

ELGAR COMMENTARIES

COMMENTARY ON THE ENERGY CHARTER TREATY

Second Edition



Edited by
Rafael Leal-Arcas



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SECOND EDITION

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ARTICLE 19

ENVIRONMENTAL ASPECTS

Contributions by Peter Vajda and Varvara Aleksić, and Tina Hunter

In pursuit of sustainable development and taking into account its obligations under those international agreements concerning the environment to which it is party, each Contracting Party shall strive to minimize in an economically efficient manner harmful Environmental Impacts occurring either within or outside its Area from all operations within the Energy Cycle in its Area, taking proper account of safety. In doing so each Contracting Party shall act in a Cost-Effective manner. In its policies and actions each Contracting Party shall strive to take precautionary measures to prevent or minimize environmental degradation. The Contracting Parties agree that the polluter in the Area of Contracting Parties, should, in principle, bear the cost of pollution, including transboundary pollution, with due regard to the public interest and without distorting Investment in the Energy Cycle or international trade. Contracting Parties shall accordingly:

- (a) take account of environmental considerations throughout the formulation and implementation of their energy policies;
- (b) promote market-oriented price formation and a fuller reflection of environmental costs and benefits throughout the Energy Cycle;
- (c) having regard to Article 34(4), encourage co-operation in the attainment of the environmental objectives of the Charter and co-operation in the field of international environmental standards for the Energy Cycle, taking into account differences in adverse effects and abatement costs between Contracting Parties;
- (d) have particular regard to Improving Energy Efficiency, to developing and using renewable energy sources, to promoting the use of cleaner fuels and to employing technologies and technological means that reduce pollution;
- (e) promote the collection and sharing among Contracting Parties of information on environmentally sound and economically efficient energy policies and Cost-Effective practices and technologies;
- (f) promote public awareness of the Environmental Impacts of energy systems, of the scope for the prevention or abatement of their adverse Environmental Impacts, and of the costs associated with various prevention or abatement measures;
- (g) promote and co-operate in the research, development and application of energy efficient and environmentally sound technologies, practices and processes which will minimize harmful Environmental Impacts of all aspects of the Energy Cycle in an economically efficient manner;

- (h) encourage favourable conditions for the transfer and dissemination of such technologies consistent with the adequate and effective protection of Intellectual Property rights;
 - (i) promote the transparent assessment at an early stage and prior to decision, and subsequent monitoring, of Environmental Impacts of environmentally significant energy investment projects;¹
 - (j) promote international awareness and information exchange on Contracting Parties' relevant environmental programmes and standards and on the implementation of those programmes and standards;
 - (k) participate, upon request, and within their available resources, in the development and implementation of appropriate environmental programmes in the Contracting Parties.
- (2) At the request of one or more Contracting Parties, disputes concerning the application or interpretation of provisions of this Article shall, to the extent that arrangements for the consideration of such disputes do not exist in other appropriate international fora, be reviewed by the Charter Conference aiming at a solution.
- (3) For the purposes of this Article:
- (a) 'Energy Cycle' means the entire energy chain, including activities related to prospecting for, exploration, production, conversion, storage, transport, distribution and consumption of the various forms of energy, and the treatment and disposal of wastes, as well as the decommissioning, cessation or closure of these activities, minimizing harmful Environmental Impacts;
 - (b) 'Environmental Impact' means any effect caused by a given activity on the environment, including human health and safety, flora, fauna, soil, air, water, climate, landscape and historical monuments or other physical structures or the interactions among these factors; it also includes effects on cultural heritage or socio-economic conditions resulting from alterations to those factors;
 - (c) 'Improving Energy Efficiency' means acting to maintain the same unit of output (of a good or service) without reducing the quality or performance of the output, while reducing the amount of energy required to produce that output;
 - (d) 'Cost-Effective' means to achieve a defined objective at the lowest cost or to achieve the greatest benefit at a given cost.

