ISSN: 2994-5569

Research Article

World Journal of Forest Research

Approach to 'Climate Change' Sustainability Project, for 'Our Common Future'

Robert Kempton*

Institution of Civil Engineers, Great George St. London, UK

***Corresponding Author**
Robert Kempton, Institution of Civil Engineers, Great George St. London, UK.

Submitted: 2025, Mar 03; **Accepted:** 2025, Apr 09; **Published:** 2025, Apr 25

Citation: Kempton, R. (2025). Approach to 'Climate Change' Sustainability Project, for 'Our Common Future. *World J Forest Res, 4*(1), 01-17.

Abstract

'Sustainable development must meet the needs of the present without compromising the ability of future generations to meet their own needs'. A 'Global Environmental Structure Plan Model' is urgently required, to combat 'climate change' and other serious anthropological effects, which cause serious harm to the Environment. New International Laws must lead this approach to tackle climate change. Man's present ever evolving legal systems comprise a mix of multiple cultures, embracing religious extremes, and results from an erroneous patchwork of divisive boundaries that denotes fragmented environmental legislature. Present uncertain Environmental Principles need to be addressed, as the foundation to a balanced set of Anthropogenic Principles for mankind. A structured framework is necessary which must identify important limbs, to enable a co-ordinated 'Global Structure Plan', namely, Environment/ International Legislative regulatory powers/ Total Renewable Energy. The three branches to embrace 'identified harm' to water pollution including rivers, air pollution, plastic pollution, and Renewable Green Energy related matters. Long term sustainability needs to be established through a new Global Organization, undertaken for peaceful purposes, based on Continents and a single anthropogenic culture. for the protection, care and maintenance of our planet earth.

Keywords: Sustainability, Legal Services Regulations, Climate Change, Incompleteness, Environmental Impact Assessment, Advanced Project Management Solutions (APMS), Renewable Energy

1. Introduction

"The UN Climate Change Conference (COP 29) closed on 24 November 2024, with a compromise on climate financing for a new financial goal to help least developed countries (LDCs) protect their people and economies against climate disasters and share in benefits of the clean energy boom." UN Climate Change Executive, Simon Stiell, referred to it as "an insurance policy for humanity".

A restructured master plan framework towards 'Climate Change' is now required to address the incompleteness of the present anthropogenic systems. An updated approach for the protection of the planet to embrace an integrated co-ordinated global programme strategy is required, and which to date has evolved as a fragmented strategy, with some success, but major 'slippage failure' to the Anthropological 'Climate Change' targets.

The Montreal Protocol is a global agreement to protect Earth's stratospheric Ozone layer, by phasing out the production and consumption of ozone depleting substances (ODS). Mankind's first real strategy with Environmental Laws and regulations was a major success.

"United Nations Convention on Environment and Development", known as the 2nd Earth Summit, Rio de Janeiro, Brazil, 1992 embraced the 'UN Framework Convention on Climate Change' to stabilize the greenhouse gas emissions and to protect from the threat of climate change but the present approach for a net Zero target has already failed.

Article 21adopted the principle of Sustainability, though a master structure plan has not yet been developed and remains incomplete.

Total 'Renewable Energy resources' are necessary for earth's 'long-term sustainability' target. 'V*ast kinetic energy resources* are available for mankind, once additional methodologies have been developed for near future projects. In addition, there are huge quantities of tidal energy linked to the present two main methods,

which are conspicuously omitted from the present British Energy Security Strategy, indicating incompleteness.

A major Environmental Impact Assessment (EIA) Analysis to the "Anthropological Climate Change Project" now demands a structured approach, adopting latest 'project management services solutions' (APMS) *Reference Addendum: Environmental Attachments*, for the approach towards 'substantial completeness' to climate change for planet earth.

A Global Organization is required to be able to achieve long-term sustainability for the planet. A restructured master plan framework towards 'Climate Change' is identified to address the incompleteness of the present anthropogenic systems. An updated approach for the protection of the planet to embrace an integrated co-ordinated global programme strategy is sought, and which to date has evolved as a fragmented strategy, with some success, but with major 'slippage failure' to the Anthropological 'Climate Change' targets.

2. Our Environment

2.1. Definition(s)

The broad definition for 'Our common environment' refers to 'surroundings', generally understood to include air, land and water, and to the natural habitats and ecology, within those surroundings. Legal definitions of environment conventionally take dictionaries as their starting point, which define environment as 'the objects or the region surrounding anything'.

The definition of the environment is a central, but problematic term, in Environmental Law, and is considered to have no singular definition. The legal definition covers the balanced environment, and specifically, to the 'harm' caused by 'pollution', as under the Environmental Protection Act 1990.

The environment is our perception of '*everything we see and understand*'. See Figure 1 for other good examples of the definition of Environment.

Under the 1974 Nordic Convention, '*environmentally harmful activities' are those that result in discharges to water courses, lakes and the sea*….', while the 1991 'Antarctic Environmental Protocol' protects *the climate and weather patterns; air and water quality: atmospheric, terrestrial (including aquatic), glacial or marine environments; and areas of biological, scientific, historic, and aesthetic or wilderness significance*.

Definitions of Environment

Surroundings in which an organization operates, including air, water, land, natural resources, flora, fauna, humans and their interrelationships.
(Environmental Management Standard ISO 14001).

The combination of elements whose complex interrelationships make up the settings, the surroundings and the conditions of life of the individual and of society, as they are or as they felt.
(European Commission).

Figure 1

2.2. Environmental Principles

International Environment Law adopts the concept of 'Environmental Principles' to formulate the approach to tackle environmental problems relating to social and cultural perspectives and have been formulated throughout the history of Environmental Conferences and Protocols. Environmental Principles are taken as a general guide to legal action and not as detailed explicit rules. See figure 2 (Environmental Principles).

Environmental Principles[13]

Sustainable development :
'Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.'
World Commission on Environment (1987) Our Common Future. (Brundtland Report)

The Precautionary Principle:
'Where there are. Threats of serious irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation'.
UN Conference on Environment and Development (1992), also known as the Rio Declaration, Principle 15)

The Preventative Principle :

'.. the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other states or the areas beyond the limits of national jurisdiction"

UN Conference on Environment and Development (UNCED) 1992, Rio Declaration – 'Harm' - Principle 2 & Principle 14.

The Polluters Principle :

'The Polluter should bear the expense of carrying out …pollution prevention and control measures … to ensure that the environment is in an acceptable state. In other words, the cost of these measures should be reflected in the cost of goods and services which cause pollution in production and/or consumption.'

(Organization for Economic Co-operation and Development (OECD). Recommendation of the Council on the Implementation of the Polluters Pays Principle. C(74)223)

The Public Participation Principle :

'Environmental issues are best handled with the participation of all concerned citizens, at the relevant level'

1992 Rio Declaration, Principle 10.

The Integration Principle:

Environmental protection requirements must be integrated into the definition and implementation of the European Union's policies and activities, with a view to promoting sustainable development.

Treaty on the Functioning of the European Union (TFEU, Article 11)

Figure 2

2.3. Common but Differential Responsibilitie

It is formalised in the UNFCCC 1992 and has mention in article 3 paragraph 1, and article 4 paragraph 1.

Paris Agreement 2015, '*recognizing the specific needs and special circumstances of developing country Parties, especially those that are particularly vulnerable to the adverse effects of climate change, as provided for in the Convention*'. Mentioned in Article 2.2 '*to reflect equity and the principle of* **"common but differentiated responsibilities and respective capabilities"***, in the light of different national circumstances*.'

This has yet to be ratified as a recognised Environmental Principle, yet it is likely to become a top priority Principle for the future.

