shall be punished by imprisonment of three months up to two years or a pecuniary penalty ranging from 1.000 up to 60.000 euro. Clearly, the degradation covers also the pollution, because the first is a milder form and it would be illogical to not punish a more serious offence.⁹³ Moreover, according to par.2 any person who causes pollution or degrades the environment by an act or omission which is contrary to the provisions of this law or of regulatory acts issued under its authority shall be punished by imprisonment of at least one year or a fine of 3.000 to 60.000 euro. This provision has been criticized because it contradicts the principle of criminal law “*nulla poena sine lege certa*” which means that there is no penalty without definite law, expressing *the principle of legal certainty*.⁹⁴ Specifically, according to it, a penal provision shall define sufficiently the punishable behaviour and the penalty so that the citizens are certain about which of their behaviours are punishable under criminal law.⁹⁵

⁹¹ Marios Haintarlis, 'The directive 92/43 and its transposition in Greek legal order and reality', in *The application of environmental Community Law in Greece*, ed. by Georgia Giannakourou, Giorgos Kremlis and Glykeria Siouti (Athens-Komotini: Ant.N.Sakkoula, 2007) (pp. 417-18).

⁹² Karakostas, *Greek & European Environmental Law* (p. 101).

⁹³ Anastasios Tahos, *Special administrative law*, 6th edn (Athens-Thessaloniki: Sakkoula, 2006) (pp. 306-07).

⁹⁴ Konstantinos Hatzioannou, 'Aspects of the penal treatment of environmental pollution due to the exploitation of hydrocarbons and other related activities', in *Law of Hydrocarbons*, ed. by Nikolaos Farantouris and Timoleon Kosmides (Athens: Nomiki Vivliothiki, 2015) (p. 591).

⁹⁵ Ioannis Manoledakis, *Penal Law-Epitome of general part: articles 1-49*, ed. by Maria Kaiafa-Gbandi and Elisavet Symeonidou-Kastanidou, 6th edn (Athens-Thessaloniki: Sakkoula, 2005) (pp. 44-45).

Furthermore, according to paragraph 5.2 the criminal penalties of par. 2 and 3 are also imposed to any natural person, who possesses a leading position in a legal person, for any act or omission which been committed by or because of the activity or business of the legal person, if this act or omission was not prevented because of his failure, either by intention or by negligence, to exercise the necessary supervision or control. This provision has been criticized in regard with criminal responsibility of legal persons.⁹⁶

Article 28 includes also aggravating criteria. Pursuant to paragraph 3a if the act was committed by a person who intended to earn for himself or for any other person an economic or other material benefit, then an imprisonment sentence of at least two years and possibly also a monetary penalty from 20.000 up to 150.000 euro are imposed. Under paragraph 3b, if the overall economic or other material benefit exceeds the amount of 73.000 euro, or if the act was committed by a person who commits such crimes by profession or by habit and the benefit exceeds the amount of 15.000 euro, then an imprisonment sentence of up to 10 years is imposed and possibly a monetary penalty from 60.000 up to 250.000 euro. In the aforementioned cases the benefit is not defined as illegal but it would be right to assume it, otherwise it would lead to offbeat consequences that don't serve the purpose of the law.⁹⁷

Finally, article 28 includes also mitigating criteria. Under par. 6, if the offender or a third person acting under the offender's guidance or on their behalf reduces the pollution or the degradation of the environment, then the court may impose a reduced penalty, pursuant to article 83 of the Penal Code. It may also absolve them from any sanction. This paragraph stipulates a mitigating circumstance or a personal ground of impunity at the court's discretion in case the offender showed remorse by cessation of the offence or cooperative behavior.⁹⁸ This way it gives the right motives to the offender and is based on the principle

⁹⁶ See Manoledakis, *Penal Law-Epitome of general part: articles 1-49*, ed. by Kaiafa-Gbandi and Symeonidou-Kastanidou, (pp. 179-82); Hatzioannou, 'Aspects of the penal treatment of environmental pollution due to the exploitation of hydrocarbons and other related activities', in *Law of Hydrocarbons*, ed. by Farantouris and Kosmides (pp. 594-95).

⁹⁷ Hatzioannou, 'Aspects of the penal treatment of environmental pollution due to the exploitation of hydrocarbons and other related activities', in *Law of Hydrocarbons*, ed. by Farantouris and Kosmides (p. 598).

⁹⁸ Karakostas, *Greek & European Environmental Law* (p. 105).

that the restoration is easier when there is direct intervention⁹⁹. However this provision has also been criticized concerning the vast judicial discretion given regarding the equality principle.¹⁰⁰

Secondly, article 29 stipulates that any natural or legal person who causes of pollution or degradation of the environment, is liable to compensate, unless the damage was caused by force majeure or by faulty behavior of a third party who acted on willful misconduct. The civil liability it stipulates is risk liability, which means that illegality and fault are not prerequisites for the liability, like tortious liability. Regarding causality, two criteria are ideal for the risk liability: the first one stems from the *equivalence theory* and the second one from the *theory of the law's purpose*, while an additional criterion is the typical risks for the specific industry and if the activity is high-risk.¹⁰¹

Admittedly, the purpose of the provision is to protect private rights that are by their nature at risk for pollution. The liability is limitless and covers also the future or indirect damage which shows in the long term.¹⁰² The damage is financial including both positive loss and lost profit and it shall harm a private right.¹⁰³ The compensation is basically pecuniary but, if requested, it can also be physical, especially after taking account of the specific occasions of the case and if it isn't against the claimant's interests.¹⁰⁴ This physical restoration is considered to serve best the "ratio legis" which is the environmental protection, however, it is not always possible in reality.¹⁰⁵

Moral damage is not expressly stipulated in this law, but according to a view supported, the article 931 of the Greek Civil Code shall be applied, despite the fact that it refers to tortious liability, because the "ratio legis" is to protect non-property rights as well.¹⁰⁶ This view is

⁹⁹ Idem (p. 105).

¹⁰⁰ Hatzioannou, 'Aspects of the penal treatment of environmental pollution due to the exploitation of hydrocarbons and other related activities', in *Law of Hydrocarbons*, ed. by Farantouris and Kosmides (pp. 591-92).

¹⁰¹ Idem (p. 429).

¹⁰² Karakostas, *Environment and Law* (p. 407).

¹⁰³ Chasapis and Kosmides, *Civil Liability in the case of the production of Hydrocarbons and other related activities*, ed. by Farantouris and Kosmides (p. 427).

¹⁰⁴ Idem (p. 430).

¹⁰⁵ Karakostas, *Environment and Law* (p. 411).

¹⁰⁶ Chasapis and Kosmides, *Civil Liability in the case of the production of Hydrocarbons and other related activities*, ed. by Farantouris and Kosmides (p. 431).

supported also in article 28 par. 3, which stipulates aggravating criteria based on harm on human health.¹⁰⁷ Therefore, an action for moral damage can be raised in this law, too. Regarding force majeure, under the objective theory only the external events that are absolutely unforeseen and unavoidable even when the operator has taken measures of extreme providence and care, are considered force majeure¹⁰⁸

Finally, article 29 cannot be applied if there is exclusive implementation of another law of the same scope e.g. law 314/1976, but it can be applied cumulatively with other non-exclusive provisions of civil law for the same undivided claim.¹⁰⁹ Moreover, law 743/1977 prevails over law 1650/1986, if the pollution is caused from coastal installations or affects the marine environment. Otherwise, law 1650/1986 is applied.¹¹⁰

Last but not least, article 30 stipulates administrative penalties. Under paragraph 1 an administrative fine ranging from 500 up to 2.000.000 euro is imposed, depending on the severity, the frequency and the degree of the violation. As stated above, the administrative fines are additional to the monetary penalties possibly imposed to the violators.

In the final analysis, this law is fundamental in the Greek environmental law. It is very strict and it could cover all damages incurred from hydrocarbon activities. Undoubtedly, this type of liability is stricter and has a preventive purpose as the operators are liable without needing the proof of fault leading them to become more careful.¹¹¹ Thus, it aims to overcome the difficulties concerning the burden of proof of causality, which in tortious liability under article 914 is placed on the plaintiff, by reversing it.¹¹² Due to the vague formulation and wording of the provision -and because it is easy to raise an action based on the protection of the right of personality under article 57 and 59 GCC- the provision is rarely used by claimants.¹¹³ Moreover, there is no distinction in level and intensity of the

¹⁰⁷ Idem (p. 432).

¹⁰⁸ Karakostas, *Environment and Law* (p. 409).

¹⁰⁹ Chasapis and Kosmides, *Civil Liability in the case of the production of Hydrocarbons and other related activities*, ed. by Farantouris and Kosmides (p. 437).

¹¹⁰ Idem (p. 437).

¹¹¹ Chasapis and Kosmides, *Civil Liability in the case of the production of Hydrocarbons and other related activities*, ed. by Farantouris and Kosmides (p. 426).

¹¹² Karakostas, *Greek & European Environmental Law* (pp. 423-24).

¹¹³ Chasapis and Kosmides, *Civil Liability in the case of the production of Hydrocarbons and other related activities*, ed. by Farantouris and Kosmides (Athens: Nomiki Vivliothiki, 2015) (p. 424).

offence and as a result activities of minor importance economically with small environmental impact are treated the same way as major offences stemming from wealthy economic activities.¹¹⁴

2.6 Directive 2004/35 (Presidential Decree 148/2009) the Environmental Liability Directive (ELD)

Directive 2004/35/EC on environmental liability makes operators financially liable for threats of or actual environmental damage. It aims to ensure that in specific risky activities there is a specified person a priori liable for potential pollution.¹¹⁵ Under the directive the liability lies with the polluter, that is the operator of occupational activities as defined in the directive, who is also obliged to take preventive or remedial steps. This liability is sui generis environmental.¹¹⁶ The prerequisites are a) activity causing pollution b) environmental damage or imminent threat of it c) managements cost for the prevention or restoration d) causality between a and b.¹¹⁷ The directive enlists the economic operations that fall within the scope, excluding them in case of purely private and domestic capacity . What is more, liability is stipulated not only for actual damage but also for imminent prospective damage. This is optimal, taking into account the possibility of irrevocable adverse consequences resulting from environmental damage.¹¹⁸

To begin with, there are two tiers of activities that fall within the scope of the Directive. The first one lists in Annex III the activities that fall within strict liability because they are very risky for the environment. This category includes hydrocarbon activities.¹¹⁹ The rest of the activities fall within tier II and liability shall be predicated upon proof of fault or negligence. Consequently, concerning the unlisted occupational activities, liability can be stipulated if there is fault. Of course stricter EU or national rules can be applied, according

¹¹⁴ Idem (p.424).

¹¹⁵ Hedermann-Robinson, *Enforcement of European Union Environmental Law- Legal Issues and Challenges* (p. 604).

¹¹⁶ Christos Chasapis, 'Environmental liability and protection in hydrocarbons' exploitation and other linked activities', in *Law of Hydrocarbons*, ed. by Nikolaos Farantouris and Timoleon Kosmides (Athens: Nomiki Vivliothiki, 2015) (p. 510).

¹¹⁷ Ibid.

¹¹⁸ Hedermann-Robinson, *Enforcement of European Union Environmental Law- Legal Issues and Challenges* (p. 604).

¹¹⁹ Chasapis, 'Environmental liability and protection in hydrocarbons' exploitation and other linked activities', in *Law of Hydrocarbons*, ed. by Farantouris and Kosmides (p. 508).

to article 3 paragraph 2. The Environmental Liability Directive, aiming to the prevention and remedying of environmental damage, was transposed into Greek legislation through the stricter presidential decree 148/2009. Indeed, according to article 4 of the presidential decree, the scope includes environmental damage caused by any of the occupational activities listed in Annex III, and to any imminent threat of such damage occurring by any of those activities, as well as damage to protected species and natural habitats caused by any occupational activities other than those listed in Annex III, and to any imminent threat of such damage occurring by any of those activities, regardless of whether the operator has been at fault or negligent. As a consequence, the liability as transposed in the national legal order is solely strict liability. Specifically, the liability stipulated is risk liability because illegality is not a condition.¹²⁰ Hence only the regulator can bring actions.

Next, the scope of the Directive includes water damage, land damage as well as damage to protected species and natural habitats.¹²¹ Nonetheless, it includes only the coastal waters, excluding maritime zones such as the continental shelf and the exclusive economic zone. Under article 3 of the presidential decree, a few definitions are given. While the definition of the operator is a broad one as it includes any natural or legal person who operates or controls (even de facto) the occupational activity, or the holder of permit, or the person registering such an activity, the definition of damage is narrowed by the significance criteria of the pollution required and the prerequisites regarding occupational activities¹²²

Under article 5 of the presidential decree, the operator should take measures to prevent or remediate the damage or an imminent threat, not just bear the cost. Hence, it gives greater emphasis on environmental remediation as it explicitly excludes the potential personal or economic loss and compensation from its scope¹²³. The remediation is mainly physical and secondary it is monetary. Undoubtedly, this copes with the main drawbacks of pecuniary sanctions, namely ensuring that the level of compensation is adequate for restoration and

¹²⁰ Chasapis, 'Environmental liability and protection in hydrocarbons' exploitation and other linked activities', in *Law of Hydrocarbons*, ed. by Farantouris and Kosmides (p. 510).