COMMENTARY

Peter Vajda and Varvara Aleksić

19.01 Article 19(1) provides the essence of the environmental dimension of the Energy Charter Treaty (ECT). The European Energy Charter signed in 1991 already recognised the importance of energy-related environmental issues, which was clearly pointed out in one its preambles, mentioning that the parties are '[c]onvinced of the signatories' common interest in problems of energy supply, safety of industrial plants,

1 See Final Act of the European Energy Charter Conference, Understandings, n. 13. with respect to Art 19(1)(i), p. 28

particularly nuclear facilities,² and environmental protection'.³ Furthermore, the parties declared their willingness 'to do more to attain the objectives of security of supply and efficient management and use of resources, and to utilise fully the potential for environmental improvement, in moving towards sustainable development'⁴ and their conviction of 'the essential importance of efficient energy systems in the production, conversion, transport, distribution and use of energy for security of supply and for the protection of the environment'.⁵

The International Energy Charter signed at the signatories meeting in The Hague on 20–21 May 2015 repeated the same commitment,⁶ while at the same time also, '[r]ecognising the global challenge posed by the trilemma between energy security, economic development and environmental protection, and efforts by all countries to achieve sustainable development'.⁷ 19.02

The reference to the 'energy trilemma' is particularly interesting. Environmental sustainability represents the third pillar of this academic concept, completing the triangle made up with energy security and energy equity.⁸ There is a broad scientific consensus, however, that our current ways of generating and using energy are not on a sustainable pathway and should the current trends in changes to the global climate system continue (to which the energy sector is a very important contributor),⁹ the consequences will be felt by everyone in the very short term. In order to avoid a scenario in the twenty-first century that would have devastating consequences for the entire planet, its inhabitants as well as the global economy, it is thus imperative to strengthen the sustainability pillar of the triangle, thereby promoting the efficient generation and use of any form of energy – heat, power, or any form of fuels. 19.03

At the same time, it would be unrealistic not to count on energy consumers expecting a stable and secure supply of energy at affordable prices. All around the world, 19.04

2 The reason for the particular reference to nuclear facilities was clearly the Chernobyl disaster, that had happened only five years before the signature of the Charter.

3 European Energy Charter, Preamble 10.

4 Ibid., Preamble 11.

5 Ibid., Preamble 12.

6 International Energy Charter, Preamble 17.

7 Ibid., Preamble 9.

8 World Energy Council, World Energy Trilemma Index 2016 (October 2016), <https://www.worldenergy.org/publications/2016/2016-energy-trilemma-index-benchmarking-the-sustainability-of-national-energy-systems/>, p. 6; Caroline Kuzemko, Andreas Goldthau, Michael F. Keating, *The Global Energy Challenge: Environment, Development and Security*, Palgrave Macmillan, London (2016), p. 1.

9 According to the UN Intergovernmental Panel on Climate Change (IPCC), electricity and heat production is responsible for one quarter of the global emissions of greenhouse gases, while the category 'other energy' is responsible for an additional 10 per cent.

energy poverty inevitably leads to solutions that are environmentally not sustainable.¹⁰ We shall therefore point out that the real price of energy goes well beyond the pure material costs of the fuel, the infrastructure necessary for turning it into heat and/or power and its transmission to the end consumer. The bare economic logic of external costs needs to be engraved in the mind of the energy consumer in order to be able to make a responsible decision.¹¹ This line of thought can also be seen as providing the background and reason of point (b) of Article 19(1) of the ECT which requires a fuller reflection of environmental costs and benefits throughout the energy cycle, i.e., the internalisation of the external costs of the generation, transmission and use of energy.

19.05 For all these reasons and given the fact that the sustainability dimension often comes as a distant third to energy security and energy equity when talking about decisions related to the 'energy trilemma', any references thereto in international treaties and agreements are extremely helpful for emphasising the need for a strengthened environmental policy in the energy sector.

19.06 Points (a) and (i) of Article 19(1) introduce provisions that shows large similarities to environmental assessments, processes that apply both in an EU and UNECE context. Point (a) is largely equivalent to strategic environmental assessment, which was adopted by the Kyiv Protocol under the UNECE framework and which requires its parties to evaluate the environmental consequences of their official draft plans and programmes, including plans and programmes in the energy sector. The Protocol was adopted by an extraordinary meeting of the Parties to the Espoo Convention, held on 21 May 2003 during the Ministerial 'Environment for Europe' Conference in Kyiv. The EU had adopted a Directive on strategic environmental assessments in 2001.¹² There is a significant overlap between the geographical scope of these instruments and the Contracting Parties of the Energy Charter, covering more than half of them. The information exchange of point (j) of Article 19(1) includes also these programmes, for which international awareness raising and information exchange is required.

19.07 Point (i) of Article 19(1) resembles the environmental impact assessment process, for which at international level the Espoo Convention sets out the obligations of parties to

10 The most important source of emissions in this segment is the household fuel combustion sector, which often comprises any material with a calorific value, including (agricultural or municipal) waste.