2.4. Environmental Review

A summary review of International Environmental Law

'International Environmental Law' is a gradual evolving process, lacking any form of structure plan and inherited from various sources, loosely based on Environmental Principles established at global conferences over the last 60 years. As such it is fragmented, based on uncertain definitions and sets of planning regulations, which require numerous changes and amendments to enable it to remain fit for that purpose. It remains for the present an incomplete process, that requires a legalised structure plan framework. *Reference: Addendum: Environmental Attachments. History of Climate Change Chart*.

There can be little doubt that the concept of 'sustainable development' has entered the corpus of international customary law, requiring different streams of international law to be treated in an integrated manner. [Sands P, International Courts and the application of the concept of sustainable development, 3 Year of UN Law 389, (1999)].

In the '***Gabcikova-Nagymanaros*' (*Hungary*/*Slovakia*) case**, the ICJ invoked the concept in relation to the future regime to be established by the Parties, The ICJ said: *By invoking the concept of sustainable development, the ICJ indicated that the term has a legal function*.

The Montreal Protocol is a global agreement and entered into force in1989 to protect Earth's stratospheric Ozone layer, by phasing out the production and consumption of ozone depleting substances (ODS). Mankind's first real strategy with Environmental Laws and regulations was a major success. Former UN Secretary General Kofi Annan stated, "*Perhaps the single most successful international agreement to date has been the Montral Protocol*".

2.5. Protocol on Environmental Protection to the Antarctic Treaty – 1991

The Antarctic Treaty was signed in Washington, 1st December

1959. Its main purpose was to demilitarize Antarctica, to establish it as a zone free of nuclear tests and the disposal of radioactive waste, and to ensure that it is used for peaceful purposes only; to promote international scientific cooperation in Antarctica; to set aside disputes over territorial sovereignty.

It remains one of the most successful Protocols in force today and may be classified as a 'long-term sustainability' legalized document.

The United Nations Conference on Environment and Development (UNCED), known as the 2nd 'Earth Summit', held in Rio de Janeiro in June 1992, acknowledged the change in Earth's Climate was a real concern of humankind, recognised concerns for developing countries and the determination to protect the climate system for present and future generations.

The main outputs of UNCED were:

The Rio Declaration, covering 27 environmental principles, / Agenda 21, 40-chapter action plan comprising recommendations to governments, to establish a Sustainability Development Commission to monitor progress, / A Declaration on Forests... / A Convention on Biological Diversity, / A Framework Convention on Climate Change.

"The big failure at Rio was a failure of political leadership, commitment and vision." The United States signed the Climate Change Convention, but it was substantially watered down at the insistence of the United States.

Michael Wines, American journalist reported: "*last month (May 1992) President Bush successfully wielded a threat to boycott the Earth Summit to win concessions from most of the world's nations on a global warming treaty*…".

This year, 2024, 'the Global average temperature reached at about 1.55^{O}C above pre-industrial levels', demonstrating the present climate change strategy has failed.

Both follow up conferences, **the Kyoto Protocol and the Paris Agreement** have failed to meet their main targets.

2.6. Environmental Management Tools

It is Important to review various international operating Strategic EIA Processes, and the development of modern Project Management Services for planning major Infrastructure Projects.

'Impact Analysis' was recognised as a realistic tool towards implementing International Law Principles in the first Earth Summit in Stockholm 1972. It recognised the importance for proper planning to be applied for integrating development with environmental needs, with the aim to avoid adverse effects on the environment and obtain important social and economic benefits for anthropogenic projects. In the second Earth Summit in Rio, Principle 17 sought for a mandatory EIA to be included in national law for any activities that are likely to have a significant adverse effect on the environmental surroundings, while Agenda 21, called on all countries to assess environmental surroundings for all development projects through EIA prior to any decisions.

In the '**Pulp Mills of the River Uruguay Case' (Argentina v Uruguay) [2006]**, it involved international treaties and the disagreement surrounding the Statute of the River Uruguay (1975). Part of the judgement explicitly recognised EIA as an important practice in International Law. The findings were criticised and supported by several judges, though Judge Keith did not agree. This demonstrates that judicial assessment of complex, technical and scientific matters in many international environmental cases, pose significant challenges.

The approach towards a restructured management plan for anthropogenic projects has also to consider and embrace those projects which have been completed to a satisfactory performance level in the UK, and Internationally, and carried out under Contract Law procedures with the use of 'modern advanced project management solutions' (APMS), and in line with and supported by fiscal government policy. "*Advanced Project Management Solutions 'APMS' are an integrated set of project management tools which have been used in an integrated and co-ordinated way, and proven on several major Projects, to achieve good performance standards over several years*". *Reference – Addendum: Explanatory Note – Environmental Attachments*.

In the UK the *Salford Quays Project* covered the reclamation and redevelopment of a redundant inner city brownfield site including contaminated land. Once Salford City Council (SCC) had presented a comprehensive 'Project Co-ordinate Programme' to the 'Department of the Environment' (DoE), 'derelict land grant funding' was released to carry out the five-year programme of works and attract EU and other support funding packages. The full project embraced over 100 No. Infrastructure Contracts and attracted over 20 separate development projects and was completed within the 5-year programme without any major claims. All major Contracts in the UK use the structured Institution of Civil Engineers (ICE) model form of General Conditions of Contract and were used with proven management services tools and procedures. The '*project co-ordinate programme*'is one such integrated APMS tool which achieved proven performance over a 4-year period by the City Council (SCC) and the Department of the Environment (DoE).

The International *Islamabad Sewage Treatment Plant* Project covered the construction of an integrated Sewage Treatment Plant carried out under a French Soft Loan for the Capital Development Authority (CDA), Islamabad, and the Whole of the Works went into Commercial Operation in accordance with the time programme on 18th August 2007, despite the major Earthquake in the region in early October 2005. APMS tools included 'critical path analysis monitoring/control' procedures and are used to trace accurate critical path records through a 'project co-ordinate programme' embracing all Contracts, including the 'On-Shore' and 'Off-shore' Contracts. Such performance indicates the

advantages for specialised Environmental Courts to embrace such procedures to ensure correct decisions are achieved, thus avoiding major extensions of time, and avoiding major delay and additional project costs.

3. Environmental Harm, Embracing Climate Change

3.1. Air Pollution

UK Air pollution legislation has evolved over the last 30 years with Part 1 of the EPA 1990 seeking prevention of Air pollution through permit-based control, leading to the Environmental Permitting Regulations for England and Wales and progressive amendments. This was followed by the Clean Air Act 1993 to address vehicle emissions. The Environment Act 1995 created the establishment and operation for 'GHG' emissions trading scheme, embracing the importance of transboundary effects around the globe. After Brexit the Environment Act 2021 recalled the importance of Air Quality and smoke control regulations in England and Wales.

Pollutants causing concern are carbon monoxide, nitrogen oxide and ozone. Fine particles in vehicle emissions, each less than 10 micrometres across, 'PM10', cause respiration problems by entry of chemicals into the lungs. Ozone at ground or at tropospheric levels is a highly corrosive pollution, based on reaction between sunlight / NO_2 / volatile organic compounds (VOCs) causing summer problems in cities, and 'photochemical smog', comprising micro particles of VOCs/ NOx.

The Secretary of State's Guidance Note 6/9 (04) issued conditions for emissions into the air and guidance on Best Available Techniques (BAT) not entailing excessive cost.