¹²¹ 'Environmental Liability', in *European Commission*

<<http://ec.europa.eu/environment/legal/liability/index.htm>> [accessed January 2018]

¹²² Hedermann-Robinson, *Enforcement of European Union Environmental Law- Legal Issues and Challenges* (pp. 606-07).

¹²³ Idem. (pp. 600-01).

that the compensation will not be directed to another purpose. Usually, tortious law provides a person with a remedy in the form of monetary compensation in respect of the losses they have suffered, but does not ensure the restoration of the site.¹²⁴.

The operator is not liable in case of force majeure, namely events beyond the control of the operator like activities relating to war or natural phenomena. Most significantly, some incidents are also excluded if they are covered by specific international conventions listed, inter alia, the International Convention on Civil Liability for Oil Pollution Damage. As a result, regarding hydrocarbons, ship-sourced and cargo pollution is excluded from the presidential decree and the Directive, but marine pollution from land-based sources or from fixed offshore platforms stays in.¹²⁵ Moreover, under article 11 par.4 and 5, if the operator takes appropriate safety measures, they shall not bear the cost in case the damage was caused by a third party or if the behavior was conducted in compliance with a compulsory order or instruction the authorities. In addition, the operator shall not bear the costs if they were not at fault or negligent and the damage was caused by an emission or event either expressly authorised by an authorization and fully in accordance with the conditions of it, or if the event is not considered likely to cause environmental damage according to scientific and technical knowledge. Thus unforeseeable damage and damage resulting from authorized emissions or operations (without negligence) is a potential defence of a member state that could shrink the scope of the directive.

What is more, under article 7 of the presidential decree, the operator shall take specific preventive and remedial measures for the damage or the imminent threat of it and bears the costs for the actions taken for the prevention and restoration of environmental damage caused. Next, according to articles 6 and 8 of the PD 148/2009, where environmental damage has occurred the operator shall take immediately preventive measures and inform the competent authority. If the damage is present, the operator shall take remedial measures and under article 6 they should notify immediately the authorities, try to contain the extent of the damage and remediate it. Clearly, the law does not provide for a direct obligation to

¹²⁴ Idem. (pp. 602-03).

¹²⁵ Chasapis, 'Environmental liability and protection in hydrocarbons' exploitation and other linked activities', in *Law of Hydrocarbons*, ed. by Farantouris and Kosmides (pp. 507,521).

disclose to third parties. However, this is a necessary measure to restrict the damage, which is an obligation of the operator. Moreover, the presidential decree stipulates under article 8 that the operator shall take preventive measure for an imminent threat of pollution and the competent authorities shall ensure that these measures are executed, thus national legislation shall stipulate that the authorities can seek injunctive relief from court, although it is not an obligation. The authority may also require the operator to provide supplementary information and assess the significance of the damage, according to article 8 par.2. Moreover, if the damage has already occurred, under article 9 of the presidential decree, the first stage is that the operator shall plan the measure and in case of water contamination, they should restore it to its baseline condition (status quo ante) through primary, complementary and compensatory measures, while the second stage requires that the authorities determine the suitable measures, accepting observations from persons having a sufficient interest, according to article 10 of the presidential decree.

Next, the directive requires that the polluter bears the cost of the preventive and remedial costs, without setting officially a ceiling but giving the discretion to national authorities to under the aegis of article 11 to determine the extent and the measures of the remedy. Specifically, the authorities can recover the costs for the preventive or remedial actions, via security over property or other appropriate guarantees from the operator who has caused the damage or the imminent threat of it, pursuant to article 11. Nonetheless, it doesn't stipulate financial security or environmental liability insurance. According to article 14, operators of business activities can use insurance or other means of financial security to cover their liability with regard to the cost of preventive and remedial measures against environmental damage. Although the decree does not oblige operators to take out a financial security, Member States are required to encourage operators to make use of such mechanisms and promote the development of such services.¹²⁶

The presidential decree also provides for administrative sanctions under article 17, which include the suspension or revocation of the licence of the polluting unit to operate, and fines. What is more, article 13 provides that third party, namely individuals and public

¹²⁶ Anna Gkizari-Xanthopoulou, *The contribution of individuals to the enforcement of EU environmental law* (Athens-Thessaloniki: Sakkoula, 2013) (p. 213).

interest groups have the right to seek judicial review of the decisions of the competent authority, regarding the obligation to remedy or finance the restoration of environmental damage¹²⁷.

In one word, the directive has a preventive and restorative scope and is based on the *principle the polluter pays*, meaning that they internalize the cost according to neo-liberal views.¹²⁸ Admittedly, the polluter pays is an economic instrument, that concentrates on justice and fairness rather than economic efficiency and it is based on article 191 par.2 of the Treaty on the Functioning of the European Union. Clearly, the damage under the Directive is not paid from the public purse, except for cases that it is impossible to implement the *principle the polluter pays*.¹²⁹ Above all these provisions do not affect the existing civil liability rules of international treaties concerning compensation and its scope does not extend to personal injury, private property damage or economic loss¹³⁰. As has been noted, environmental liability is a tool used for internalizing externalities and it can provide access to third party in decision-making. Therefore, environmental damage, there are generally two sets of civil liability, the first one is the tortious liability under the national law of obligations and the other is the environmental liability based on the ELD¹³¹. Strict liability is far more suitable for hydrocarbon operations, as it is a typical risky industry for environmental pollution. In general, civil liability is often problematic because claimants may face hurdles in proving culpability in tortious law, regarding causal link¹³². Namely, the claimants shoulder the burden of proof to attribute the blame on the defendant and, given the diffuse nature of environmental damage, this becomes extremely difficult, especially when one sole source of the damage cannot be identified or when it is mixed with other possible agents.¹³³

¹²⁷ Lee, *EU Environmental Law: Challenges, Change and Decision-Making* (pp. 65-66).

¹²⁸ Chasapis, 'Environmental liability and protection in hydrocarbons' exploitation and other linked activities', in *Law of Hydrocarbons*, ed. by Farantouris and Kosmides (p. 506).

¹²⁹ Hedermann-Robinson, *Enforcement of European Union Environmental Law- Legal Issues and Challenges* (pp. 603-04).

¹³⁰ Karakostas, *Greek & European Environmental Law* (p. 47).

¹³¹ Hedermann-Robinson, *Enforcement of European Union Environmental Law- Legal Issues and Challenges* (p. 601).

¹³² *Idem.* (pp. 601-02).

¹³³ *Ibid.*

To sum up, this Directive provides an administrative tool, rather than an element of private law, because there is no stipulation for compensation to private persons, even when there is damage on private rights.¹³⁴ In other words, the ELD is not based on private persons as plaintiffs, placing the onus of proof on plaintiff because the aforementioned elements have proved inefficient. On the contrary, it is based on national authorities that can recognize better the environmental damage, have greater power and knowledge and better aligned motives than private persons.¹³⁵ As a result, national public authorities and specifically the Ministry of environment and energy shall ensure the enforcement of the provisions by the operator through controls and inspection in premises.¹³⁶ Thus, the competent national authorities are the principle enforcers of the ELD directive as they have to verify the liability and supervise the remediation.¹³⁷ Therefore it is expected that no right to compensation is granted to individuals if they suffer as a result of damage to private property. The polluter pays is a major focal point in this Directive while emphasis is placed on prevention and restoration. Still, the implementation is difficult, due to the diffusive nature of pollution and the difficulty to determine the polluter and the extent to which they have caused the pollution¹³⁸. Additionally, it is the national authorities that shall attribute responsibility to the liable person by procuring evidence of the causal linking between their activity and the damage, which is a significant procedural hurdle.¹³⁹ Finally, the Directive has been criticized that it has a narrow scope, considering the aforementioned defences and the fact that it gives broad discretionary authority to the member states resulting in reduced harmonization.¹⁴⁰

¹³⁴ Chasapis, 'Environmental liability and protection in hydrocarbons' exploitation and other linked activities', in *Law of Hydrocarbons*, ed. by Farantouris and Kosmides (p. 506).

¹³⁵ Hedermann-Robinson, *Enforcement of European Union Environmental Law- Legal Issues and Challenges*(pp. 618-19).

¹³⁶ Gkizari-Xanthopoulou, *The contribution of individuals to the enforcement of EU environmental law* (p. 218).

¹³⁷ Hedermann-Robinson, *Enforcement of European Union Environmental Law- Legal Issues and Challenges* (pp. 618-19).

¹³⁸ Karakostas, *Greek & European Environmental Law* (p. 46).

¹³⁹ Hedermann-Robinson, *Enforcement of European Union Environmental Law- Legal Issues and Challenges* (pp. 607-08).

¹⁴⁰ Gkizari-Xanthopoulou, *The contribution of individuals to the enforcement of EU environmental law* (p. 213).

2.7 Directive 94/22 (Law 2289/1995) on Prospecting, Exploration and Production of Hydrocarbons

Law 2289/1995 stipulates the conditions for licensing the prospection, exploration and production of hydrocarbons. This law itself doesn't stipulate liability but article 12a stipulates that, by virtue of ministerial decisions, executive regulations shall be enacted in order to prevent the pollution or contamination of the environment and the protection of flora and fauna within the licensed areas. Most importantly, if its provisions are infringed, then liability according to article 914 is fulfilled.¹⁴¹ Under article 12 it is easily concluded that all drilling installations and floating installations are considered "ships" for the scope of this law, however this doesn't extend to the application of international conventions ratified by the Greek state, because they have a narrower definition of ships and shall be interpreted autonomously.¹⁴²

Moreover, under article 12a par.2 the contractors must comply with laws and Regulations concerning the environmental protection. In particular, they shall, among others, use in sustainable manner the natural resources, prevent the damage to productive formations and ensure that discovered oil comply with the legislation on Solid and Hazardous Waste involving hydrocarbons waste. Moreover, they shall ensure that the hydrocarbons activities are conducted in an environmentally acceptable and safe manner, that is compatible with existing environmental legislation and good practice of the international oil industry and carry for this purpose effective control.

Next, under par. 3 the operator shall also take all necessary measures to minimize any environmental pollution. What is more, the state shall require from the operator to take corrective measures within a reasonable period and restore any environmental damage, in case of possible pollution to the environment, fauna, flora or the marine organisms from facilities or installations erected or any activities carried out. It may even suspend the

¹⁴¹ Chasapis and Kosmides, *Civil Liability in the case of the production of Hydrocarbons and other related activities*, ed. by Farantouris and Kosmides (p. 443).

¹⁴² Idem (p. 445).

operators' contractual rights, until the operator takes all the corrective measures and restores the environmental damage.

Furthermore, pursuant to par. 5, the operator may be required to give a deposit guarantee, the amount of which is determined by the Minister, upon the recommendation of the Hellenic Hydrocarbon Resources Management. Otherwise the operator shall be covered by an insurance contract with an international firm against all risks, including environmental risks.

In addition, under par. 8 an administrative fine, ranging from 100.000 euro up to 1.500.000 euro, shall be imposed on any person carrying out the prospecting, exploration and exploitation of hydrocarbons in breach of the regulations issued pursuant to paragraph 1. The pecuniary penalties shall be imposed by the Minister of Environment, Energy and Climate Change, but in case of marine pollution the above mentioned penalties shall be imposed by decisions of the competent port authorities, in accordance with the relevant legislation on the protection of the marine environment.

Last but not least, when the concession agreement expires, the operator shall plug appropriately all producing wells and known water zones, remove all installations and restore the environment, pursuant to article 10 par.2

Overall, this law stipulates quite a few environmental provisions concerning the prevention and reduction of pollution resulting from hydrocarbons activities, the sustainable development. There is no direct liability stipulated but others sanctions like the suspension of the contractual rights which a really powerful tool of pressure towards the contractor. Administrative sanctions and the article 914 may also be implemented if its conditions are fulfilled.

2.8 The Greek lease agreements (Laws 4298, 4299, 4300/2014)

The Greek state has signed 3 lease agreements in May 2014 regarding hydrocarbon exploration and production in the areas of West Patraikos Gulf, Ioannina and Katakolo. They were ratified by the Greek parliament via laws 4298, 4299, 3000/2014 which prevail over the general hydrocarbons legislation, due to their specific legal nature. These three

lease agreements are almost identical therefore the following apply to all of them. The lease contract sets many obligations of providence and care which aim at protecting, inter alia, private property. Therefore if they are violated, the article 914 GCC is founded.