11 The European Commission estimates that total health-related external costs of air pollution (from the 'traditional pollutants' of sulphur dioxide, nitrogen oxides, particulate matter and heavy metals) in 2010 were in the range of €330-940 billion, including direct economic damages of €15 billion from lost work days, €4 billion from healthcare costs, €3 billion from crop yield loss and €1 billion from damage to buildings, in: European Commission, Commission Staff Working Document, Impact Assessment – Accompanying the Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions – a Clean Air Programme for Europe, SWD (2013)531, http://ec.europa.eu/environment/archives/air/pdf/Impact_assessment_en.pdf, pp. 18-19.

12 Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment.

assess the environmental impact of certain activities at an early stage of planning. The Convention, adopted in 1991, also lays down the general obligation of states to notify and consult each other on all major projects under consideration that are likely to have a significant adverse environmental impact across boundaries (the so-called transboundary environmental impact assessment). In the EU, a Directive governing environmental impact assessments has existed since 1985.¹³ While the scope of these legal instruments is very broad, they cover a large number of projects from the energy sector.¹⁴ The core requirement of the Directive is that the development consent for public and private projects which are likely to have significant effects on the environment should be granted only after prior assessment of the likely significant environmental effects of these projects have been carried out. This assessment must be conducted on the basis of the appropriate information supplied by the developer, which may be supplemented by the authorities and – via rules on public participation – by the people who may be concerned by the project in question.

Point (d) of Article 19(1) refers to energy efficiency, energy generated from renewable sources as well as emission reduction. Energy efficiency is a cornerstone of the sustainability portfolio of the Energy Charter. In relation to that, the Protocol on Energy Efficiency and Related Environmental Aspects (PEEREA) was negotiated, opened for signature and entered into force at the same time (16 April 1998) as the ECT. Building on the provisions of the Treaty, PEEREA requires its participating states to formulate clear policy aims for improving energy efficiency and reducing the energy cycle's negative environmental impact. Through the implementation of PEEREA, the Energy Charter provides its member countries with a menu of good practices and a forum in which to share experiences and policy advice on energy efficiency issues. Within this forum, particular attention is paid to such aspects of a national energy efficiency strategy as taxation, pricing policy in the energy sector, environmentally-related subsidies and other mechanisms for financing energy efficiency objectives.¹⁵

In relation to emission reduction, it is important to distinguish between pollutants that cause direct health and environmental impacts and others that provide their harmful effects by more indirect means, such as greenhouse gases and climate change(s).

13 Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment, amended several times and later codified by Directive 2011/92/EU.

14 E.g., crude-oil refineries, thermal power stations and other combustion installations, nuclear power stations, oil and gas pipelines.

15 The Signatories/Contracting Parties to the PEEREA are Afghanistan, Albania, Armenia, Australia*, Austria, Azerbaijan, Belarus**, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, European Union and Euratom, Finland, France, Georgia, Germany, Greece, Hungary, Iceland*, Ireland, Japan, Kazakhstan, Kyrgyzstan, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Moldova, Mongolia, Montenegro, The Netherlands, Norway*, Poland, Portugal, Romania, Russian Federation*, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tajikistan, The former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Ukraine, United Kingdom, Uzbekistan (* signed but did not ratify **provisional application).

Environmental economics indeed suggests that the external costs of various activities are to be internalised, incorporated into the mechanisms of the real-world economy, and the modified price signal will thereby help in getting the right responses. The two main schools of economics dealing with externalities¹⁶ are translated into the legal concepts of command-and-control measures and market-based instruments. In European legislation, the Industrial Emissions Directive¹⁷ is the classical example of command-and-control type measures, while the Emissions Trading Scheme Directive¹⁸ and its related legislation regulate greenhouse gas emissions via a market-based instrument. The two directives are mutually exclusive and address different pollutants (sulphur dioxide, nitrogen oxides and dust in the case of the Industrial Emissions Directive and carbon dioxide and other greenhouse gases in the case of the Emissions Trading Scheme Directive).

19.10 Points (f) and (j) of Article 19(1) are interlinked in the sense that they both require awareness raising activities from the Contracting Parties. Point (f) also clearly relates to the better reflection of the external costs of the energy sector discussed above and the internalisation thereof. Simply put, reducing emissions results in a healthier and longer life in a better environment, which can also be proven by sophisticated economic calculations. Therefore, any investment into emission reduction – either via emission abatement technologies, energy efficiency measures or alternative generation capacities – is also an investment into the quality of life of the individual as well as into our future. It is vital that citizens understand and identify with these objectives and therefore support a better understanding of the environmental impacts of the energy sector by the general public and gathering broad support for expensive emission abatement measures is indeed crucial.