Defra's 'Air Pollution in the UK 2019' was issued in September 2020, as the UK was required to report air quality data on an annual basis under various EU Directives. The Report provides background information on pollutants covered by various EU Directives and UK's Air Quality Strategy: covering the sources / effects / monitoring networks / UKs modelling methodology. The pollutants covered in the report are SO_2 / NO/ NO_2 /PM10 & PM2.5 particles/ Benzene/ 1,3-Butadiene CO / Metals/ PAH/ O_3.

Sulphur dioxide is another major pollutant produced by chemical plants and not effectively controlled under earlier legislation of the 1950s. The method of control was to discharge at height over the surroundings which dispersed over a wide area and fell as acid rain harming freshwater and terrestrial ecosystems in UK and beyond into Europe indicating incompleteness.

3.1.1. The Earth's Wind Pattern Forces change, North / South, at 30° and 60° latitudes along 'fronts', while rotational deflections travel great distances around East / West hemispheres in what is called the 'Coriolis' effect over the surface, spreading man's pollution. Careful global organization from all cultures is now urgently required.

The fragmented progress of UK Air Pollution legislation has lacked structure and remains incomplete, also lacking any unified co-ordinated directive from the global stage. It is now essential to restructure an intelligent approach towards setting out a UK structured framework for 'air pollution' controls based upon 'common but differential responsibility'.

3.2. Water Pollution

The EU 'Water Framework Directive' (WFD) is a complex and particularly elaborate measure which is unusually difficult to understand'. In the case **C-461/13 Bund fur Umwelt und Naturschutz Deutschland**, Advocate General Jaaskinen said 'The WFD is a complex and particularly elaborate measure which is unusually difficult to understand'.

However, the EU WFD does cover all the main aspects relating to Water Pollution control.

In the UK, the Water Framework Directive (WFD) regulatory controls was transposed in 2003 and updated in 2017. It focuses target performance (for member states) to undertake to achieve 'good status', whereas regulatory controls based on specification standards to harness nutrient controls appears to be the preferred choice for 'protecting the water, soil and air.

3.3. Agricultural Pollution

After Brexit there is an opportunity for UK policy and regulatory control to give greater emphasis to specification and process standards, followed by performance targets, through a clearer programme of measures for 'River Basin Management Plans' (RBMP) for nutrient control defined standard levels.

A comprehensive updated co-ordinated planned framework is required to embrace the 'UK Implementation of the Nitrates Directive in England'. This, with the follow up 'Explanatory Memorandum' of NPPR 2008[The Nitrate Pollution Prevention Regulations 2008 No. 2349] and 'Consultation Guidance', together with 'several important Nitrate Pollution Regulations' (NPPR 2016, RPADPR 2018, FW (EU Exit) R 2019).

Following exit from the EU, an approach to reference these important pieces of legislation in a 'reference Chart for environmental legislation for agricultural nutrient controls chart' would be a useful tool, Reference, Addendum: Environmental Attachments. This coordinated structure plan approach requires as a starting point a particular 'environmental impact analysis tool mechanism for managing UK Water Pollution' which would embrace a UK Common Agricultural Policy (CAPUK), good agricultural and environmental conditions for UK farms (GAECUK).

3.4. Plastics Pollution

The 'Resolution adopted by the United Nations Environment Assembly' on 2 March 2022, to 'End plastic pollution', recalled the United Nations Environment Assembly resolutions 1/6, 2/11, 3/7, 4/6, 4/7 and 4/9.

They affirmed the urgent need to strengthen global coordination, cooperation and governance to take immediate action towards

the long-term elimination of plastic pollution in marine and other environments, and to avoid detriment from plastic pollution to ecosystems and the human activities dependent on them.

"The Intergovernmental Negotiating Committee to develop an internationally legally binding instrument on plastic pollution, including in the marine environment", noted with concern the high and rapidly increasing levels of plastic pollution, including in the marine environment.

The draft 'Chair's Text', stated, in December 2024, the objective of this Convention is to protect human health and the environment from plastic pollution.

Major quantities of plastic accumulate in our Oceans, particularly in huge subtropical oceanic areas called gyres. – these are massive circular currents that trap floating debris for decades. *See, Addendum: File Note- Environmental Attachments*.

3.5. Climate Change

Over a decade ago, the UK put into force the Climate Change Act (CCA) 2008, setting targets for a reduction of Greenhouse Gases by 2050, to provide for a system of carbon budgeting for the purpose of limiting GHG from the atmosphere. The Act established 'The Committee on Climate Change' (CCC) to assist in 'carbon management', to monitor, advise and report with 'carbon budgets' and on 'monitoring / control' procedures towards the '2050 target' for reduction of GHG.

Under general ancillary powers the committee may exercise its duties to take action to ensure it carries out its functions under the guidance of National Authorities and the Secretary of State. The British Standards Institute (BSI) fast tracked their Specification for 'Carbon management in Infrastructure' in May 2016, to enable accuracy, transparency, consistency, relevance and completeness of carbon management and GHG emissions quantification. The scope of PAS 2080 is about Carbon management as part of wider climate change mitigation; it is not about wider environmental or sustainability issues.

Under the specification the management *of 'whole life carbon' in UK infrastructure is defined as embracing the 'transport', 'energy', 'water', 'waste" and 'communication' sectors*, and the management services covers the assessment, removal and reduction of GHG emissions measured as 'carbon dioxide equivalent', which relates and covers for the 6 gases quoted in the Kyoto protocol.

The methodology control procedures for the 'practitioner' calculating Infrastructure GHG emissions, is covered in the specification, which were responsible for over half of the UK's GHG consumption in 2010 emissions, a total: 981 million tonnes Mt CO_2e and a programmed emissions target of 178 Mt CO_2e in 2050. CO_2e is a unit for comparing the radiative forcing of a greenhouse gas to carbon dioxide and is calculated using the mass of a given GHG multiplied by its global warming potential. 'GWP' which is the factor describing the radiative forcing impact of one mass-based unit of a given greenhouse gas relative to an equivalent unit of CO_2 over a given period. In 2019 the Climate Change Committee (CCC) Report, 'Net Zero - The UK's contribution to stopping global warming', led to the (CCC) committing the UK Government by law to reduce greenhouse gas emissions by at least 100% of 1990 levels by 2050, which relates to 'net zero'.

The 'Office of Environmental Protection' (OEP) is responsible for Environmental governance, including environmental targets, environmental improvement plans, environmental monitoring and importantly to embrace compliance with the five main environmental principles recorded in the Environment Act 2021.

Following Brexit, and the one-year transition period, the ECJ responsibility as the supreme court in UK ceased. This is now the opportunity for the UK to set out a new structure plan framework for climate change, based on CCA 2008 and augmented to include relevant latest global 'climate change' targets all as set out under the UNFCCC on climate change. It is important to ensure comprehensive environmental analysis on climate change is included in a suite of EIA handbooks.

3.6. Renewable Energy

After Brexit the UK government published its new strategy for renewable energy, "*The British Energy Security Strategy*", is aimed at a faster decarbonization with the approach towards earlier energy security and independence. This early strategy so soon after Brexit had been triggered, because of Russia's special operations in Ukraine, together with UK's increasing reliance on foreign sources, and its principal target is to secure clean and affordable British energy for the long term. The energy renewables targets included offshore & onshore wind power, solar and related technologies, Nuclear and Hydrogen, though with coastal tidal power conspicuously omitted. The European Commission issued the 2nd Report on 'Mapping and Assessment of Ecosystems and their Services - Biodiversity Strategy to 2020' in February 2014, which solely concentrates on mapping the land mass and was based on river basins for their UK state at that time.

Following Brexit, the UK has once again become an Island State, and located at the northern end of the Atlantic gulf stream has massive potential for large renewable energy projects around the irregular shaped coastline and smaller Islands.