To begin with, according to article 12, the lessee shall conduct all petroleum operations in a manners which will assure the protection of the environment in accordance with good oilfield practices and shall carry out all operations in full compliance with the environmental laws, the approved *strategic environmental assessment*, the terms of environment resulting from the relevant *environmental impact assessment procedure* and any additional environmental action plan, while ensuring that such operations are properly monitored. They shall also employ modern and appropriate techniques in accordance with good oilfield practices for preventing any environmental damage and minimizing the environmental impact within the contract area and in adjoining or neighboring or more distant areas. Moreover, they shall procure that the documentation on environmental compliance in conducting petroleum operations are made available to the employees and to the contractors and subcontractors to develop adequate and proper awareness of the measures and methods of environmental protection to be used in conducting petroleum operations. Finally, they shall ensure that any agreement between the Lessee and the contractors and subcontractors shall include the terms as set out in article 12 and any established measures and methods for the implementation of the obligations in relation to the environment.

What is more, under paragraph 3 the Lessee undertakes to take all necessary and adequate steps to fully and timely fulfill all requirements of applicable Environmental Laws and to prevent environmental damage to the Contract area and neighboring or more distant areas. Under paragraph 4, if any works or installation erected by the Lessee are causing pollution or harming the wildlife or the environment to a degree which the Lessor deems unacceptable, the Lessee may take remedial measures within such period as may be determined by the Lessor and may repair any damage to the environment, the costs of such remedial action to be borne by the Lessee. If the Lessor deems it necessary, it may require the Lessee to discontinue Petroleum Operations in whole or in part until the Lessee has taken such remedial measures or has repaired any damage.

Additionally, under paragraph 5, the measures and methods to be applied by the Lessee shall be determined in timely consultation and agreed with the Lessor prior to the commencement of the relevant Petroleum Operations and the Lessee shall take into account Good Oilfield Practices as well as the relevant requirement of the ToE. Furthermore, under paragraph 6 the Lessee shall prepare and submit to the competent governmental authority an *Environmental Impact Study* for the relevant Petroleum Operations in respect of which an *Environmental Impact Assessment* procedure is required. The EIS shall as a minimum fully comply with the requirements of the EIA legislation in force, meet the requirements and guidelines set out by SEA and be prepared by a third party with adequate expertise in the field of environmental studies, which will be appointed by the Lessee to work on its behalf. In addition, under paragraph 7, each project, work, activity or other part of the Petroleum Operations that is subject to an EIA shall commence only after the ToE have been approved. Moreover, under paragraph 8 the time extension of the ToE decision or any modification, expansion, improvement or modernization of a project, work, activity or any other part of the Petroleum Operations with approved ToE, requires compliance with the relevant provisions of EIA legislation.

Next, under paragraph 9, in case of activities for which an EIA is not mandatory but nevertheless it is reasonably expected that some minor environmental impacts may occur - as in particular for the case of seismic surveys- the Lessee shall prepare an EAP to determine, assess and mitigate these impacts, focusing on prevention and minimization thereof in accordance with Good Oilfield Practices.

Furthermore, under, paragraph 10 the EAP shall be submitted to the Lessor for review and must be complied with by the Lessee. Additionally, the Lessee shall include in each Annual Work Programme and Budget to be submitted to the Lessor, an environmental report on the work to be undertaken as provided in that document, as well as on the work undertaken in accordance with the preceding Annual Work Programme and Budget. Next, under paragraph 12 the Lessee shall fully meet the requirement of the applicable legislation for safety, contingency –oil spill, fire, accident, emissions and major hazard management plans before carrying out any drilling activities. Furthermore, under paragraph 13 in the event of any emergency or accident arising from Petroleum Operations affecting the environment the Lessee shall immediately notify the Lessor, giving details of the incident and

immediately implement the relevant contingency plan. In dealing with any emergency or accident affecting the environment, the Lessee shall at all times take such actions as is prudent and necessary in accordance with the Environmental Laws and Good Oilfield Practices in the circumstances. Moreover, the lessee shall not be liable for any environmental condition or damage existing in the contracts area prior to the commencement of the Lessee at all times take such action as is prudent and necessary in accordance with the Environmental Laws and Good Oilfield Practices in the circumstances. Moreover, according to paragraph 14 the Lessee shall not be liable for any environmental condition or damage existing in the contract area prior to the commencement of the Lessee at all times take such action as is prudent and necessary in accordance with the Environmental Laws and Good Oil such pre-existing condition of damage. For this purpose a baseline report shall be prepared by the Lessee to detail the condition of the environmental parameters and resources at the time prior to operation commencement. The baseline report shall be submitted for review to the Lessor. If no objections will rise by the latter within 20 Business days the report is deemed accepted.

In addition under article 3 paragraph 10, in respect of the 6 Lessee shall within six months from the date of termination of any phase of the exploration stage remove the installations used, plug and abandon all wells in accordance with practices customary in the international petroleum industry and restore the environment, as nearly as possible to its original condition.

Moreover, under article 6 paragraph 3 prior to surrender or relinquishment of the contract area or any part of it , the Lessee shall take action necessary to prevent hazards to the environment and in accordance with practices customary in the international petroleum industry, perform any necessary clean-up activities including removal of any facilities and equipment installed by the Lessee, in order to restore such area as nearly as possible to the original condition that existed on the effective date.

Next, under article 7 paragraph 7 at or before the time that the Development and Production Programme is submitted to the Lessor, the Lessee, if requested by the Lessor and in addition to the EIS make available to the Lessor an environmental impact study prepared by a third party with expertise in the field of international environmental studies, for the

purpose of assessing the effects of the proposed development on the environment, including its effect on human beings, wildlife and marine life in and around the exploitation area.

What is more, under article 8 paragraph 4 unless the Lessor states otherwise not later than six months prior to the expiration of the exploitation stage, the lessee shall in accordance with good oilfield practices and environmental law be obliged to plug all producing wells and known water zones, remove all installations and restore the environment in accordance with the proposals set out in the Development and Production Programme, the EIS and any further environmental impact study.

Finally, under article 21 if the Lessor considers that the Lessee is in default of any of the obligations, they may give written notice of default to the Lessee within a time limit of six months from the date on which it has taken cognizance of such default and it shall invite the Lessee to remedy the alleged breach and to keep the Lessor harmless from any loss or damage caused thereby. If the Lessee fails to comply with such notice, or if no amicable settlement is reached between the Parties within 90 days from the date of service of such notice, the Lessor may terminate the Agreement by further notice. In addition, under article 25 paragraph 2 the employment of contractors and sub-contractors doesn't hinder the Lessee from taking all necessary and property measures for the protection of environment, if there is an emergency.

Summing up, the law abounds in environmental provision. There is a plethora of relevant provision regulating environmental protection, good practices, environmental impact assessment, documentation of environmental compliance, remedial measures and decommissioning. It practically covers the whole cycle of the activities. If the above provisions are infringed, then the article 914 may be fulfilled. Last but not least, the Lessor may give written notice of default to the Lessee within six months and it shall invite the Lessee to remedy the breach. If the latter fails to comply and no amicable settlement is reached within 90 days, then the Lessor may terminate the agreement. This is a very strict provision empowering the State. It serves the preventive principle and serves the public interest efficiently.

2.9 Directive 2011/92 (Law 4014/2011) the Environmental Impact Assessment Directive

The current codified version of the Directive 85/337 that regulated the environmental impact assessment is the Directive 2011/92. The provisions have not changed substantially.¹⁴³ A statutory environmental impact study is an assessment of the environmental impact conducted ahead of the beginning of significant projects like hydrocarbon exploration and production. It is often a prerequisite in order to obtain the license. The assessment shall include the possible adverse effects and address the regional environmental constraints.¹⁴⁴ Specifically, the candidate developer researches the environmental impact of the project and informs the environmental authorities and the public about it, while the competent authority decides, after considering the Environmental Impact Assessment and the results of the consultations. Afterwards the public is informed on the decision and can challenge it before the courts.

To begin with, article 1 of the Directive, stipulates the assessment of the environmental effects of public and private projects which are likely to have significant effects on the environment. Project is the execution of construction works or of other installations or schemes or other interventions in the natural surroundings and landscape including those involving the extraction of mineral resources. Moreover, under article 2, member states shall adopt all measures in order to ensure that, for projects likely to have significant effects on the environment judging by their nature, size or location, a development consent and an impact assessment shall be conducted before the license is given. Next, under article 4, the projects are distributed in two categories; projects listed in Annex I are a priori subject to an impact assessment, while for those listed in Annex II, the state shall determine whether an assessment is needed for each project. In annex I the following hydrocarbon activities are stated: Crude-oil refineries (excluding undertakings manufacturing only lubricants from crude oil) and installations for the gasification and liquefaction of 500 tones or more of coal or bituminous shale per day and extraction of petroleum and natural gas for commercial

¹⁴³ Hedermann-Robinson, *Enforcement of European Union Environmental Law- Legal Issues and Challenges* (p. 295).

¹⁴⁴ Bret-Rouzaut and Favennec, *Oil and gas exploration and production* (pp.282-283)

purposes where the amount extracted exceeds 500 tonnes/day in the case of petroleum and 500.000 cubic metres/day in the case of gas.

Moreover, under article 3 of the Directive, the environmental impact assessment shall identify, describe and assess sufficiently the direct and indirect impacts of a project on all the environmental elements. However, member states may exempt a specific project entirely or partially from the provisions, in which case they shall consider a potential other form of assessment. They shall also inform the public concerned about the reasons of the decision granting exemption and inform the Commission of the reasons justifying the exemption granted prior to granting consent.

Greece transposed the Directive via Law 4014/2011 which introduced a few innovations. Not only are the procedures simplified and streamlined, but also the time required for the issue of the relevant decisions is reduced compared to the previous legal regime, while mandatory periodic regular and special are adopted in order to ensure effective environmental protection. In particular, under the provisions of Law 4014/2011, the study should be complete for the supporting projects as well and splitting is prohibited so that the "salami slicing" is avoided.¹⁴⁵ Most significantly, there weren't any provisions in the legislative framework regarding monitoring and post-development inspection before the transposition of this directive in the Greek legal order.¹⁴⁶

First of all, under article 1 of the law, the projects that may have impact on the environment are divided into two major categories and three subcategories. The first category (A) includes projects and activities that are likely to cause significant environmental impacts and require a priori an Environmental Impact Assessment, which shall impose specific environmental protection conditions and restrictions on the specific work or activity in accordance with the procedure laid down in articles 2, 3 and 4. Class A projects and activities are further classified as those which are likely to cause very significant environmental effects and are sub-class A1 and those likely to have a significant impact on the environment and are sub-class A2. The entirety of hydrocarbon activities belongs to the

¹⁴⁵ Gerasimos Furlanos, 'Report on Greece: Impact Assessments - Preventive Measures against Significant Environmental Impacts in the 21st century', in *The European Union Forum of judges for the environment* <<https://www.eufje.org/images/docConf/bud2014/EL%20bud2014.pdf>> [accessed December 2017]¹⁴⁵

¹⁴⁶ Maria Lampridi, 'Environmental Impact Assessment', 2016 (p. 21)

5th group of “extraction activities” which is included in the A1 class.¹⁴⁷ The second category (B) includes projects and activities which are characterized by local and non-significant environmental impacts only and are subject to general specifications, conditions and restrictions laid down for the protection of the environment in accordance with the procedure laid down in article 8.

In addition, under article 2 of the law an Environmental Impact Assessment and the *Decision on Approval* of the environmental conditions are required for the implementation of new Class A projects or activities or the relocation of already existing ones. What is more, conditions, limitations and any necessary remedial or preventive measures are often imposed via the *Decision on Approval* according to par. 7. The conditions aim in avoiding or minimizing the impacts or restoring the environment. During the licensing process and before the decision, anyone who has an interest and a vested interest for the project has access to the entire project file and interested parties have the opportunity to submit information request.¹⁴⁸ Finally, if the court diagnoses a violation, it may cancel the project, either in whole or partially.

Greece however has not yet adapted its national legislation to the latest amendments introduced by Directive 2014/52. This Directive aims to ensure that all projects which are likely to have a substantial impact on the environment are sufficiently assessed before the permit. The Court of Justice of the European Union (CJEU) though has confirmed that private persons may rely upon such provisions in EU directives before national courts in order to ensure that the exercise of discretion by public authorities has not been exceeded. What is more, the court’s jurisprudence has also confirmed that national courts are obliged under article 4 of the Treaty of EU to construe national legislation in line with EU

¹⁴⁷ 'Environmental Licensing', in *Ministry of Environment and Energy*

<<http://www.ypeka.gr/Default.aspx?tabid=804&language=el-GR>> [accessed January 2018]

¹⁴⁸ Gerasimos Fourlanos, 'Report on Greece: Impact Assessments - Preventive Measures against Significant Environmental Impacts in the 21st century', in *The European Union Forum of judges for the environment* <<https://www.eufje.org/images/docConf/bud2014/EL%20bud2014.pdf>> [accessed December 2017]

directives insofar as this is possible to achieve under national law (the so-called *indirect effect doctrine*).¹⁴⁹

In conclusion, the EIA Directive is a great implementation of the precautionary principle and it is vital in order to internalize potential future costs. However due to the complex nature of hydrocarbon activities, their variety and impact on environment, it is difficult to minimise to a great extent the chances of failure of the plans, because they are affected by a large number of factors, many of which are extremely difficult to control and assess. This is a weakness that lies in the nature of this industry. Therefore, the EIA is absolutely vital and the Greek legal regime is very strict, but extra care should be taken regarding the conditions of the Decision on Approval published.