19.11 In relation to Article 19(2), it shall be pointed out that under the general rules for dispute settlement in accordance with Article 27, there are two forms of dispute settlement under the ECT depending on the subject matter and actors of dispute. Ad hoc arbitration is set for disputes between Contracting Parties on the interpretation or application of the Treaty, while investment arbitration is for disputes between an

16 Arthur C. Pigou, the founder of the economic discipline studying externalities, justified government intervention via taxation with the aim of internalising the external costs and thereby providing a price that reflects not only the marginal private costs, but also the marginal social costs (in: Arthur C. Pigou, *The Economics of Welfare*, Macmillan, London (1920) low transaction costs involved, bargaining will lead to a Pareto-efficient outcome regardless of the initial allocation of property (in: Ronald H. Coase, 'The Problem of Social Cost', (1960) 3 *Journal of Law and Economics* 1–44).

17 Directive 2010/75/EU on industrial emissions.

18 Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the Community.

investor and a Contracting Party. Nevertheless, the starting point for both mechanisms is the willingness to reach an amicable agreement between the parties to any dispute.¹⁹

However, there are some exceptions from this general approach, for which environmental issues provide the most apparent example: Article 19(2) of the ECT gives the competence to the Charter Conference, as an Institution of the Treaty, 'to aim at a solution' of disputes the subject matter of which is the interpretation or application of the provisions set in Article 19. However, it mandates the Charter Conference²⁰ as *the body for aiming at a solution* for environmental disputes only in cases when arrangements for the consideration of such disputes do not exist in other appropriate international fora. In other words, environmental disputes are falling under the scope of work of Charter Conference, if no other appropriate international fora exist for the consideration of such disputes. **19.12**

As the terms 'to aim at a solution', 'arrangements for the consideration of such disputes' and 'other appropriate international fora' these are not defined by the Treaty, there is plenty of room for interpretation to determine the precise meaning thereof. **19.13**

In relation to the term 'other appropriate international' fora in particular, Contracting Parties may address their disputes in the field of environment via any established instrument under international law. For Contracting Parties that are at the same time Member States of the EU, the Court of Justice of the EU is the obvious *ultima ratio* instance of resolving disputes, including environmental ones in the energy sector between the Member States.²¹ **19.14**

As an illustration of other international fora, Contracting Parties of the ECT could, in accordance with this clause, refer environment-related cases to the institutions and instruments of the Energy Community Treaty, provided that they are Contracting Parties to this Treaty at the same time. In relation to its aims, the procedure stipulated by the ECT in fact resembles to the Energy Community Treaty's Dispute Settlement Procedure.²² However, there are significant differences when assessing the subject matter of potential disputes: since the ECT does not stipulate concrete obligations to the Contracting Parties in line with its Article 19, it is up to each Contracting Party **19.15**

19 International Energy Charter, Dispute Settlement, <https://energycharter.org/what-we-do/dispute-settlement/overview/> accessed 4 July 2018.

20 The Energy Charter Conference shall meet periodically according to Art 34(1) ECT, with the intervals of ordinary meetings to be determined by the Charter Conference itself. In practice, annual meetings of the Charter Conference are held.

21 As an example, see Case C-115/08 *Land Oberösterreich v ČEZ* as on the operation of the Temelin nuclear power plant in the Czech Republic, situated approximately 50 kilometres from the Austrian border.

22 For more information on the Energy Community Dispute Settlement Procedure, see <https://www.energy-community.org/legal/cases/dispute.html> accessed 4 July 2018.

to individually determine the level of environmental protection, by taking into consideration principles stipulated in this Article. At the same time, the dispute settlement mechanism provided by the Energy Community Treaty operates based on obligations in line with the EU legislation that forms part of the Energy Community *acquis communautaire* on environment.²³ Another notable difference is that under the mechanism provided by Article 19(2) of the ECT, the right to initiative is only provided to Contracting Parties. Neither can the Secretariat initiate a case, nor can individual complaints provided either to the Secretariat or to the Charter Conference trigger the application of the mechanism provided by Article 19(2) of the Treaty. In other words, the nature of the environmental dispute has to reach state level importance in order to be addressed in light of the procedure provided by Article 19(2), which is not always the case for environmental issues and which are mostly raised and advocated by the public concerned or environmental NGOs.²⁴