While it remains premature to consider major marine opportunities for the Irish and North Seas at this time, the estuaries and jagged coastlines are already being discussed and legislation should now be in place.

3.6.1. The High Seas in Perpetual Motion: It is beyond the scope of this paper to cover 'World energy and power consumption', except to mention the vast kinetic energy resources that are available, once additional methodologies have been developed to harness earth's natural energy sources, as it will provide a longer-

term sustainability for all mankind, once the World's legislation has been ratified and brought into force. At present over 2/3rd of the world is beyond jurisdiction.

The '**Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction**' (BBNJ Agreement) was adopted on 19 June 2023. It is not yet in force.

The objective of this agreement is to ensure the conservation and sustainable use of marine biological diversity of areas beyond normal jurisdiction, for the present and in the long term…….

The BBNJ will "enter into force" when at least 60 countries ratify it. The agreement was opened for signature on September 20, 2023. It will be closed on September 20, 2025. This means countries have given their consent to be bound to it.

Legality status for this important piece of legislation may be checked through the High Seas Ratification Tracker, relating to the 106 duly signed Countries.

4. Long-Term Sustainability

A new approach towards the protection, care and maintenance for Earth must be led by a global framework structure of Environmental Laws, integrated to the concept of 'long-term sustainability'. Throughout history mankind's ever evolving fragmented legal systems has only embraced the land masses, approximately just over a third of the planet surface.

4.1. Oceans, Beyond Normal Jurisdiction: Under the 'United Nations Convention on the Law of the Sea on the Conservation and Sustainable use of Marine Biological Diversity', man at last, in 2023, addressed Laws for the major areas of Earth's surface beyond normal jurisdiction. The Agreement is targeted to be brought into force by September 2025, with '*the objective to ensure the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction for the present and in the long term*.'

4.2. Total Renewable Energy: Long-term sustainable energy is better achieved with a permanent (24/7) total supply of green renewable energy, harnessed from the planet's natural energy forces. Over 70% of the surface of this earth is permanently covered by water in perpetual motion. Once Man has finally grasped the knowledge to develop his additional methodologies to harness the kinetic energy of the seas, and their huge tidal energies around the coastal areas, long term sustainability will be achieved.

In UK, now again an independent Island state, massive tidal energy sources are available because of its unique position, at the head of the north Atlantic gulf stream, along the edge of the western European continent flow current, and between two major masses of water, the Artic and Atlantic Oceans.

4.3. Coastal Management: In 2017, the United Nations estimated that around 40% of the world's population, 2.4 billion people, live withing 100 km of the coast, and 10%, 600 million people live at or below 10 masl. In 2019, and beyond, extreme wildfires, droughts, floods, and extreme rainfall events occurred worldwide, affecting many cities and settlements close to the coastlines.

Damaging and worsening anthropogenic conditions in coastal areas, coupled with the requirement to adapt to climate change, demands a Master Plan for a Global 'Coastal Management' framework embracing the main Continents. The Coastal footprint must include the beaches, continental shelves, their slopes and margins, and the contiguous regional high seas. Environmental Impact Analysis tools, based on strategy plans and programmes, must target longer term stability over the next 100 years, to be linked to 'climate change'.

4.4. New Global Organization: A Global Organization must be Structured to replace Man's present fragmented and ever evolving systems, which are presently cluttered with a mix of multiple cultures, religious extremes and comprising an erroneous patch work of divisive boundaries, denoting nations territories around the world. Population growth and uncertain environmental principles are further driving mankind's intention away from true singular Anthropogenic principles. The Global Organization Structure Plan to be developed under 5 main Continents, embracing Antarctica.

The Protocol on Environmental Protection to the Antarctic Treaty to be considered as a suitable Model. The treaty of 1991 was used for peaceful purposes only, to promote international scientific cooperation, and to set aside disputes over territorial sovereignty. It remains one of the most successful Protocols in force today and may be classified as a long-term sustainability legalised document.

5. Conclusions

A Global Environmental Structure Plan must now be set out and established for our common future, to enable near future anthropology Projects to be built, as the bridge for future generations to achieve successful long-term sustainability.

A structured framework of integrated Environmental Laws must lead the way to meet the challenge of 'climate change' and all other adverse conditions harmful to our environment. The approach to be through a new specialised World Body Environmental Court, to be exempt from the influences of present religious and cultural ideals.

A Comprehensive Management Structure system to be set out, to co-ordinate and develop all anthropogenic Projects. Integrated Strategic Plans and Programmes to be adopted, together with proven 'advanced project management solutions'.

A comprehensive Suite of Handbooks to be developed to manage the strategic 'Environmental Impact Assessment' (EIA) process, to tackle climate change and other adverse harmful effects on the environment.

A lead Tier Global Organization to be set out and developed for the care, maintenance and protection of Earth. To be developed based on five main Continents, for peaceful purposes, without religious / cultural influences.

A new structured 'Coastal Management Master Plan' to be developed for all continents, to tackle pollution, together with embracing the boundary conditions for the vast total green renewable energy supplies available in, on and under the 'High Seas' and Oceans. 'Long-term sustainability' to be the principal target.

For the UK, as an Island State, a 'Total Renewable Green Energy Plan' to be developed to include Tidal Energy, and to be embraced within the present 'British Energy Security Strategy'.

Present Water Pollution policy in the UK needs to address and include for improvement to present Agricultural Legislation Control procedures, as present run-off control procedures within the Rivers Basins areas requires major change,

6. Addendum: Environmental Attachments
6.1. Chart: History of Climate Change Chart
6.2. Chart: UK Agricultural legislation controls reference Chart.
6.3. File Note – Plastics Pollution
6.4. Explanatory Note – APMS – Advanced Project Management Services.

6.1 Chart – History of Climate Change

The United Nations 1st Earth Summit in Stockholm
Conference on the Human Environment on 16th June 1972
Including the Stockholm Declaration and Action Plan for the Human Environment
embracing 26 Principles, placing environmental issues at forefront of international concerns.
United Nations Environmental Programme (UNEP)
is responsible for coordinating responses to environmental issues within the United Nations system.
established after UNIP in Stockholm in June 1972.

↓

Brundtland Report
United Nations published 1987
Gro Harlem Brundtland, former Norwegian Prime Minister, Chair of World Commission on Environment and Development (WCED)
Sustainable development three fundamental pillars: **social, economic and environmental**

↓

The Montreal Protocol
Agreement signed 1987 – entered into force 1989.
On Substances that Deplete the Ozone Layer
Global agreement to protect the Earth's ozone layer by phasing out the chemicals that Deplete it.
Incudes both production and consumption of ozone-depleting substances.

↓

The United Nations Framework Convention on Climate Change. (UNFCCC)
Signed in some 153 Countries at the 2nd Earth Summit in Rio de Janeiro, Brazil in 1992, - 27 Principles.
Signed **Convention on Climate Change (CCC)** Articles 27 - (CBDR)], & **Convention on Biological Diversity (CBD),** endorsed Rio Declaration & Forest Principles, & adopted **Agenda 21**, for sustainable development.
Countries submit plans for climate action, **nationally determined contributions (NDCs) -** Paris Agreement (Article 4).

The **Commission on Sustainable Development (CSD)** to monitor and report on implementation of the

CBD has two supplementary agreements: Cartagena Protocol & Nagoya Protocol (Biosafety – LMOs: governing movement of 'Living Modified Organisms').

The UNFCCC was formed in 1994.

To stabilise the greenhouse gas emissions and to protect the Earth from the threat of Climate Change.