¹⁴⁹ Hedermann-Robinson, *Enforcement of European Union Environmental Law- Legal Issues and Challenges* (p. 317).

3. Marine pollution

3.1 Law 743/1977 on the Protection of the Marine Environment

Law 743/1977 was amended and codified by Presidential Decree 55/1998. This legislation provides criminal, civil and administrative penalties for the protection of the marine environment from pollution stemming from facilities on ports, coasts and ships and tanker in the territorial sea or offshore vessels and tankers, with Greek or foreign flag, but also from any other source of pollution. Hence it adopts the territorial principle of public international law.¹⁵⁰

First of all, under article 1 a few definitions are given. Specifically, facilities include oil refineries and companies of storage, transporting and marketing of petroleum products, while reception facilities are all types of land or floating installations, intended or used for the receipt and further disposal of residues and mixtures of petroleum products by ships and tankers are included. Additionally, oil is any type of oil, crude petroleum, gas oil, solid petroleum residue, petroleum refuse and distillation products, as well as any other type which, irrespective of its composition, is specifically characterized by the Convention as oil, while mineral oil mixture is any mixture containing petroleum as this is defined by the present or by the Convention. Due to the broad definitions, the offshore hydrocarbon installations are within the scope of the provision, despite the fact that they are not expressly stated.¹⁵¹

Moreover, according to article 12, the person who caused with fault the pollution shall restore the damage caused by pollution and bear the costs incurred for deterrence or neutralization of the pollution. Therefore the liability is fault-based. The claimant who incurred damage to their private rights shall invoke and provide evidence of the damage and the extent of it.¹⁵² Moreover, for ships and tankers the master, the owner, the ship manager, the ship operator and in case of Sociétés Anonymes the President, the Board of Directors and its Chief Executive Officer are cumulatively liable, while for installations, the

¹⁵⁰ Chasapis and Kosmides, *Civil Liability in the case of the production of Hydrocarbons and other related activities*, ed. by Farantouris and Kosmides (p. 438).

¹⁵¹ *Idem* (p. 439).

¹⁵² *Idem* (p. 441).

owner, the operator, and in case of company the Chairman or the Managing Director, as well as anyone who represents the unit that pollutes are cumulatively liable. In this case the liability is strict, specifically it is risk liability. The purpose of the provision is basically the restoration of the damage, but it is also preventive. The ratio is that these persons own significant sources risky for pollution of the marine environment and have a financial benefit from the use of these sources; hence they shall also bear the costs for the potential pollution coming from these sources.¹⁵³ Additionally, they are in the best position among others to control and prevent the risk.¹⁵⁴ Beneficiary of the compensation is any natural or legal person (for example marine depollution operators, municipalities and the State) who, as a result of maritime oil pollution, have suffered damage to their goods unlawfully, or have incurred costs of preventing or counteracting pollution

Furthermore, the law stipulates penal penalties as well. We should note that in order to criminalize maritime pollution it should be to serious extent, because the penal sanctions are the so-called *ultima ratio*, namely it is the last resort. According to Greek supreme Court's "Areios Pagos" jurisprudence, serious pollution is the deterioration to a great extent of seawater with polluting substances, which makes it very harmful either to the human health or to the flora and the fauna of the seabed. Specifically, under article 13, offenders that cause serious pollution with intent shall be punished with imprisonment of at least 3 months up to 5 years. Taking into account the definition of pollution in article 1, we conclude that it is a "crime by damage" in the Greek penal law categorization, because a grave form of pollution is required to occur in order to fulfill the material element of the offence.¹⁵⁵ What is more, offenders that cause pollution with intent which endangers property or human health shall be punished with imprisonment of at least 1 year. If the act is committed by negligence, the law provides imprisonment of at least 10 days up to a maximum of 5 years. However, the offender may be exempted from any penalty if they, on their own initiative, neutralize pollution and prevent any damage that may occur or aims by due notification to the authorities on the elimination of pollution, while offering full reimbursement of the

¹⁵³ Karakostas, *Environment and Law* (p. 418).

¹⁵⁴ Chasapis and Kosmides, *Civil Liability in the case of the production of Hydrocarbons and other related activities*, ed. by Farantouris and Kosmides (p. 440).

¹⁵⁵ Karakostas, *Greek & European Environmental Law*, (p. 106).

expenses. On the contrary, article 28 of Law 1650/1986 doesn't stipulate grounds of impunity; the judge has the discretion though to award a reduced penalty.¹⁵⁶

Lastly, under article 32 of law 1650/1986 the relationship between the two laws is regulated, specifically it stipulates that the provisions of law 743/1977 remain in force. We should note that law 743/1977 is nonetheless *lex specialis* and its scope includes only marine pollution while law 1650/1986 is subsequent and general, therefore the latter will apply only to cases that are not covered by the former.¹⁵⁷ It also does not prevail over law 314/1976 (CLC) or other International Conventions, which however have a narrower scope. As a result this law is mostly applied in cases of pollution in the territorial sea or when there are installations involved that are not considered ships according to international conventions.¹⁵⁸

On the whole, the law 743/1977 stipulates risk liability for persons who manage, represent, operate ships or platforms, and fault-based liability for the rest. This is reasonable according to deep-pocket argument. The purpose of the law is basically the restoration of the damage, but it is also preventive. What is more the offender may be exempted from any penalty if they, on their own initiative, neutralize pollution and prevent any damage that may occur or aims by due notification to the authorities on the elimination of pollution, while offering full reimbursement of the expenses. This aligns the motives of the offender with the preventive principle.

3.2 Directive 2013/30 (Law 4409/2016) the Safety Directive

The Directive 2013/30 is very significant because it concerns the environmentally safe practices of hydrocarbons exploration and production. Specifically, the Directive establishes minimum requirements for preventing major accidents in offshore oil and gas operations and aims at limiting the environmental pollution caused by such accidents by

¹⁵⁶ *Idem* (p. 107).

¹⁵⁷ *Ibid.*

¹⁵⁸ Chasapis and Kosmides, *Civil Liability in the case of the production of Hydrocarbons and other related activities*, ed. by Farantouris and Kosmides (p. 442).

adopting a holistic approach.¹⁵⁹ It covers any major environmental incident and requires that all suitable measures are taken to prevent them. As stated in preamble, it is based on *the polluter pays* and the *precautionary principle*, which means that preventive action needs to be taken and that environmental damage needs as a matter of priority to be rectified at source. The legal framework concerning the prevention of marine pollution was fragmented before this Directive. It establishes common licensing provisions among the EU member-states in order to prevent accidents and ensure safety and good standards in regulatory practices and will be fully implemented on July 2018.

Moreover, it establishes prerequisites for safe offshore oil and gas operations in order to cut down on the number of major accidents and to control the impact and after-effects if any occur. It also requires response plans from operators, the licensee and the Department of Labour Inspection that cover not only the operation installation and site, but also any connected infrastructure and a safety zone possibly affected. Only the licensees can conduct exploration and exploitation of the hydrocarbons and of course under the provisions stated¹⁶⁰. The civil liability remains intact no matter if the operation is carried out by, or on behalf of, the licensee or the operator¹⁶¹.

Additionally, according to article 2 *major accident* is an incident involving an explosion, fire, loss of well control, or release of oil, gas or dangerous substances involving, or with a significant potential to cause, fatalities or serious personal injury or an incident leading to serious damage to the installation or connected infrastructure involving, or with a significant potential to cause, fatalities or serious personal injury or any other incident leading to fatalities or serious injury to five or more persons who are on the offshore installation or are engaged in an operation in connection with the installation or connected infrastructure or any major environmental incident resulting from the aforementioned incidents. Moreover, *offshore* means situated in the territorial sea, the Exclusive Economic

¹⁵⁹ Chasapis, 'Environmental liability and protection in hydrocarbons' exploitation and other linked activities', in *Law of Hydrocarbons*, ed. by Farantouris and Kosmides (p. 534).

¹⁶⁰ Elisavet Mpatsara, 'The rights of a coastal state to prevent and control pollution in the areas of national jurisdiction', in *Law of hydrocarbons*, ed. by Nikolaos Farantouris and Timoleon Kosmides (Athens: Nomiki Vivliothiki, 2015).

¹⁶¹ Kritikos, 'EU safety rules for offshore exploration and exploitation activities of oil and natural gas: new regulatory challenges in uncharted waters', in *Law of Hydrocarbons*, ed. by Farantouris and Kosmides (p.88)

Zone or the continental shelf, while *installation* is a stationary, fixed or mobile facility, or a combination of facilities permanently inter-connected, or mobile offshore drilling units when they are stationed in offshore waters for drilling, production or other associated activities. Consequently, it becomes apparent that the scope is very broad.¹⁶²

According to article 3, the operators are required to ensure that all suitable measures are taken to prevent major accidents and in case of such an accident, they shall limit its consequences for human health and for the environment. What is more, they are not relieved of their duties in case the operations were carried out by contractors. Additionally, they shall use systematic risk management so that the residual risks are acceptable.

Furthermore, under article 4 decisions on granting or transferring licences shall take into account the capability of an applicant to meet the associated requirements and specifically assess the technical and financial capability regarding the risk, the hazards, information relating to the licensed area concerned, including, where appropriate, the cost of degradation of the marine environment, the particular stage of operations, the applicant's financial capabilities including any financial security to cover liabilities and the safety and environmental performance of the applicant. Special attention shall be paid to any environmentally sensitive marine and coastal environments. Most significantly, the licensee shall be required to maintain sufficient capacity to meet their financial obligations resulting from liabilities. The licensing authority or the licensee shall appoint the operator, in which case the licensing authority shall be notified in advance and it may object to the appointment of the operator and require the licensee to appoint a suitable alternative operator or assume the responsibilities of the operator. Thus, an independent national competent authority shall inspect the capacity of a candidate for such a licence to satisfy the preconditions, namely to cover the damages of degradation of the marine environment and insuring liabilities overall for the prevention and depollution of environmental degradation. Hence the member states have a plethora of significant responsibilities.¹⁶³ In Greece, the Hellenic Hydrocarbon Resources Management has been appointed through law 4409/2016

¹⁶² Chasapis, 'Environmental liability and protection in hydrocarbons' exploitation and other linked activities', in *Law of Hydrocarbons*, ed. by Farantouris and Kosmides (pp. 534-35).

¹⁶³ Chasapis, 'Environmental liability and protection in hydrocarbons' exploitation and other linked activities', in *Law of Hydrocarbons*, ed. by Farantouris and Kosmides (p. 534).

as the competent authority for offshore safety in oil and gas operations. The responsibilities of HHRM are “assessing and accepting of Reports on Major Hazards, assessing design notifications and notifications of well operations or notifications of combined operations, overseeing compliance by operators and owners of the Greek Offshore Safety Law, including inspections, investigation and enforcement actions”.¹⁶⁴

What is more, according to article 6, operations or combined operations shall not be commenced or continued until the *report on major hazards* has been accepted by the competent authority and until a notification of well operations or a notification of combined operations has been submitted to the competent authority, unless the competent authority expresses objections to the content of a notification. Hence a *major hazard report* and a *contingency plan* is a prerequisite before exploration or production.

Moreover, the directive dictates public participation, as hydrocarbons raise many ethical questions. According to article 7, Member States shall ensure that the licensee is financially liable for the prevention and remediation of environmental damage, without prejudice to the existing scope of liability pursuant to Directive 2004/35/EC –which stipulates the environmental liability of the operator. Obviously the environment is treated as a solely public good, while the provision could additionally stipulate civil liability of the operator towards private persons that incurred damage resulting from offshore exploration and production activities.¹⁶⁵ Next, under article 14, member states shall ensure that the licensee has submitted an *internal emergency response plan* and has a concrete corporate *major accident prevention policy*. Likewise the states should provide themselves an *external emergency response plan* after taking account of the aforementioned plan and the special characteristics of the region. According to article 14, operators shall also submit to their competent authority specialized internal emergency response plans based on the *report on major hazards* for each project and the environmental characteristics of the region. Finally, the *internal emergency response plan* shall be evaluated and regularly tested by the operators.