- 19.16 Furthermore, the Energy Charter Conference mandated the Secretariat to assist with good offices, mediation and conciliation, as well as to provide neutral, independent legal advice and assistance in dispute resolution and participate in pre-trial proceedings between Contracting Parties. Following this mandate, the Secretariat established a Conflict Resolution Centre which provides assistance and support in relation to, among others, environmental disputes between Contracting Parties.²⁵ This enables a consultation between the Contracting Parties as a preliminary step prior to the proceedings at the Charter Conference and is an efficient tool for facilitating to reach an amicable agreement between the Parties to potential disputes.
- 19.17 With regard to Article 19(3) of the ECT, it should be noted first that this paragraph provides definitions for the purposes of Article 19 only.
- 19.18 Point (a) of Article 19(3) provides the broadest possible definition of the energy cycle, including all of its aspects and enabling a holistic, 'from the cradle to the grave'

23 In the environmental field, Directives on Environmental Impact Assessment, Strategic Environmental Assessment, Sulphur in Fuels, Wild Birds, Large Combustion Plants and (in part) Industrial Emissions apply in the Energy Community. For more information on the Energy Community *acquis communautaire*, see <https://www.energy-community.org/legal/acquis.html>, accessed 4 July 2018.

24 In the Energy Community context, an example of a case for non-compliance with the rules on environmental impact assessment was started in 2015 and was initiated upon complaint. In its assessment, the Secretariat took preliminary view that the environmental impact assessment procedure of a planned thermal power plant in Bosnia and Herzegovina was not carried out in compliance with the Energy Community *acquis communautaire* on environment. In particular, the permitting procedure failed to fully address all direct and indirect impact of the projects as well as its potential transboundary impacts, as required by the Environmental Impact Assessment Directive. Furthermore, the Secretariat found that the Directive's provisions on public participation were not fully respected, see <https://www.energy-community.org/legal/cases/2015/case0115BH.html>, accessed 4 July 2018. As the dispute was however not between state actors, such a case would not be able to trigger the application of Art 19(2) of the ECT.

25 For more information about the Conflict Resolution Centre, see <https://energycharter.org/wha-twe-do/dispute-settlement/conflict-resolution-centre/>, accessed 4 July 2018.

approach. The term is used throughout Article 19, in reference to environmental impacts as well as investments.

Point (b) of Article 19(3) defines environmental impact in an almost identical manner to the EU's Environmental Impact Assessment Directive.²⁶ The term is used in the introductory wording of Article 19(1), which stipulates that 'each Contracting Party shall strive to minimize in an economically efficient manner harmful Environmental Impacts occurring either within or outside its Area from all operations within the Energy Cycle in its Area, taking proper account of safety.' While this provision provides the broadest possible taking into account of environmental impacts of the energy sector, the wording 'strive to' makes it clear that the provision is rather an expression of goodwill for the Contracting Parties than an obligation. Furthermore, points (f), (g) and (i) of Article 19(1) are using the term when talking about different aspects of awareness raising of environmental impacts of the energy sector. In relation to these points, the Energy Charter Treaty uses a wording based on 'shall', meaning that the Contracting Parties are legally bound to these commitments.

Point (c) of Article 19(3) defines the improvement of energy efficiency in a very broad context, which becomes even more apparent when looking at point (d) of Article 19(1) which is the only instance where this term is being used. From the wording of that point, it is also clear that energy efficiency in the context of Article 19 of the ECT is used in a much broader context than in other international legal instruments, incorporating also the issues of energy generated from renewable sources and cleaner fuels, which is highly useful. Having environmental and climate science providing the framework, we can conclude that a full transformation of our energy systems is indeed inevitable – along with transformation of other sectors in this time period globally. The planning and management of the transition requires, beyond political will, a significant amount of research on the way the transition can be completed with the least cost and highest efficiency and using energy efficiency in a broad interpretation such as the one provided by this definition clearly is an enabler in this process. The adoption of the PEEREA marks the importance of energy efficiency in the context of the ECT and the good practices and shared experience provided via that framework have the potential to facilitate, further, and speed up the necessary changes for the energy transition.

26 Art 3 of Directive 2011/92/EU sets out the purpose and content of the environmental impact assessment as follows:

The environmental impact assessment shall identify, describe and assess in an appropriate manner, in the light of each individual case and in accordance with Articles 4 to 12, the direct and indirect effects of a project on the following factors: (a) human beings, fauna and flora; (b) soil, water, air, climate and the landscape; (c) material assets and the cultural heritage; (d) the interaction between the factors referred to in points (a), (b) and (c).