Conference of the Parties (COP)

On Climate Change / Environmental Topics

Apex decision-making body of the UNFCCC

The first conference (COP 1) was held in 1995 in Berlin.

The Kyoto Protocol was adopted on 11 December 1997

Operationalises the UNFCCC

By committing industrial Countries and economies in transition to limit and reduce gases (GHG) emissions.

In accordance with agreed individual targets.

28 Articles / Annex A – CO_2/CH_4/N_20/HFCs/PFCs/SF_6 & Sectors & Source Categories / Annex B – Quantified emission limitation or reduction commitment.

Article 12 - Allows CERs **(Certified Emission reductions)** [equivalent: 1 tonne CO_2]

The Paris Agreement (2015)

Legally binding international treaty on climate change.

Adopted by 196 Countries at COP 21 in Paris, on 12th December 2015

Works on a 5-year cycle of increasingly ambitious climate action carried out by the Countries.

Adopted at COP21 to control 'green house gases' to 1.5^{O}C by 2030.

6.2 UK Agricultural legislation controls reference chart

Protecting our Water, Soil and Air,* A Code of Good Agricultural Practice (DEFRA, 2009)**, Chapter 4 ***(Replaces 3 Codes - Water / Air / Soil)

Manure Management Plan: a step-by-step guide for farmers (DERA, 2003)

Water (Prevention of Pollution) (Code of Good Agricultural Practice) Order 2009, SI No.46

Water Resources (Control of Pollution) (Silage, Slurry and Agricultural Fuel Oil) (England) Regulations 2010 (SI 2010 No.639)

Water Resources (Control of Pollution) (Silage, Slurry and Agricultural Fuel Oil) (England) (Amendment) Regulations 2010 (SI 2010 No.*1091)*

***Explanatory* Memorandum (the SSAFO Regs)**

protection of waters against pollution caused by nitrates from agricultural sources. (91 /676/EEC).

Implementation of the Nitrates Directive in England
7th Report 2007-8
From Council Directive 91/676/EEC (OJ L375, 31.12.1991, P1)

The Nitrate Pollution Prevention Regulations 2008 No. 2349

Explanatory Memorandum

The Protection of Waters against Pollution from Agriculture - Consultation on Implementation of the Nitrates Directive of 2013 - 2016 (December 2011)

Fulfils Defra's obligations under the Directives to carry out a **review every 4 years** of its designations of Nitrate Vulnerable Zones **(NVZs)**

Guidance on complying with the Rules for Nitrate Vulnerable Zones for 2013 to 2016

Nitrate Pollution Prevention Regulations 2015, (SI 2015 No.668)

Nitrate Pollution Prevention (Amendment) (No.2) Regulations 2016 (SI 2016 No.1254)

Environmental Permitting (England and Wales) Regulations 2010 SI No. 675
Environmental Permitting (England and Wales) Regulations 2016 SI 1154
Regs 12, 38-41, 44 and Schedule 21

Reduction and Prevention of Agricultural Diffuse Pollution (England) Regulations 2018 (SI 2018 No 151)

Explanatory Memorandum (enforced by EA)

Floods and Water (Amendment etc.) (EU Exit) Regulations 2019 (SI 2019 No.558)

Regs 13 &16 cover and amend SI 2010 No.1091 / NPPR 2015

Reg 4 amends s93 WRA 1991, to ensure it's 'fit for purpose''

review every 4 years begins on 1st January 2016

6.3 File Note

January 2025

Subject: ……. Plastic Pollution

History:

Plastic was first developed in mid-19th Century = replacement for natural materials such as ivory and tortoiseshell.[94]

1st Synthetic plastic, called celluloid. – created by John Wesley 1869. First produce photographic film, later consumer products: combs, buttons, billiard balls, etc.

Early 20th Century, invention Bakelite. This paved the way for mass production of plastic products.

Plastic packaging became most visible use of plastic in our daily lives. Environmental Impact. Can take hundreds of years to decompose.

Plastic in Food and Beverage Industry. -keep food fresh and prevent spoilage.

Ocean Plastics.

Nearly half plastic sinks because of low buoyancy.

Other half floats – majority does not go far out to sea. 80% beach on coastline within month. HDPE likely to travel long distances.

Plastic accumulates in huge subtropical oceanic areas called gyres. -massive circular currents that trap floating debris for decades.

5 gyres in our oceans. Great Pacific Garbe Patch(GPGP) , in North Pacific, between Hawaii & California. (Estimated twice size of Texas.)

Around 100 million kilograms of plastic estimated in (GPGP)- 1.8 trillion pieces larger than 0.5 mm. About 8% of the mass is microplastics.

Definition: Microplastics are plastic pieces that measure less than five millimetres across. (Some microplastics have formed by breaking away from larger plastics that have fragmented over time. Others have been made small intentionally, for example cosmetic microbeads used in facial scrubs.)

Reference: Conventions & Assemblies:

United Nations Environment Assembly of the United Nations Environment Programme
UNEP/EA.5/Res.14
Distr.: General 7 March 2022

'Intergovernmental Negotiating Committee to develop an international legally binding instrument on plastic pollution, including in the marine environment'
1 December 2024
CHAIR'S TEXT1

Plastics. In the Ocean:
https://noc.ac.uk/under-the-surface/ocean-plastics

6.4 Explanatory Note: Advanced Project Management Solutions

Typical Definition: Advanced Project Management Services are proven services, utilising integrated management services tools, as instruments, to achieve consistent satisfactory project performance, to timescale and budget, covering identification, planning, organization, control and communication techniques, and where necessary, embracing transboundary borders to satisfy cultural requirements for global projects.

Classification: Proven success of a few significant size projects.
(Levels: for example … Performance achievement at least 3 significant size projects)
[Domestic and global / various disciplines / various recognised contract suites]

Management services tools / Instruments: Utilization of a few individual management services tools, combined to create satisfactory instruments to supervise / manage the progress throughout the duration of the project up to satisfactory completion / performance standard.

Communication: Creation of a satisfactory working relation between Parties to the Contract, to ensure correct communication, where necessary embracing cultural requirements, in compliance with the Employer's regulations and guidelines.

Example 1: **UK Project Government Funding through Department of Environment** (DoE) + EU + others
Salford Quays Project[95]: adopted ***'advanced project management services'*** based upon strategic structured planning and skeleton co-ordinate programme for development throughout the (5 year) project period.
The unpublished Paper "A Study into Project Management Services at Salford Quays" (submitted to the Institution of Civil Engineers in 1989) describes in detail the foundation principles adopted towards advancing the necessary plans and programmes for a proper strategic and structured approach for management of the Project.
The Paper is structured under five main headings: **Identification / Communication / Planning / Organization / Controls.**
Identification: Problem areas covering risk assessments likely to result in Developers / Contractors Claims
Communication: Forging the correct relationship between the various Parties involved in the Project, including Government / City Council / Developers / Contractors / Leading Officers representing the various Parties.

Example 2: **International Funded Institution (IFI): French Soft Loan**.
Islamabad Wastewater Project[96], 2005-2007: Adopted (APMS) services to achieve timely completion and budget in 2007, despite major Earthquake in 2005, civil unrest in 2007 (Lal Masjid Mosque Islamabad) and Employer (CDA)programme slippage of trunk sewer Contract. Project Co-ordinate Programme / Test on Completion Structure Plan / Approach to Completion Structure Plan, were 3 main tools used to deliver programme).