¹⁶⁴ 'Safety of Offshore Oil and Gas Operations', in *Hellenic Hydrocarbon Resources Management* <<http://www.greekhydrocarbons.gr/index.php/offshoresafety>> [accessed January 2018]

¹⁶⁵ Chasapis and Kosmides, *Civil Liability in the case of the production of Hydrocarbons and other related activities*, ed. by Farantouris and Kosmides (p. 534).

Moreover, under article 24 member states shall make the information referred to in Annex IX publicly available. The Commission shall by means of an implementing act determine a common publication format that enables easy cross-border comparison of data which shall allow for a reliable comparison of national practices. The information to be shared by the competent authority and operators and owners shall include information relating to unintended release of oil, gas or other hazardous substances, loss of well or failure of a well barrier failure of a safety and environmental critical element, significant loss of structural integrity, or loss of protection against the effects of fire or explosion, or loss of station keeping in relation to a mobile installation, vessels on collision course and actual vessel collisions with an offshore installation, helicopter accidents, on or near offshore installations, any fatal accident, any serious injuries to 5 or more persons in the same accident, any evacuation of personnel and a major environmental incident.

Concerning national authorities, they shall ensure that operators and owners test their readiness to deal with major accidents, in close cooperation with them at least annually. Moreover, they shall maintain records of equipment and services available for response to emergency situations, together with arrangements for maintenance of the equipment and for review and updating of operating procedures, under article 29. What is more, national authorities shall inform the European Commission on emergency response plans to other member states that may be affected and to the public, pursuant to article 31.

Concluding, this Directive defines in advance the liable person and aims at preventing major-scale accidents and oil spills arising from the operations of offshore oil and gas installations, the creation of minimum conditions for the safe offshore exploration and production of oil and natural gas. It also improves the response capacity in case of an accident and introducing restorative measures to limit and control the impact. This pre-eminent legislative initiative promotes transparency because it enhances public confidence in the power and integrity of offshore exploration and production activities through their periodical publication of relevant information. The common publication format promotes transparency and the comparison of data across E.U. concerning the environmental performance of the operators, which will demonstrate the efficiency of the measures and inspections promote the use of best practices. The operators are also able to warn in time for possible deterioration of environmentally critical barriers. The collection of data, the

exchange of best practices, the co-ordination of remediation resources are very positive points.

For the most part, the Directive marks a decisive step towards the creation of a thorough supranational legislative framework for the environmental regulation of offshore hydrocarbons exploration and production. It stipulates concrete provisions regarding the prevention of major environmental accidents by licensing only the persons that have the technical and financial capability and ensuring that the aforementioned remain throughout the whole course of hydrocarbon activities, from the exploration stage to the decommissioning. Another important innovation is that all safety studies become live and evolving documents as they will need to be reviewed every five years. The directive creates a new area of competence for European Union, as the Member States were absolutely free to set their own conditions for the issue of the relevant licenses. Under the new rules, offshore hydrocarbon activities remain under the responsibility of the Member States, but Member States shall require specific information from companies wishing to drill in their waters.

On the other hand, the communitisation, supra-nationalization of the regulations is not accompanied by the parallel existence of a body of specific legal expertise and technical know-how at EU level. Some other drawbacks are that it doesn't stipulate compensation to private persons like fisheries and tour operators and the placement of moratorium in areas of particular environmental value. However it is the most important legislative text regarding the offshore sector. The reasoning of the Directive reflects the ability of the E.U. law to incorporate the best practices, economic tools and consistent risk assessment methodologies in a way that promotes their applicability and translates them into key interpretative tools and key parameters of the licensing process and inspecting. It manages to go beyond traditional national or corporate practices and it sets the basis for a more pragmatic view of the law in technical fields where the viability of the environment is at state.

3.3 Directive 2005/35 (Law 4037/2012) Ship-source pollution

Law 4037/2012 transposed the provisions of Directive 2005/35 on ship-source pollution offences committed by natural or legal persons into the national legal order. The definitions

of discharges of polluting substances from ships are based upon the Marpol 73/78 Convention. Hence, according to annex I of Marpol 73/78, oil includes petroleum in any form including crude oil, fuel oil, sludge, oil refuse and refined products (other than petrochemicals which are subject to the provisions of Marpol 73/78 Annex II) and oily mixture is a mixture with any oil content.

The Directive doesn't make a distinction between the operational and accidental discharges. As a result, any accidental pollution discharge must be sanctioned when any of the operators in the shipping chain "acted with intent or recklessly or with serious negligence". The "serious negligence" was strongly opposed by the shipping industry because it was purely subjective and not well defined.¹⁶⁶ What is more, it establishes extensive liability by imposing sanctions on any party responsible for pollution infringements. This may include not only the master and the owner, but also the manager, the charterer, the classification societies, etc. Most significantly, it tackles discharges in all sea areas including internal waters, the territorial sea, the exclusive economic zone of any EU member state and the high seas. Hence, it may be enforced on all ships calling EU ports irrespective of their flags. There is an exception under article 4; the pollution is not considered an infringement if it was necessary for the purpose of securing the safety of the ship or saving life at sea, or when it is being done with the approval of the administration. Moreover, for the above areas, except internal and territorial seas, pollution is also not considered an infringement if it was caused due to damage to the ship and all reasonable precautions have been taken in order to prevent or minimise the discharge, and under the condition that the owner or Master did not act with intent or recklessly and with knowledge.

The law provides a strict and detailed system of criminal sanctions to be imposed against violators. Specifically, violators causing serious pollution with intent shall be punished with imprisonment of at least one year (up to a maximum of 5 years) and a fine of between 1.500 euro and 50.000 euro. Violators causing serious pollution with intent, which endangers property or human health, shall be punished with imprisonment of between five and ten years and a fine of between 3.000 euro and 300.000 euro. If the act is committed by negligence, the new law provides that imprisonment of at least three months (up to a

¹⁶⁶ Hui Wang, 'Civil Liability for Marine Oil Pollution Damage', 2010 (p. 41)

maximum of 5 years) and a fine of between 200 euro and 3.000 euro may be imposed. These penalties are imposed reduced in any other person -such as directors, DPA, the charterers, cargo owners - who have contributed in the pollution.

Additionally, administrative sanctions of up to 60.000 euro may be imposed, while in case of a serious incident the fine is 60.000 euro to 1.200.000 euro. The authorities shall prohibit the sailing of the ship until the payment of the fine or the submission of a guarantee letter from a bank. Furthermore, legal persons may face a fine of up to 500.000 euro for the aforementioned offences if they are committed for their benefit by any person who controls, represents or takes decisions for the legal entity or is controlled by the legal person.

In conclusion, the criminal sanctions provided in Law 4037/2012 are effective, proportionate and dissuasive as they combine imprisonment sentences and monetary sanctions, which are imposed together with administrative sanctions not only to crew members but also to any other person that has contributed to the pollution thereby increasing criminalisation of the shipping industry. However, if the offender minimises significantly the pollution or contributes to that by promptly notifying the authorities, the above penalties may be reduced or even dismissed altogether. This is a proper alignment of motives. It is also very important that the platforms fall within the scope of the law.. A weakness is that pollution caused by simple negligence are not punishable under Law 4037/2012 but in general it provides a very satisfactory protection.

3.4 Directive 2008/98 (Law 4042/2012) Waste Framework Directive

Directive 2008/98/EC was transposed in the Greek legal order through Law 4042/2012. The EU Waste Framework Directive provides the legislative framework for the collection, transport, recovery and disposal of waste, and sets a common definition of waste. The directive requires all member states to take the necessary measures to ensure waste is recovered or disposed without causing harm to the environment and includes permitting, registration and inspection requirements. What is more, it stipulates measures to protect the environment by preventing or reducing the adverse impacts of waste and by reducing overall impacts of resource use and improving the efficiency of such use. Waste producers or other waste holders who carry out the treatment of waste themselves or have the

treatment handled are liable for waste management. When the waste is transferred from the original producer or holder to other persons or legal entities for preliminary treatment, the responsibility for carrying out a complete recovery or disposal operation shall not be discharged according to article 24, because any person who professionally develops, manufactures, processes, treats, sells or imports products has extended producer responsibility as far as the waste generated. The conditions required are a) pollution from waste, b) waste management cost (damage) and c) causality.¹⁶⁷ Therefore, it is *risk liability* because neither fault nor illegality is required.¹⁶⁸ The positive loss, namely the expenses for the restoration of the environment is compensated, and the restoration is basically pecuniary, while it may also be physical (*in natura*).¹⁶⁹

Firstly, according to article 11 of the law, waste is any substance or object which the holder discards or intends or is required to discard, while hazardous waste is waste which displays one or more of the hazardous properties listed in Annex III and waste oils are any mineral or synthetic lubrication or industrial oils which have become unfit for the use for which they were originally intended, such as used combustion engine oils and gearbox oils, lubricating oils, oils for turbines and hydraulic oils. However, article 10 par. 2 excludes waste resulting from prospecting, extraction, treatment and storage of mineral resources and the working of quarries covered by Directive 2006/21/EC transposed in the Greek legal order. But this directive excludes firstly, waste which is generated by the prospecting, extraction and treatment of mineral resources, which does not directly result from those operations and secondly waste resulting from the offshore prospecting, extraction and treatment of mineral resources. As a result the aforementioned hydrocarbon activities fall within the spectrum of law 4042/2012. Therefore, oil or liquefied gas spills fall within the

¹⁶⁷ Chasapis and Kosmides, *Civil Liability in the case of the production of Hydrocarbons and other related activities*, ed. by Farantouris and Kosmides (p. 453).

¹⁶⁸ *Idem* (p. 454).

¹⁶⁹ Chasapis and Kosmides, *Civil Liability in the case of the production of Hydrocarbons and other related activities*, ed. by Farantouris and Kosmides (p. 460).

spectrum of this directive.¹⁷⁰ On the contrary, onshore operations do not fall within this law. Instead, the Directive 2004/35 and the presidential decree 148/2009 are applied.¹⁷¹

Moreover, according to article 15 of the law, which places emphasis on *the polluter pays* principle, the costs of waste management shall be borne by the original waste producer or by the current or previous waste holder.¹⁷² As it becomes obvious, the prevention of environmental pollution from waste is the main goal of the law.¹⁷³ Additionally, under article 24 which stipulates liability for waste management, the restorative purpose of the law becomes apparent as it stipulates specifically that the original waste producer or other holder carries out the treatment of waste themselves or shall have the treatment handled by a dealer or an establishment or undertaking which carries out waste treatment operations or arranged by a private or public waste collector. Otherwise, these persons shall reimburse the person that accomplished the aforementioned tasks.¹⁷⁴

Finally, this law consolidates and modernizes the management of all waste streams, clarifying some important concepts and provisions, such as the definition and declassification of waste and puts clearer requirements for the entire waste management cycle, with the aim of encouraging production prevention and preparation for waste re-use, the significant impetus for recycling and in general the recovery of waste, the logic of promoting the cyclical economy and the more efficient management of resources.¹⁷⁵ Most importantly, this law doesn't contradict other liability provisions for a single claim, while

¹⁷⁰ Kritikos, 'EU safety rules for offshore exploration and exploitation activities of oil and natural gas: new regulatory challenges in uncharted waters', in *Law of Hydrocarbons*, ed. by Farantouris and Kosmides (pp. 452-53).

¹⁷¹ Chasapis and Kosmides, *Civil Liability in the case of the production of Hydrocarbons and other related activities*, ed. by Farantouris and Kosmides (p. 492).

¹⁷² 'Waste Management', in *Ministry of environment and energy*
<<http://www.ypeka.gr/Default.aspx?tabid=238&language=el-GR>> [accessed January 2018]

¹⁷³ Chasapis and Kosmides, *Civil Liability in the case of the production of Hydrocarbons and other related activities*, ed. by Farantouris and Kosmides (pp. 450-51).

¹⁷⁴ Idem(p. 453).

¹⁷⁵ 'Waste Management', in *Ministry of environment and energy*
<<http://www.ypeka.gr/Default.aspx?tabid=238&language=el-GR>> [accessed January 2018]

international conventions ratified do not impede the application of the article 15, unless EU is a contracting party.¹⁷⁶

This law is a pure implementation of the *preventive principle* and the principle *the polluter pays* as the article 15 has clearly not only a preventive but also a restorative purpose, because it stipulates liability to compensate for waste pollution. A major drawback however is the fact that it doesn't cover waste which is generated by the prospecting, extraction and treatment of mineral resources, which directly results from those operations.