- 19.21 Point (d) of the Article 19(3) defines the principle of cost effectiveness, which is then used in the preliminary wording of Article 19(1) and in point (e) thereof with reference to practices and technologies. This definition resembles the concept of the *best available techniques*, used in the European Union by the Industrial Emissions Directive.²⁷

COMMENTARY

Tina Hunter

- 19.22 Whereas Article 18 of the ECT recognises a Contracting State's sovereignty over its energy resources, Article 19 recognises that energy activities have the potential to cause environmental harm, particularly through pollution. Therefore, Article 18 recognises the state's sovereignty and Article 19 lays down a state's responsibility for the environment with respect to energy and to minimise the harmful environmental impacts of domestic energy activities both within and outside a contracting state.²⁸ Such methods to minimise environmental harm include obligations that exist under international agreements. In particular, Article 19 does not impose a direct environmental obligation on the foreign investor, but rather embraces the international environmental law concepts of precautionary principle and the polluter pays principle.
- 19.23 The *Trail Smelter Case* establishes principles in relation to the prevention of trans-boundary harm and the polluter pays principle.²⁹ The case also laid down the principle that although a state has sovereignty over its natural resources, such sovereignty is subject to a corresponding responsibility to ensure that activities occurring within their jurisdiction do not cause damage to areas beyond the limits of national jurisdiction.
- 19.24 The general rule under Article 19(1) is that Contracting Parties minimise the harmful environmental impacts arising from energy use in an economically efficient manner. Contracting Parties agree that the polluter in the areas³⁰ of the Contracting Parties should, in principle, bear the costs of pollution (be it wholly contained within the Contracting State or trans-boundary) having regard to public interest and without distorting investment in the energy Cycle or Energy trade. The environmental harm

27 Art 3(10) of the Industrial Emissions Directive defines 'best available techniques' and point (b) thereof stipulates that 'available techniques' means those developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the costs and advantages, whether or not the techniques are used or produced inside the Member State in question, as long as they are reasonably accessible to the operator (emphasis added).

28 Art 19(1) of the ECT.

29 *Trail Smelter Arbitration (United States v Canada)* Arbitral Trib., 3 U.N. Rep. Int'l Arb. Awards 1905 (1941).

30 'Areas' is defined in Art 1(10) of the ECT.

aspects of Article 19 have been considered by a number of scholars, who have differing views on the role of the ECT in environmental protection.³¹

Essentially, such a rule requires the Contracting Parties to balance the importance and value of economic benefit and investment with the principles of environmental law. To guide parties, Article 19 (1) sets out a number of actions to be taken into account:

- (a) **environmental considerations** when planning and implementing energy policies;
- (b) **market-oriented price reform** throughout the energy cycle;
- (c) **encourage cooperation** in attaining environmental objectives of the Energy Charter;
- (d) **have regard to improving energy efficiency**;
- (e) **promote information collection and sharing** among Contracting Parties;
- (f) **promote public awareness of environmental impacts of energy systems** and the costs associated with abatement;
- (g) **promote and cooperate in the research and development** associated with energy; efficiency and environmentally sound technologies and practices to minimise harmful environmental impacts;
- (h) **encourage favourable conditions for transfer and dissemination of such technologies**;
- (i) **promote transparency** in decision making and monitoring of environmental impacts;
- (j) **promote international awareness and information exchange** regarding relevant environmental programmes; and
- (k) **participate** in the development of appropriate environmental programmes where appropriate and within available resources.

Article 19(2) covers disputes arising from the environment, including state-to-state disputes concerning the environment (all other disputes are covered under Art 27). One or more contracting parties are able to take the dispute to Charter Conference for a solution if no other appropriate international forum is available.

31 These include Clare Shine, 'Environmental Protection Under the Energy Charter Treaty', in T. Wälde (ed), *The Energy Charter Treaty* (1996), 520, 522-5; Clare Shine, 'Environmental Policies Towards Mining in Developing Countries' (1992) 10 *Journal of Energy and Natural Resources Law* 327-36; L. Brazell, 'Draft Energy Charter Treaty: Trade, Competition, Investment and Environment.' (1994) 12(3) *Journal of Energy and Natural Resources Law* L 299; T. Wälde and A. Kolo 'Environmental Regulation, Investment Protection and 'Regulatory Taking' in International Law' (2001) 50 *International and Comparative Law Quarterly*. 811; F. X. Perez, 'The Relationship between 'Permanent Sovereignty' and the Obligation not to cause Transboundary Environmental Damage' (1996) 26 *Environmental Law* 1187.