Example 3 Wadi Arab and Wadi Hassan Double Project[97]. **(IFI) German funding (KfW) Project.**
APMS adopted in November 1997 to recover the heavily delayed Wadi Arab Project.
Employer: Water Authority of Jordan (WAJ), Amman, Jordan. Engineer: JV of German Environmental Consultants (DAR) GmbH/ Rhein Ruhr International (RRI) GmbH / Sigma

Example 4: **(IFI) German funding (KfW) Project**.
Fethiye Wastewater Project[98]. APMS services were adopted to meet Client's requirement for early commercial operation prior to the Turkish National elections in February 2004**.**
[Reference to archived Project Completion Reports]

Example 5: (IFI) **World Bank funding Project[99]. *[Reference to archived Project Completion Report]***
1st National WS & S Project Azerbaijan (4Rayons) Project[100]. Protracted 8-year duration under 2 Consultants. – APM July 2016: 'Approach towards Project Completion Structure Plan' Model, 6 months. Achieved satisfactory project closure.

Bibliography

Table of Cases

Gabcikovo-Nagymaros Project (Hungary/Slovakia) ICJ Rep 7 (80)
Pulp Mills of the River Uruguay Case (Argentina v Uruguay) [2006] ICJ
C-461/13 Bund fur Umwelt und Naturschutz Deutschland

Table of Legislation / Conventions

1. World Commission on Environment and Development (WCED), Brundtland Report, 1987
2. 2nd Earth Summit United Nations Framework Convention on Climate Change (UNFCCC), Rio de Janeiro, June 1992, comprising 27 Articles and Principles
3. 1st Earth Summit, Stockholm 1972
4. AGENDA 21: United Nations Conference on Environment & Development Rio de Janeiro, Brazil, 3 to 14 June 1992
5. Environmental Protection Act 1990, (EPA 1990) UK Public General Acts . 1990 c 43
6. United Nations Conference on Environment and Development (UNWED), Rio de Janeiro, 3-14 June 1992
7. Clean Air Act 1993, UK Public General Acts, 1993, c 11
8. Environment Act 2021, UK Public General Acts, 2021 c 30
9. Water Environment (Water Framework Directive) (England and Wales) Regulations 2003, SI 2003 No. 3242
10. Water Environment (Water Framework Directive) (England and Wales) Regulations 2017, SI 2017, No. 407
11. Implementation of the Nitrates Directive in England, 7th Report 2007-8
12. Council Directive 91/676/EEC (OJ L375, 31.12.1991, P1)
13. The Nitrate Pollution Prevention Regulations 2008 No. 2349
14. Reduction and Prevention of Agricultural Diffuse Pollution (England) Regulations 2018 (SI 2018 No. 151)
15. Floods and Water (Amendment etc.) (EU Exit) Regulations 2019 (SI 2019 No. 558)
16. Climate Change Act 2008, UK Public General Acts, 2008, c 27
17. Environment Act 2021, UK Public General Acts, 2021, c 30
18. UNFCCC, United Nations, FCCC/INFORMAL/84, GE.05-622200 (E) 200705
19. Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable use of marine biological diversity of areas beyond National Jurisdiction (BBNJ), New York, 20 September 2023. Presented to UK Parliament October 2023. [This Agreement is not in force]

References

1. "*The Earth Summit: What went wrong at Rio*?" Sir Geoffrey Palmer, Washington University Law Quarterly, Volume 70, Number 4, 1992,
2. 1st NWSSP(National Water Supply & Sanitation Project)- 4 Rayons Project 2008 - 2016, Employer; National Water Supply and Sanitation Authority (AZERSU), Baku Azerbaijan, Engineer: JV p2m berlin GmbH – GMR
3. B. R. Hindle, D. T. Johnstone, R.C. Kempton, J. H. Morgan, Institution of Civil Engineers, Proceedings, Part 1, Design and Construction, December 1989, Volume 86, *Salford docks urban renewal: design, construction and management of civil engineering works*
4. British Energy Security Strategy, HM Government, April 2022
5. Contract conditions produced by the UK Institution of Civil Engineers ;
6. Cross-Compliance under the Common Agricultural Policy: A Possible Mechanism for Stronger Standards
7. David Hughes, Tim Jewell, Jason Lowther, Neil Parpworth, Paula de Prez, fourth edition.
8. Department of Environment food and rural affairs (defra), Code of Good Agriculture Practice, 1st published 2009 ISBN 978 0 11 243284 5
9. Department of Environment, Food and Rural Affairs, 'Air Pollution in the UK 2019'Directive 2008/50/EC
10. Editors K.N. White, E.G. Bellinger, A.J. Saul, M. Symes and K Hendry, *Urban Waterside Regeneration, problems and prospects, 1993*.
11. End plastic pollution: *recalling UNEA resolutions*
12. European Commission, Mapping and Assessment of Ecosystems and their Services, Indicators for ecosystem assessments and their services, 2nd Report - Final 2014
13. Fourth Daughter Directive (2004/107/EC)
14. French funded project: "Improvement/Refurbishing of Sewage Treatment Plant Phase-I, II, Rehabilitation of Sewage Treatment Plant Phase - III, and Construction of Sewage Treatment Plant Phase-IV, Islamabad, 2005 - 2007 (the

Project)
15. Greater Irbid Sewerage and Sanitation Double Project, for Greater Irbid, Jordan, 1996-2001
16. Improvement / Refurbishment of Sewage Treatment Plant Phase-I,II, Rehabilitation of Sewage Treatment Phase-III and construction of **new** integrated Sewage Treatment Plant Phase-IV, 2004-2007; Employer: Capital Development Authority, Islamabad, Consultant: BCEOM International, Montpellier, France.
17. Intergovernmental Negotiating Committee to develop an international legally binding instrument on plastic pollution, including in the marine environment, 1 December 2024, Chair's Text
18. Manchester University – Andrew Aveyard – Business Development Executive for Energy Montreal Protocol
19. National Geographic, Learn with us. The Coriolis Effect: Earth's Rotation and Its Effects on Weather https://www.nationalgeographic.org/encyclopedia/coriolis-effect/
20. PAS 2080:2016, British Standard Institute Publicly Available Specification, Carbon Management in infrastructure, Construction Leadership Council, The Green Construction Board, 31 May 2016
21. Philippe Sands and Jacqueline Peel, with Adriana Fabra and Ruth MacKenzie, Principles of International Environmental Laws, 4th Edition,
22. Process Guidance Note 6/9 (04), Crown copyright 2004, defra, Scottish Executive, Welsh Assembly Government; (BATNEEC)
23. Reference: The Institution of Civil Engineers Proceedings, Part 1, Design and Construction, December 1989, pages 1067-1087, Paper: "Salford Docks urban renewal: design, construction and management of civil engineering works", B.R. Hindle, D.T. Johnson, R.C. Kempton, J.H. Morgan
24. Research Gate November 2022, https://www.researchgate.net/post/Looking_back_why_did_the_1997_Kyoto_protocol_actually_failed
25. Robert Kempton, "*Approach Towards a Total UK Environmental Energy Master Plan for Clean Renewable Energy, Reviewing the Incompleteness of the British Energy Security Strategy after Brexit, and Embracing Tidal Waters and other Innovative Sources*", June 2024, Addendum A, Information Sheet, Energy: Information – Organization – Regulations. // 5.0 Identify Research into various methodologies to harness tidal energy.
26. Addendum C, Statistics – Power Consumption,
27. Robert Kempton, Restructuring of the Environmental Impact Process (EIA) after Brexit, for Incompleteness', November 2023.
28. Sam Boyle, The Case for Regulation of Agricultural Water Pollution.
29. Stuart Bell, Donald McGillivray, Ole W. Pedersen, Emma Lees, Elen Stokes, Environmental Law, Ninth edition
30. The Fruits of Rio, – Sir Geoffrey Palmer P.C., K.C.M.G. A.C., formerly Minister for the Environment and Prime Minister of New Zealand, 1991
31. The Hague Justice Portal, Dr. Panos Merkouris, 'Case concerning Pulp Mills on the River Uruguay: Of Environmental Impacts Assessments and Phantom Experts'
32. UN Environment Assembly of the United Nations Environment Programme, 7 March 2022, UNEEP/EA.5/Res.14, Resolution adopted by the United Nations Assembly on 2 March 2022.
33. United States Institute of Peace, 9 May 2024
34. Wastewater Collection & Treatment Facilities for Fethiye, 2002-2004, Employer: Fethiye Municipality (FESKI) Turkey. Engineer: JV of MVV CWE GmbH / DAR GmbH / TÇT
35. Weather, Government Webpage, Flight Environment, Prevailing Winds, Hemispheric Prevailing Winds.
36. Welcome to the United Nations, Percentage of Total Population Living in Coastal Areas,
37. Wolf and Stanley on environmental law, Susan Wolf and Neil Stanley, sixth edition. 2014
38. World Meteorological Organization – 25 November 2024