3.5 International Convention on Civil Liability for Oil Pollution Damage “CLC” (Law 314/1976) & FUND Convention (Law 1638/1986)

The International Convention on Civil Liability for Oil Pollution Damage (CLC) was adopted on 1969 and was later replaced by the 1992 Protocol and further amended by other Protocols. Clearly, its purpose is to define the civil liability after an oil pollution incident originating from an oil-carrying vessel (oil in bulk as cargo).¹⁷⁷ Nevertheless, the convention does not apply to warships or other non-commercial service vessels owned or operated by a state, but it, however, applies to ships owned by a state used for commercial purposes, as long as the vessels carry a certificate stating that the ship's liability under the Convention is covered.¹⁷⁸ The Protocol also extended the Convention to cover spills from sea-going vessels constructed or adapted to carry oil in bulk as cargo so that it applies tankers, including spills of bunker oil from such ships.¹⁷⁹ In addition, the Convention covers preventive measures in general and pollution damage in the territorial sea and the

¹⁷⁶ Chasapis and Kosmides, *Civil Liability in the case of the production of Hydrocarbons and other related activities*, ed. by Farantouris and Kosmides (p. 462).

¹⁷⁷ Idem. (p. 464).

¹⁷⁸ 'International Convention on Civil Liability for Oil Pollution Damage (CLC)', in *International Maritime Organization* <[http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-on-Civil-Liability-for-Oil-Pollution-Damage-\(CLC\).aspx](http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-on-Civil-Liability-for-Oil-Pollution-Damage-(CLC).aspx)> [accessed January 2018]

¹⁷⁹ Athanasopoulou, 'Marine pollution from floating oil and natural gas drilling platforms', in *Law of Hydrocarbons*, ed. by Farantouris and Kosmides

Exclusive economic zone¹⁸⁰ of the contracting state.¹⁸¹ The liability is strict but there is a maximum limit according to the tonnage of the ship, except for the case that the incident occurred as a result of the owner's personal fault.¹⁸² In the latter case, the liability is unlimited. The Protocol covers pollution damage as before but environmental damage compensation is limited to costs incurred for reasonable measures to reinstate the contaminated environment.¹⁸³ It also reimburses expenses incurred for preventive measures even when no spill of oil occurs, if there was grave and imminent threat of pollution damage.¹⁸⁴

To begin with, according to this convention, the owner of the ship is liable to compensate as the person that is more easily identifiable. The liability is strict, which means that the owner doesn't need to be guilty of any actual fault "personal act or omission, committed with the intent to cause such damage, or recklessly and with knowledge that such damage would probably result".¹⁸⁵ Specifically it is risk liability, because unlawfulness is not required either. What is more, ships carrying more than 2.000 tons of oil in bulk shall maintain insurance or other financial security equivalent to the owner's total liability for one incident.¹⁸⁶ In this case the damaged party can pursue a claim against the insurance company directly.¹⁸⁷

The *Fund Convention*, which was signed in 1971 is supplementary to the 1992 CLC and establishes a two-tier regime for compensating victims when compensation under the 1992

¹⁸⁰ The 1992 protocol also widened the scope of the Convention

¹⁸¹ Chasapis and Kosmides, *Civil Liability in the case of the production of Hydrocarbons and other related activities*, ed. by Farantouris and Kosmides (p. 464).

¹⁸² Athanasopoulou, 'Marine pollution from floating oil and natural gas drilling platforms', in *Law of Hydrocarbons*, ed. by Farantouris and Kosmides (p. 223).

¹⁸³ 'International Convention on Civil Liability for Oil Pollution Damage (CLC)', in *International Maritime Organization* <[http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-on-Civil-Liability-for-Oil-Pollution-Damage-\(CLC\).aspx](http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-on-Civil-Liability-for-Oil-Pollution-Damage-(CLC).aspx)> [accessed January 2018]

¹⁸⁴ Ibid.

¹⁸⁵ Chasapis and Kosmides, *Civil Liability in the case of the production of Hydrocarbons and other related activities*, ed. by Farantouris and Kosmides (p. 470).

¹⁸⁶ 'International Convention on Civil Liability for Oil Pollution Damage (CLC)', in *International Maritime Organization* <[http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-on-Civil-Liability-for-Oil-Pollution-Damage-\(CLC\).aspx](http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-on-Civil-Liability-for-Oil-Pollution-Damage-(CLC).aspx)> [accessed January 2018]

¹⁸⁷ Athanasopoulou, 'Marine pollution from floating oil and natural gas drilling platforms', in *Law of Hydrocarbons*, ed. by Farantouris and Kosmides (p. 222).

CLC is not available or is inadequate.¹⁸⁸ The oil industries contribute to this fund, because they should bear the costs, not only the benefits of their operations.¹⁸⁹ Additionally, the 1992 Fund pays compensation when the damage exceeds the limit of the shipowner's liability under the CLC, or the shipowner is exempt from liability under the CLC, or the shipowner is financially incapable of meeting his obligations in full under the CLC and the insurance is insufficient to pay valid compensation claims.¹⁹⁰

What is more, under article III par.2 there are some exclusions from the liability if the pollution resulted from the act of war or natural phenomenon of exceptional, inevitable or irresistible nature (force majeure), or because a third party deliberately wanted to cause the damage to the ship, or because of negligence of government or other authority who failed to maintain the lights or other navigational aid.¹⁹¹

Moreover, the Convention covers pollution resulting only from oil carried in bulk as cargo. According to article I, oil is any persistent hydrocarbon mineral oil such as crude oil, fuel oil, heavy diesel oil and lubricating oil, whether carried on board a ship as cargo or in the bunkers, while pollution damage is loss or damage caused outside the ship by contamination resulting from the escape or discharge of oil from the ship, wherever such escape or discharge may occur, provided that compensation for impairment of the environment other than loss of profit from such impairment shall be limited to costs of reasonable measures of reinstatement actually undertaken or to be undertaken. The damage also includes the costs of preventive measures and further loss or damage caused by preventive measures. Consequently, it basically covers all types of oil and pollution.

Nevertheless, the definition of the ship has caused various disputes and thus it was amended with the Protocol. Still, it is doubtful if an offshore platform is considered ship because the ship at present is defined as “any sea-going vessel and seaborne craft of any

¹⁸⁸ 'The 1992 Fund Convention', in *The International Oil Pollution Compensation Funds* <<http://www.iopcfunds.org/about-us/legal-framework/1992-fund-convention-and-supplementary-fund-protocol/>> [accessed December 2017]

¹⁸⁹ Athanasopoulou, 'Marine pollution from floating oil and natural gas drilling platforms', in *Law of Hydrocarbons*, ed. by Farantouris and Kosmides (p. 222).

¹⁹⁰ Ibid.

¹⁹¹ Chasapis and Kosmides, *Civil Liability in the case of the production of Hydrocarbons and other related activities*, ed. by Farantouris and Kosmides Timoleon (p. 474).

type whatsoever constructed or adapted¹⁹² for the carriage of oil in bulk as cargo, provided that a ship capable of carrying oil and other cargoes shall be regarded as a ship only when it is actually carrying oil in bulk as cargo, unless it is proved that it has no residues of such carriage of oil in bulk aboard. Therefore, according to a view, it is presently not required to actually carry oil in bulk as cargo.¹⁹³ According to a view, the floating storage and offloading units, the floating production, storage and offloading units and the floating liquefied natural gas units shall be considered ships as defined by the CLC, only when they are disconnected from fixed exploration and production installations and they carry oil in cargo in order to transport it to ports –not for functional reasons.¹⁹⁴ Each incident shall be judged individually.

Regarding this matter, it is essential to look into the n.23/2006 ruling of the Greek Supreme Court “Areios Pagos” of the “*Slops*” case. The Greek supreme court ruled that a waste oil reception facility-ship under the name “Slops”, that was formerly a tanker and was anchored permanently with its engine deactivated, is considered ship under Article I(1) of the 1992 CLC and the FUND 1992. As a result, the Fund had the obligation to contribute compensation, over the registered owner’s limit of liability under the 1992 CLC.¹⁹⁵

For this reason, the International Oil Pollution Compensation (IOPC) Fund set up a working group to provide clarity and certainty for the definition of ship by publishing a guidance, which was formally published in 2016.¹⁹⁶ This guidance defined that the following are within the scope of the provision: “Offshore craft¹⁹⁷ that have their own independent motive power, steering equipment for seagoing navigation, and seafarer onboard so as to be employed either as storage units or carriage of oil in bulk as cargo and

¹⁹² In the 1969 Convention the definition was actually “carrying oil in bulk as cargo”

¹⁹³ Chasapis and Kosmides, *Civil Liability in the case of the production of Hydrocarbons and other related activities*, ed. by Farantouris and Kosmides (p. 466).

¹⁹⁴ *Idem* (p.467).

¹⁹⁵ *Idem* (p. 468).

¹⁹⁶ 'Guidance for Member States-Consideration of the definition of 'ship', 2016 edition', in *International Oil Pollution Funds*

<http://www.iopcfunds.org/uploads/tx_iopcpublishations/IOPC_definition_of_ship_ENGLISH_web.pdf> [accessed December 2017]

¹⁹⁷ According to the guidance, “offshore craft” would be considered a floating drilling production storage and offloading unit (FDPSO), floating production storage and offloading unit (FPSO), floating storage and offloading unit (FSO) or floating storage unit (FSU) whether purpose-built, or converted or adapted for the carriage of oil.

that have the element of carriage of oil and undertaking a voyage; and Craft that are originally constructed or adapted (or capable of being operated) as vessels for carriage of oil, but later converted to floating storage and offloading unit, with capacity to navigate at sea under their own power and steering retained and with seafarer onboard and that have the element of carriage of oil and undertaking a voyage.” According to this guidance the incident Slops may not be covered by the Convention, because the ship allegedly had the engine but some parts were missing¹⁹⁸; therefore it had neither its own independent motive power and steering nor the capacity to navigate at sea under its own power and steering.

On the contrary, the following are outside the scope: “Vessels or craft involved in: Exploration, for example, jack-up rigs or mobile offshore production units or the production or processing of oil, for example, drill-ships, floating drilling production storage and offloading units, and floating production storage and offloading units, including separation of water and gas, and its management”¹⁹⁹. As a consequence, according to the guidance, vessels and platforms involved in the exploration, production, or processing of oil are excluded from the definition of a “ship.” Accordingly, these vessels would have no liability, nor would they have the right to limitation under the 1992 CLC.

In the final analysis, the Convention probably need to be amended in order to state clearly, once and for all, if and under which conditions the platforms fall within its scope. However it is in general a successful convention with high applicability that constantly raises the fund system limits. The Convention is a very useful tool regarding ships but the fact that it has a limit, will always raise the question whether it is enough or not.

¹⁹⁸ Chasapis and Kosmides, *Civil Liability in the case of the production of Hydrocarbons and other related activities*, ed. by Farantouris and Kosmides (p. 469).

¹⁹⁹ 'Guidance for Member States-Consideration of the definition of 'ship', 2016 edition', in *International Oil Pollution Funds*
<http://www.iopcfunds.org/uploads/tx_iopcpublishations/IOPC_definition_of_ship_ENGLISH_web.pdf>
[accessed December 2017]

3.6 United Nations Convention of the Law of the Seas (Law 2321/1995)

The law of the sea convention was signed in 1982 and entered into force in 1994. Admittedly, it is a fundamental Convention regulating a plethora of aspects regarding the sea.

Under article 56, In the exclusive economic zone, the coastal state has sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, of the waters superjacent to the seabed and of the seabed and its subsoil. It also has jurisdiction on the establishment and use of installations and structures and the protection and preservation of the marine environment. Moreover, under article 60, the coastal State shall have in the exclusive economic zone the exclusive right to construct and to authorize and regulate the construction, operation and use of installations and structures. The coastal State shall also have exclusive jurisdiction over such installations and structures, including jurisdiction with regard to health and safety laws and regulations, while due notice must be given of the construction of such installations or structures for giving warning of their presence. In addition, any installations or structures which are abandoned or disused shall be removed to ensure safety of navigation, taking into account any generally accepted international standards established in this regard by the competent international organization. Such removal shall also have due regard to fishing, the protection of the marine environment and the rights and duties of other States, while appropriate publicity shall be given to the depth, position and dimensions of any installations or structures not entirely removed. Furthermore, the coastal State may establish reasonable safety zones around such installations and structures in which it may take appropriate measures to ensure the safety both of navigation and of the installations and structures. Next, such zones shall be designed to ensure that they are reasonably related to the nature and function installations or structures, and shall not exceed a distance of 500 metres around them, measured from each point of their outer edge, except as authorized by generally accepted international standards or as recommended by the competent international organization. And due notice shall be given of the extent of the zones. Moreover, under article 6, all ships must respect these safety zones and shall comply with generally accepted international standards regarding navigation in the vicinity of installations, structures and safety zones. What is more, installations and structures do not possess the status of islands which means

that they have no territorial sea of their own, and their presence does not affect the delimitation of the territorial sea, the exclusive economic zone or the continental shelf.

Additionally, according to article 192 states have the obligation to protect and preserve the marine environment, while under article 193, states have the sovereign right to exploit their natural resources pursuant to their environmental policies and in accordance with their duty to protect and preserve the marine environment. What is more, pursuant to article 194 states shall take measures to avoid, cut and limit pollution of the marine environment, using the best available practices and ensure that activities under their sovereignty embrace these principles and in case of pollution they ensure that the pollution shall not spread to other areas beyond their jurisdiction. Specifically, they shall avoid marine pollution from land-based sources, vessels, and offshore installations used for exploration and production of hydrocarbons and other natural resources. It is obvious that the obligation for environmental protection is stipulated with particular tension in the case of offshore installations. Moreover, they shall take measure to prevent accidents and cope with emergencies, enhancing safety, avoiding effluent discharges, and regulating strictly the vessels and offshore installations.

Next, under article 208, coastal states shall adopt laws and regulations and take measures to prevent, reduce and control pollution of the marine environment arising from or in connection with seabed activities subject to their jurisdiction and from installations and structures under their jurisdiction. Such laws, regulations and measures shall be no less effective than international rules, standards and recommended practices and procedures. Moreover, the aforementioned states shall endeavour to harmonize their policies at regional level, while states acting through competent international organizations or diplomatic conference, shall establish global and regional rules, standards and recommended practices and procedures –that shall be re-examined from time to time as necessary- to prevent, reduce and control pollution of the marine environment as mentioned above.

Most importantly, under article 235 the states are responsible for the fulfilment of their international obligations concerning the protection and preservation of the marine environment and they shall be liable in accordance with international law, while under paragraph 2 they shall ensure that recourse is available in accordance with their legal systems for prompt and adequate compensation or other relief in respect of damage caused

by pollution of the marine environment by natural or juridical persons under their jurisdiction. Under paragraph 3 with the objective of assuring prompt and adequate compensation in respect of all damage caused by pollution of the marine environment, they shall cooperate in the implementation of existing international law and the further development of international law relating to responsibility and liability for the assessment of and compensation for damage and the settlement of related disputes, as well as appropriate, development of criteria and procedures for payment of adequate compensation, such as compulsory insurance or compensation funds.

Without a doubt, the convention was a big step in the protection of the marine environment by imposing the states the obligation to take preventive and restorative measures in the seabed, the continental shelf and the exclusive economic zone.²⁰⁰ However the provisions are quite general and vague, so the Convention remains basically a framework for national, more specific provisions.²⁰¹ More importantly they are addressed solely towards states, despite the fact that the hydrocarbons' exploration and production is mainly conducted by private companies. As a result the states should design a more detailed framework with specific obligations for the operators and act through international organizations to conform to rules and standards.²⁰²

In the long run, this Convention is the legal basis for the creation of an international legal framework for protection against marine pollution, whose requirements extend beyond the rule that prohibits the occurrence of harm to another State and infiltrates the sphere of national sovereignty. Through the creation of a set of rules that support the general requirements of international law, the sovereign rights of states are transformed into obligations to protect the marine environment with a view to establishing a legal order for the seas and oceans, which will promote the maintenance of natural resources. It has special provisions for the protection of the marine environment from the exploration and exploitation of the seabed and the subsoil, which should be carried out for the benefit of humanity. It is a framework convention that encourages the formulation of national laws on

²⁰⁰ Chasapis, 'Environmental liability and protection in hydrocarbons' exploitation and other linked activities', in *Law of Hydrocarbons*, ed. by Farantouris and Kosmides (p. 539).

²⁰¹ Idem (p. 539).

²⁰² Bernard Taverne, *An introduction to the regulation of the Petroleum industry* (London-Norwell: Graham & Trotman/ Martinus Nijhoff, 1994) (p. 117).

environmental protection, particularly from those countries conducting offshore exploration activities.

3.7 International Convention on Oil Pollution Preparedness, Response and Co-operation OPRC 1990(Law 2252/1994)

The International Convention on Oil Pollution Preparedness, Response and Co-operation was signed in 1990 and entered into force 5 years later. The purpose of it is to establish measures to be taken from the contracting parties in order to prevent pollution from ships and deal with pollution incidents, either independently or in cooperation with other countries.²⁰³ The convention expressly states that its scope includes not only ships, but offshore installations as well.²⁰⁴ The European Union has not signed it but most of the EU member states are contracting parties. The efficiency of OPRC depends mostly on the wide acceptance and implementation of it and of regional conventions concerning the prevention of pollution. Clearly, the convention itself doesn't stipulate civil liability, but if its provisions are infringed, article 914GCC is fulfilled.²⁰⁵

First of all, according to article 3 ships are required to carry a shipboard oil pollution emergency plan, while operators of offshore units are also required to have oil pollution emergency plans or similar arrangements which must be coordinated with national systems for responding promptly and effectively to oil pollution incidents.²⁰⁶ Moreover, ships are required to report incidents of pollution to coastal authorities and practise the actions provided in the Convention. In addition, the Convention encourages the use of oil spill combating equipment, the holding of oil spill combating exercises and the development of detailed plans in order to effectively cope with pollution incidents.²⁰⁷ Furthermore, parties to

²⁰³ Chasapis, 'Environmental liability and protection in hydrocarbons' exploitation and other linked activities', in *Law of Hydrocarbons*, ed. by Farantouris and Kosmides (p. 545).

²⁰⁴ Mpatsara, 'The rights of a coastal state to prevent and control pollution in the areas of national jurisdiction', in *Law of hydrocarbons*, ed. by Farantouris and Kosmides (p. 182).

²⁰⁵ Chasapis, 'Environmental liability and protection in hydrocarbons' exploitation and other linked activities', in *Law of Hydrocarbons*, ed. by Farantouris and Kosmides (p. 546).

²⁰⁶ Ibid.

²⁰⁷ 'International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC)', in *International Maritime Organization*

the convention are required to provide assistance to others in the event of a pollution emergency, while the reimbursement of any assistance is stipulated.²⁰⁸

What is more, ships are subject to inspection from the competent authorities, while in a port or at an offshore terminal under the jurisdiction of a contracting state. Additionally, under article 4 masters or other persons having charge of ships or offshore units are required to report without delay any event involving a discharge or probable discharge of oil or any observed event at sea, or at a sea port, or oil handling facility to the nearest coastal state and the competent national authority.

In addition, under article 5, when the state receives a report or pollution information provided by other sources, it shall assess the event to determine whether it is an oil pollution incident, assess the nature, extent and possible consequences without delay. It shall also inform all States whose interests are affected or likely to be affected about its assessments and any actions taken or intending to take, until the action taken to respond to the incident has been concluded or until joint action has been decided. In particular, when the incident is severe, the above information shall be given to International Maritime Organization.

Furthermore, article 6 requires that a national system for responding promptly and effectively to oil pollution incidents is established. This system shall include at least the designation of the competent national authority that has the responsibility for oil pollution preparedness and response, the national operational contact point, which shall be responsible for the receipt and transmission of oil pollution reports and an authority which is entitled to act on behalf of the state to request assistance or to decide to render the assistance requested.

Finally, a Protocol on preparedness, response and cooperation to pollution incidents by hazardous and noxious substances HNS 2000 (Law 3100/2003) to the OPRC relating to

<[http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-on-Oil-Pollution-Preparedness,-Response-and-Co-operation-\(OPRC\).aspx](http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-on-Oil-Pollution-Preparedness,-Response-and-Co-operation-(OPRC).aspx)> [accessed December 2017]

²⁰⁸ Ibid.

hazardous and noxious substances (OPRC-HNS Protocol) was adopted in 2000, but it doesn't include oil.²⁰⁹

In a word, OPRC regulates to a certain extent the accidental pollution in regard with the prevention, preparedness and cooperation between the contracting parties. It covers not only ships, but offshore installations as well which is very important. The OPRC Convention is effective only to the extent which governments and the industry are willing enhance preparedness and response to oil pollution incidents. The purpose of the OPRC is not to supersede the obligations of regional agreements, but to strengthen the global cooperation and encourage cooperation in when a regional response is either not available or not adequate to cope with the emergency. However it doesn't only provide a "safety net", but it also encourages states to make measures in preparedness to deal with oil pollution emergencies via cooperation within a global network of states and industry. The Convention promotes government-industries and regional cooperation, in order to reach gradually a global level.

3.8 Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Law 855/1978, 3022/2002)

The Barcelona Convention was signed in 1975.²¹⁰ Today, the Barcelona Convention aims to protect the Mediterranean marine and coastal environment from ships, aircrafts and land-based installations polluting it. The primary purpose of it is to reduce marine pollution, to ensure sustainable development of the marine resources, integrate environmental protection to all socioeconomic sectors, to prevent or eliminate the pollution at least partially, but also to guard the natural and cultural heritage, and reinforce unity among Mediterranean coastal States by contributing to the development of high-quality lives of the EU citizens.²¹¹ This Convention is the result of the doctrine "think globally, act locally" which promotes the idea that smaller-scale Conventions, that take account of the special condition and

²⁰⁹ Chasapis, 'Environmental liability and protection in hydrocarbons' exploitation and other linked activities', in *Law of Hydrocarbons*, ed. by Farantouris and Kosmides (p. 546).

²¹⁰ Kritikos, 'EU safety rules for offshore exploration and exploitation activities of oil and natural gas: new regulatory challenges in uncharted waters', in *Law of Hydrocarbons*, ed. by Farantouris and Kosmides (p. 104).

²¹¹ Chasapis, 'Environmental liability and protection in hydrocarbons' exploitation and other linked activities', in *Law of Hydrocarbons*, ed. by Farantouris and Kosmides (pp. 556-57).

characteristics of the region, produce better result than global Conventions.²¹² What is more, the convention stipulates fault-based liability.²¹³ The *precautionary principle* and the *polluter pays* principle are also crucial elements of it.

The EU has signed the relevant *Protocol for the Protection of the Mediterranean Sea against Pollution Resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil* (“the Offshore Protocol”). Greece has not ratified it, but as a member-state of the EU, Greece is bound by the EU law.²¹⁴ The Protocol for the Protection of the Mediterranean Sea against Pollution resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil, is one of the seven performative Protocols of the Barcelona Convention system.²¹⁵

First of all, the Protocol applies the continental shelf, the seabed, the subsoil and waters of the Mediterranean Sea Area, including the seabed and its subsoil on the landward side of the baselines from which “the breadth of the territorial sea is measured extending, in the case of watercourses, up to the freshwater limit”, according to article 2. As a result, it covers the whole Mediterranean seabed.²¹⁶ Nevertheless, the contracting party may also include in the Protocol area wetlands or coastal areas of their territory, under paragraph 2 of the same article. This is very crucial, because the majority of the operations are being held in the coastal area.²¹⁷

Next, under article 1, the Protocol covers all activities concerning exploration and exploitation of resources in the Mediterranean, namely scientific research concerning the resources of the seabed and its subsoil, exploration activities, seismological activities,

²¹² Idem (p. 555).

²¹³ Karakostas, *Environment and Law: Law on the management and protection of environmental goods* (p. 420).

²¹⁴ Chasapis, 'Environmental liability and protection in hydrocarbons' exploitation and other linked activities', in *Law of Hydrocarbons*, ed. by Farantouris and Kosmides (p. 557).

²¹⁵ Evangelos Raftopoulos, 'Sustainable Governance of Offshore Oil and Gas Development in the Mediterranean: Revitalizing the Dormant Mediterranean Offshore Protocol', in *MEPIELAN E-Bulletin* <<http://www.mepielan-ebulletin.gr/default.aspx?pid=18&CategoryId=4&ArticleId=29&Article=Sustainable-Governance>> [accessed January 2018]

²¹⁶ Chasapis, 'Environmental liability and protection in hydrocarbons' exploitation and other linked activities', in *Law of Hydrocarbons*, ed. by Farantouris and Kosmides (p. 558).

²¹⁷ Idem (p. 558).

surveys of the seabed and its subsoil, sample taking, drilling, establishment of an installation, recovery, treatment and storage, transportation to shore by pipeline and loading of ships, maintenance, repair and other ancillary operations. It also covers all types of installations, namely any fixed or floating structure, including fixed or mobile offshore drilling units and units including dynamically-positioned units, offshore storage facilities including ships used for this purpose, offshore loading terminals and transport systems for the extracted products, such as submarine pipelines, apparatus attached to it and equipment for the reloading, processing, storage and disposal of substances. Finally, it provides an all-encompassing definition of operator that includes any natural or juridical person who is authorised by the contracting state in accordance with the Protocol to carry out activities and/or who carries out such activities, or despite not holding an authorization, is de facto in control of such activities.