Foot Notes

[1]World Meteorological Organization – 25 November 2024

[2]UN – Welcome to the United Nations – 300 billion Dollar annual pledge, - target to reach "at least 1.3 trillion by 2035", COP29, Baku, 25 November 2024

[3]Montreal Protocol – substances controlled by treaty listed. In Annexes A (CFCs, halogens), B (other CFCs fully halogenated, carbon tetrachloride, methyl bromide) ,and F (HFCs)

[4]2nd Earth Summit ,United Nations Framework Convention on Climate Change (UNFCCC), Rio de Janeiro, June 1992, comprising 27 Articles and Principles

[5]AGENDA 21: United Nations Conference on Environment & Development Rio de Janeiro, Brazil, 3 to 14 June 1992

[6]Manchester University – Andrew Aveyard – Business Development Executive for Energy https://edinburgh-innovations.ed.ac.uk/case-studies/offshore-renewables-the-untapped-potential-of-ocean-energy - / Professor Henry Jeffrey; and sustainable footprint, Harnessing from the Ocean. From: The World Business Council for sustainable development (WBCSD), Published May 30, 2008.

[7]Restructuring of the Environmental Impact Process (EIA) after Brexit, for Incompleteness', 3.4 UK and International Cases embracing project reviews, "definition of proven advanced project management solutions" (APMS), November 2023

[8]Reference: Wolf and Stanley on environmental law, Susan Wolf and Neil Stanley, sixth edition. 2014, 1.4.1.2, Environment, 1st sentence.

[9]Philippe Sands and Jacqueline Peel, with Adriana Fabra and Ruth MacKenzie, Principles of International Environmental Laws, 4th Edition, p14, ref foot note 58, Compact Oxford English Dictionary, 2nd Ed, 523

[10]Stuart Bell, Donald McGillivray, Ole W. Pedersen, Emma Lees, Elen Stokes, Environmental Law, Ninth edition, page 7, 'Environment(al)', first sentence.

[11]Environmental Protection Act 1990, UK Public General Acts . 1990 c 43, Part I, Preliminaries, s(2) environment, s(3) pollution , s(4) harm.

[12]Sands P et al, Principles of International Environmental Laws, The Environment and International Law: Defining Terms, p15.

[13]Sands P et al, Principles of International Environmental Laws, 4th Edition, p 56, Box 3.

[14]Sands P, International Courts and the application of the concept of sustainable development, 3 Year of UN Law 389, (1999)

[15]Montreal Protocol – substances controlled by treaty listed. In Annexes A (CFCs, halogens), B (other CFCs fully halogenated, carbon tetrachloride, methyl bromide) ,and F (HFCs)

[16]"The Earth Summit: What went wrong at Rio?" Sir Geoffrey Palmer, Washington University Law Quarterly, Volume 70, Number 4, 1992, IV. The Fruits of Rio, p 1015-1016. – Sir Geoffrey Palmer P.C., K.C.M.G. A.C., formerly Minister for the Environment and Prime Minister of New Zealand, 1991 Laureate

[17]"The Earth Summit: What went wrong at Rio?" Sir Geoffrey Palmer, p1007, line 3.

[18]"The Earth Summit: What went wrong at Rio?", p1021, D. Convention on Climate Change, lines 2-3.

[19]"The Earth Summit: What went wrong at Rio?", p1021, footnote 77

[20]UN Environment Programme, January Briefing publication, 14th January 2025

[21]Research Gate November 2022, https://www.researchgate.net/post/Looking_back_why_did_the_1997_Kyoto_protocol_actually_failed

[22]United States Institute of Peace, 9 May 2024 https://www.usip.org/publications/2024/05/international-action-climate-change-failing-how-can-it-be-strengthened#:~:text=The%20Paris%20Agreement's%20reliance%20on,Ukraine%20and%20the%20Middle%20East.

[23]Stockholm Earth Summit, 1972, Principles 14 and 15

[24]United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992, Annex I, Rio Declaration on Environment and Development, Principle 17

[25]Ibid, Annex II, Agenda 21

[26]Sands P et al, Principles of International Environmental Law, p 351-355

[27]The Hague Justice Portal, Dr. Panos Merkouris, 'Case concerning Pulp Mills on the River Uruguay: Of Environmental Impacts Assessments and Phantom Experts', I Introduction, page 2, last para, reference fn10 on Precautionary principle.

[28]Sands P et al, para 2, line 21, foot note 131 354

[29]Ibid, The Case Concerning Pulp Mills on the Uruguay River, last para, 1st sentence 355

[30]B. R. Hindle, D. T. Johnstone, R.C. Kempton, J. H. Morgan, Institution of Civil Engineers, Proceedings, Part 1, Design and Construction, December 1989, Volume 86, Salford docks urban renewal: design, construction and management of civil engineering works 1067-1087

[31]Ibid, 1081-1087

[32]Editors K.N. White, E.G. Bellinger, A.J. Saul, M. Symes and K Hendry, Urban Waterside Regeneration, problems and prospects, 10.7 Funding, para (1.) 89

[33]Contract conditions produced by the UK Institution of Civil Engineers ; https://civilengineeringx.com/project-managment/contract-conditions-produced-by-the-uk-institution-of-civil-engineers/

[34]Reference, footnote 28.

[35]French funded project: "Improvement/Refurbishing of Sewage Treatment Plant Phase-I, II, Rehabilitation of Sewage Treatment Plant Phase - III, and Construction of Sewage Treatment Plant Phase-IV, Islamabad, 2005 - 2007 (the Project)

[36]Clean Air Act 1993, UK Public General Acts, 1993, c 11

[37]Environment Act 2021, UK Public General Acts, 2021 c 30, PART 4 Air quality and environmental recall s72 - schedule 11 - local air quality framework & s73 schedule 12 - smoke control in E&W

[38]David Hughes, Tim Jewell, Jason Lowther, Neil Parpworth, Paula de Prez, fourth edition, Further issues in atmospheric pollution, 548

[39]Process Guidance Note 6/9 (04), Crown copyright 2004, defra, Scottish Executive, Welsh Assembly Government; (BATNEEC)

[40]Department of Environment, Food and Rural Affairs (Defra), 'Air Pollution in the UK 2019' published September 2020.

[41]Ibid, 1 Introduction, para 3; Directive 2008/50/EC; Fourth Daughter Directive (2004/107/EC) reference endnote 2.