Moreover, under article 3 the Protocol establishes a “due diligence” obligation that the Parties shall take all appropriate measures to prevent, abate, combat and control pollution in the Protocol Area resulting from the aforementioned activities, inter alia, by ensuring that the best available techniques, environmentally effective and economically appropriate, are used for this purpose and shall ensure that all necessary measures are taken so that activities do not cause pollution. In addition, specifying the sustainable management system, the Protocol provides that all activities, including erection of installations on site, are subject to prior written authorization from the competent authority.²¹⁸ Before granting the authorization, the authority must be satisfied that the installation has been constructed according to international standards and practice and that the operator has the technical competence and the financial capacity to carry out the activities. According to the precautionary principle, authorization may be refused, if there are indications that the proposed activities are likely to cause significant adverse effects on the environment that could not be avoided by compliance with specified requirements and technical conditions.

219

²¹⁸ Mpatsara, 'The rights of a coastal state to prevent and control pollution in the areas of national jurisdiction', in *Law of hydrocarbons*, ed. by Farantouris and Kosmides (p. 185).

²¹⁹ Chasapis, 'Environmental liability and protection in hydrocarbons' exploitation and other linked activities', in *Law of Hydrocarbons*, ed. by Farantouris and Kosmides (p. 559).

What is more, the operators are required to have a contingency plan for accidents, take safety measures, and remove any installation which is abandoned or disused after considering the guidelines and standards adopted by the competent international organization, the IMO.²²⁰ Additionally, special restrictions or conditions are provided for the granting of authorizations for activities in specially protected areas.²²¹ Concerning the issue of transboundary pollution, in case of an event or an imminent threat of it the states shall ensure that they do not cause pollution beyond the limits of their jurisdiction as well as that they follow the steps and immediately notify the interested state treating equally the citizens of the affected state.²²²

Finally, the states are obliged under article 27 to take measures with respect to liability and compensation for damage caused by offshore activities. Thus they are obliged to take all necessary measures in order to ensure that liability is imposed on operators and that they pay prompt and adequate compensation and that operators have and maintain insurance cover or other financial security in order to ensure that the compensation is paid.²²³ Nevertheless this provision needs to be specified in the Greek law and cannot be applied directly as EU law due to the fact that it doesn't have direct effect.²²⁴ Regarding the liability set by the Protocol, there is difficulty in restoring the natural environment, therefore the compensation shall be in the form of compensating for the damage suffered by the injured persons and taking measures to restore the environment, for example cleaning costs.

To sum up, the offshore protocol establishes an integrated system of licensing, management and strict liability for offshore oil exploration and exploitation activities in the

²²⁰ Evangelos Raftopoulos, 'Sustainable Governance of Offshore Oil and Gas Development in the Mediterranean: Revitalizing the Dormant Mediterranean Offshore Protocol', in *MEPIELAN E-Bulletin* <<http://www.mepielan-ebulletin.gr/default.aspx?pid=18&CategoryId=4&ArticleId=29&Article=Sustainable-Governance>> [accessed January 2018]

²²¹ Chasapis, 'Environmental liability and protection in hydrocarbons' exploitation and other linked activities', in *Law of Hydrocarbons*, ed. by Farantouris and Kosmides (p. 559).

²²² Evangelos Raftopoulos, 'Sustainable Governance of Offshore Oil and Gas Development in the Mediterranean: Revitalizing the Dormant Mediterranean Offshore Protocol', in *MEPIELAN E-Bulletin* <<http://www.mepielan-ebulletin.gr/default.aspx?pid=18&CategoryId=4&ArticleId=29&Article=Sustainable-Governance>> [accessed January 2018]

²²³ Chasapis, 'Environmental liability and protection in hydrocarbons' exploitation and other linked activities', in *Law of Hydrocarbons*, ed. by Farantouris and Kosmides (p. 559).

²²⁴ Idem(p. 560).

Mediterranean Sea. It has been developed according to the view that unilateral and national systems for preventing and tackling pollution are a positive step towards environmental protection, but effective protection can only be achieved at supranational and cross-border level through the co-operation of multiple countries. According to this view, regional anti-pollution conventions for specific segments and areas are considered to be more effective than global ones. Undoubtedly, it is easier to take into account the specificities of each area with the cooperation of the coastal states. It is a huge plus that the Protocol has a very broad scope that includes the offshore installations, exploration and production, storage, loading on ships maintenance and auxiliary work.

On the other hand, the Protocol adopts a state-centric approach, which prevailed in the past decades, but is now considered outdated. Nowadays a participatory approach is considered more efficient, in the sense of taking into account the interests of all the parties involved in the decision-making process on the effective management of environmental protection, such as local authorities, operators, representatives, non-governmental organizations and local bodies. This can be partially attributed to the fact the Protocol was signed in 1994 more than two decades ago. The weaknesses of the protocol are that seismic surveys, which produce sound in the marine environment and are considered pollution under the UNCLOS that affect marine mammals, are not regulated via the Protocol. It also doesn't stipulate that installation decommissioning should be done in an environmentally-friendly way and the restoration of the area after ceasing the hydrocarbon activities. Finally, carbon dioxide emissions should be addressed in the Protocol.

4. Conclusion

On the whole, the environmental regulation of oil and gas exploration and production under the national and EU law is without a doubt complex and fragmented. The lack of an all-inclusive regulatory framework, can be attributed, at least partially, on lack of will, as the states primarily wish to regulate the hydrocarbon operations via national provisions. The reason for this is that many states prioritise the extraction of hydrocarbons as opposed to environmental protection. This is reasonable, as hydrocarbons exploitation can contribute greatly to the country's security of energy supply, economic growth, public revenue growth, maximum welfare for the citizens, job creation and the cessation of brain drain.

In essence, the legal framework for hydrocarbons in Greece is an amalgamation of European Union Law and International Law. Firstly, the international and regional Treaties regulating hydrocarbons are of great importance, but the ratification and application on behalf of a plethora of countries is crucial for a wide and fair implementation. Furthermore, the EU has issued significant Directives on hydrocarbon operations licensing, waste management, environmental impact assessment, ship-sourced pollution and, more significantly, environmental liability and offshore oil and gas operations safety. The transposition of these Directives undoubtedly changed in a positive way the national legal regime of liability in regard with hydrocarbon operation and filled many gaps in the legal order. With the accession of the EU to the Offshore Protocol of the Barcelona Convention and the adoption of Directive 2013/30, the Mediterranean countries belonging to the EU now have an important legal arsenal regarding the marine pollution from offshore hydrocarbon exploration and production activities. Equally important is the national framework-law for the environment, which also was amended under the effect of EU Directives. Additionally, the typical national civil liability provisions support the hydrocarbon legislation in case the liability is not directly stipulated in other laws. As shown, there is progress in the stipulation of legislative texts setting regulatory mechanisms for the control and operation of offshore installations. However, the provisions detected in legislative texts are fragmentary without creating a single regulatory framework.

To sum up, the majority of the special provisions regarding the hydrocarbons industry, stipulate risk liability. Risk liability is an ideal choice for activities that pose major environmental risks, as it is necessary for the operator to take appropriate preventive and

precautionary measures and to exercise the utmost diligence in order to avoid the pollution. It motivates them to adopt a careful tactic and avoid risky investments. The operator is also in the right position to take the necessary measures because they have the most information. It is therefore financially compelling and acceptable that the operator bears the cost, not only because they derive the economic benefit, but also because -based on distributive justice- they have the means to cover the damage by ensuring to a greater extent, that the harmed persons will be compensated. One important exception regarding risk liability is the article 914, which admittedly is an extremely useful provision that covers practically all cases under the condition that the act is unlawful and with fault. It is a vital supplement to environmental provisions that do not directly stipulate liability. The weaknesses are however that it covers environmental damage only to civil rights and interests instead of environmental damage in general and that it is difficult to prove the causal link between the act or omission and the pollution. What is more, it doesn't cover damage if no fault occurred and the offence is legal.

On the side of risk liability, the most important national provision is without a doubt the law 1650/1986, which is a keystone in environmental legislation because it protects the environment autonomously and stipulates risk liability. This paragraph stipulates a mitigating circumstance or a personal ground of impunity at the court's discretion in case the offender showed remorse by cessation of the offence or cooperative behavior. The penal provisions motivate the offender to show remorse by cessation of the offence or cooperation encouraging immediate restoration. However its penal provisions are problematic in regard with legal certainty and equality. Regarding liability, the risk liability covers theoretically all offences within the law's scope but the vague formulation and wording of the provision makes the claimants reluctant to invoke it and they resort to other more handy provisions like the provision of the right to personality. Part of this problem is the fact that it doesn't distinguish in level and intensity of the offence treating all kinds of pollution exactly the same way. Two other typical and efficient implementations of risk liability are the Directives 2004/35 and 2013/30, which place emphasis on prevention and restoration. The operator is a priori liable with risk liability. These Directives treat the environment as an independent legal good, differing from civil liability and administrative sanctions. The public authorities are the main enforcers of it and no right to compensation is granted to individuals if they suffer as a result of damage to private property. Another

weakness is the difficulties concerning the assessment of environmental damage due to complex technical requirements. furthermore as has been noted, the special laws on prospecting, exploration and production of hydrocarbons, the three lease agreements and the environmental impact assessment law stipulate very specific obligations which protect efficiently the environment and if they are infringed the activities may be suspended or even terminated. this could discourage the hydrocarbon industries but it can also be seen as part of the sovereign rights of the state and can be based on the constitutional obligation to protect the environment.

Regarding international law, UNCLOS is a framework convention for marine exploration and production activities, while OPRC regulates only the accidental pollution based mainly on initiatives and the cooperation between states. The main advantage is that it covers offshore installations, just like the Offshore Protocol of the Barcelona Convention. The aforementioned stipulate risk liability for offshore exploration and exploitation activities in the Mediterranean Sea. They also based on the capacity and will of the states to cooperate as it is a local. Their main weakness is that this state-centric model is not considered effective at present, because participation in decision-making process on the effective management of environmental protection is more encouraged than ever. Therefore they might be subject to amendments. On the contrary, the CLC Convention doesn't state clearly, if the offshore platforms and installations fall within its scope. As a result this convention is basically implemented in ships and is problematic in regard with offshore platforms. On the other hand, the law 743/1977 covers offshore installations and stipulates risk liability for specific persons in control. Finally, the waste framework law covers offshore installations as well, but law 4037/2012 unfortunately doesn't, as it regulates only ship-sourced pollution.

In the final analysis, the need for a single uniform and autonomous legal framework arises for the regulation of offshore hydrocarbons exploration and production. There are clear peculiarities and differences between offshore platforms and ships; therefore the legal regime of the platforms should be developed independently from the traditional institutions regulating ship-sourced pollution. The Directive 2013/30 takes into account the specificity of the offshore industry and aims to formulate provisions that address practical problems of the sector without copying the rules of the maritime law. It relies heavily on the prevention

of pollution through the licensing process and contributes the most to the protection of the marine environment. It contains guiding principles for regulatory arrangements, encourages member states to establish a cooperation mechanism but also take individually supervisory measures for operators. It marks significant progress in the direction of creating an autonomous and independent legal regime for the offshore industry. The directive being a regulatory grid of interdependent obligation of private persons, independent authorities and the state, could go a step further and establish civil liability towards the individuals' damage as well. The main strengths are the broad local scope and the broad definition of installations including both stationary and mobile platforms. A major drawback is not stipulating a body of experts at EU level which could undertake the control procedures.

On balance, as offshore oil and gas operations are moving towards more technically challenging formations and environments, skepticism arises concerning the activities that may take place in unconventional oil and gas sources offshore, in extreme depths in fragile ecosystems or densely populated areas. Legislation that is directly or indirectly related to the subject at issue cannot be considered "adapted" to the constantly changing technical and socio-economic requirements, and is often fragmented. This legislation clearly lags behind that of projects and activities. Undoubtedly, efficient environmental protection from a heavy industry such as the hydrocarbons one, requires strong knowledge and control on the side of the state and knowledge, ability and concrete environmental policy and strategy to pursue sustainable development on the side of the operator. For example carbon dioxide emissions are not addressed at all. As a result, many environmental non-governmental organisations are opposed to the decision of the Greek state to tender areas which include important protected sites of high conservation value with unique ecological wealth. The exploitation of hydrocarbons is a heavy industry and it must be treated as such. It is dangerous to try to manage a sector if a state has no expertise. This is the reason that Greece follows the international standards and best available practice and technologies. This is also why EU tries to harmonize the member states' legal frameworks concerning the hydrocarbon exploration and production terms and conditions; because it is absolutely necessary in order to execute environmentally safe this type of work. It is a difficult task because hydrocarbons exploration and production activities in EU are subject to a number of variables including national legal frameworks, socioeconomic status, infrastructure,

meteorological conditions, sub-surface, commercial and market status that differ across member states.

Overall, the majority of the legal blanks have been filled out by the recent legislative initiatives, but there is still room for improvement. The developing energy industry in Greece has already attracted interest. Therefore homogeneous legislation in all fields, covering not only civil but also environmental damage, including land and marine pollution either from ships or from platforms, will be necessary due to the -hopefully- increased activity in the sector.

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