[42]Weather, Government Webpage, Flight Environment, Prevailing Winds, Hemispheric Prevailing Winds. https://www.weather.gov/source/zhu/ZHU_

Training_Page/winds/Wx_Terms/Flight_Environment.htm#:~:text=The%20pressure%20gradient%20causes%20the,flow%20parallel%20to%20the%20isobars.

[43]National Geographic, Learn with us. The Coriolis Effect: Earth's Rotation and Its Effects on Weather https://www.nationalgeographic.org/encyclopedia/coriolis-effect/

[44]UNFCCC, The Rio Declaration on Environment and Development, June 1992, Principle 7

[45]Bell S et al, The Water Framework Directive, Box 'CONSIDER THIS' p 626

[46]Water Environment (Water Framework Directive) (England and Wales) Regulations 2003, SI 2003 No. 3242

[47]Water Environment (Water Framework Directive) (England and Wales) Regulations 2017, SI 2017, No. 407

[48]Sam Boyle, The Case for Regulation of Agricultural Water Pollution, Performance standards under the Water Framework Directive, lines 1-2 7

[49]Stuart Bell et al, p 627, para 2, line 6

[50]Department of Environment food and rural affairs (defra), Code of Good Agriculture Practice, 1st published 2009 ISBN 978 0 11 243284 5

[51]The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017, Part 6, ss 26-33

[52]Implementation of the Nitrates Directive in England, 7th Report 2007-8, from Council Directive 91/676/EEC (OJ L375, 31.12.1991, P1)

[53]The Nitrate Pollution Prevention Regulations 2008 No. 2349

[54]The Protection of Waters against Pollution from Agriculture - Consultation on Implementation of the Nitrates Directive (Dec' 2011)

[55]Nitrate Pollution Prevention (Amendment)(No.2) Regulations 2016 (SI No. 1254)

[56]Reduction and Prevention of Agricultural Diffuse Pollution (England) Regulations 2018 (SI 2018 No. 151)

[57]Floods and Water (Amendment etc.) (EU Exit) Regulations 2019 (SI 2019 No. 558)

[58]Ref. Skeletal reference Charts for UK agricultural legislation controls reference chart, Environmental Attachments.

[59]Cross-Compliance under the Common Agricultural Policy: A possible mechanism for stronger standards

[60]UN Environment Assembly of the United Nations Environment Programme, 7 March 2022, UNEEP/EA.5/Res.14, Resolution adopted by the United Nations Assembly on 2 March 2022.

[61]Ibid, 5/14, End plastic pollution: recalling UNEA resolutions, front page

[62]Intergovernmental Negotiating Committee to develop an international legally binding instrument on plastic pollution, including in the marine environment, 1 December 2024, Chair's Text, Preamble.

[63]Ibid, footnote 1, This draft text….

[64]Ibid, CHAIR'S TEXT, Preamble, The Parties to this Convention, opening sentence, 1 December 2024

[65]Climate Change Act 2008, UK Public General Acts, 2008, c 27

[66]ibid, Part 1, Carbon Budgeting, regs, 4-10

[67]ibid, Part 2, The Committee on Climate Change, regs (32((33)(34)(35)(36)(37)(38)(39)(40)(41)(42) (43).

[68]ibid, Part 1, Carbon Targeting and budgeting, The target for 2050, s1

[69]ibid, Part 6, General supplementary provisions, regs (89)(90)(91)(92)(93)(94)(95)(96)(97)(98)(99) (100) (101)

[70]PAS 2080:2016, British Standard Institute Publicly Available Specification, Carbon Management in infrastructure, Construction Leadership Council, The Green Construction Board, 31 May 2016

[71]Ibid, 1 Scope, Table 1, The scope of PAS 2080

[72]Ibid, 1 Scope, lines 1-2

[73]Ibid, 3.17 greenhouse gases (GHGs), NOTE 2.

[74]ibid, 7 Quantification of GHG emissions, 7.1.4 Study period

[75]ibid, 0 Introduction, 0.1 Infrastructure and greenhouse gas emissions, Figure 1, [figures extrapolated from chart]; CO2e means Carbon Dioxide equivalent,

[76]Ibid, 3.7 carbon dioxide equivalent (CO2e); [BS ISO 14064-1]: 2006; pas 2050: 2011]

[77]Ibid,3.16 global warming potential (GWP); BS ISO 14084-1: 2006

[78]Net Zero, The UK's contribution to stopping global warming, Committee on Climate Change, May 2019.

[79]Environment Act 2021, UK Public General Acts, 2021, c 30, Chapter 2, The Office for Environmental Protection, s 22 - 43

[80]ibid, Reg. 17(1)(2)(3)(4)(a)(b)(5)(a)(b)(c)(d)(e)

[81]UNFCCC, United Nations, FCCC/INFORMAL/84, GE.05-622200 (E) 200705

[82]British Energy Security Strategy, HM Government, April 2022

[83]British Energy Security Strategy, Renewables, pages 16-23

[84]British Energy Security Strategy, Renewables, page 21, advanced new small modular Reactors (SMRs) (AMRs)

[85]European Commission, Mapping and Assessment of Ecosystems and their Services, Indicators for ecosystem assessments and their services, 2nd Report - Final 2014

[86]Examples: Severn Estuary Barrage / Mersey Estuary Tidal Project-Liverpool Bay Lagoons / Swanage Bay Tidal Lagoon

[87]"Approach Towards a Total UK Environmental Energy Master Plan for Clean Renewable Energy, Reviewing the Incompleteness of the British Energy Security Strategy after Brexit, and Embracing Tidal Waters and other Innovative Sources", June 2024, Addendum A, Information Sheet, Energy: Information – Organization – Regulations.

[88]Ibid, Addendum C, Statistics – Power Consumption , https://ssrn.com/abstract=4831998

[89]Ibid, 5.0 Identify Research into various methodologies to harness tidal energy.

[90]High Seas Alliance, High Seas Treaty Ratification Tracker, https://highseasalliance.org/treaty-ratification/

[91]Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable use of marine biological diversity of areas beyond National Jurisdiction (BBNJ), New York, 20 September 2023. Presented to UK Parliament October 2023. [This Agreement is not in force]

[92]Ibid, Article 2, General objective, first sentence.

[93]Percentage of Total Population Living in Coastal Areas, Welcome to the United Nations, https://www.un.org/esa/sustdev/natlinfo/indicators/methodology_sheets/oceans_seas_coasts/pop_coastal_areas.pdf
[94]orders@plasticonline.com.au
[95]Reference: The Institution of Civil Engineers Proceedings, Part 1, Design and Construction, December 1989, pages 1067-1087, Paper: "Salford Docks urban renewal: design, construction and management of civil engineering works", B.R. Hindle, D.T. Johnson, R.C. Kempton, J.H. Morgan
[96]Improvement / Refurbishment of Sewage Treatment Plant Phase-I,II, Rehabilitation of Sewage Treatment Phase-III and construction of new integrated Sewage Treatment Plant Phase-IV, 2004-2007; Employer: Capital Development Authority, Islamabad, Consultant: BCEOM International, Montpellier, France.
[97]Greater Irbid Sewerage and Sanitation Double Project, for Greater Irbid, Jordan, 1996-2001.
[98]Wastewater Collection & Treatment Facilities for Fethiye, 2002-2004, Employer: Fethiye Municipality (FESKI) Turkey. Engineer: JV of MVV CWE GmbH / DAR GmbH / TÇT
[99]1st NWSSP(National Water Supply & Sanitation Project)- 4 Rayons Project 2008 - 2016, Employer; National Water Supply and Sanitation Authority (AZERSU), Baku Azerbaijan, Engineer: JV p2m berlin GmbH – GMR.