



Glossary

AAPA	See Aboriginal Areas Protection Authority below.
AASS(s)	See actual acid sulfate soil(s) below.
abiotic	Non-living; devoid of life.
Aboriginal Areas Protection Authority	Abbreviated as AAPA . A statutory authority established under the <i>Northern Territory Aboriginal Sacred Sites Act</i> (NT) to administer sacred-site protection in the Northern Territory. The Administrator of the Northern Territory appoints members to the Authority, which administers the Act at arm's length from the day-to-day operations of the Northern Territory Government.
Aboriginal cultural heritage	The unique and irreplaceable legacy of the ancient, diverse and complex cultures of the original inhabitants of continental Australia. It encompasses cultural heritage as commonly understood but is particularly notable for its emphasis on the particular affinity that Aboriginal people have with the land, and the importance they place on social values and traditions, customs and practices, aesthetic and spiritual beliefs, artistic expression and language.
acid gas removal unit	Abbreviated as AGRU . Before raw natural gas can be processed and liquefied it has to be cleansed of impurities. Two of these are the "acid" gases carbon dioxide (CO ₂) and hydrogen sulfide (H ₂ S). The CO ₂ has to be removed from the gas stream to prevent it from freezing in the liquefaction process and blocking the main cryogenic heat exchanger and other equipment. The H ₂ S is removed from the gas stream to meet buyers' specifications for the final gas products. The Ichthys Project's AGRU removes the acid gases from the hydrocarbon gas stream using activated methyldiethanolamine. See activated methyldiethanolamine below.
acid sulfate soil(s)	Abbreviated as ASS(s) . Naturally occurring soft sediments and soils containing sulfides of iron, principally iron disulfide (FeS ₂) but also iron monosulfide (FeS). The exposure of the sulfides in such soils to oxygen by drainage or excavation leads to their oxidation and to the generation of sulfuric acid. This in its turn reacts with other soil constituents to liberate naturally occurring heavy metals, such as aluminium, manganese, copper and arsenic, into soil and drainage waters. These substances are toxic in varying degrees to plants, fish, etc. See actual acid sulfate soil(s) and potential acid sulfate soil(s) below.
activated methyldiethanolamine	Abbreviated as aMDEA . An aqueous solution of methyldiethanolamine (MDEA) to which an activator has been added to accelerate the rate of absorption of carbon dioxide (CO ₂) by the MDEA. The activator may be any of several organic compounds. See MDEA and methyldiethanolamine below.
actual acid sulfate soil(s)	Abbreviated as AASS(s) . Acid sulfate soils which have been subjected to disturbance and exposed to air. This exposure has therefore already resulted in the oxidation of some of the sulfides and the generation of liquid and leachable sulfuric acid. This acid moving through the soil has the potential to liberate naturally occurring heavy metals such as aluminium, manganese, copper and arsenic, which can cause secondary contamination of soils and water. These substances are toxic in varying degrees to plants, fish, etc. See acid sulfate soil(s) above and potential acid sulfate soil(s) below.

adsorption	The adhesion of molecules of a gas, liquid or dissolved substance as an ultrathin layer on the surface of (usually) solids.
aeolianite	A sedimentary rock formed from windblown sand that has been cemented by carbonates. See calcarenite below.
AGRU	See acid gas removal unit above.
airgun	A source of energy used to acquire seismic data in the marine environment. The airgun releases highly compressed air to produce an explosive blast into the water surrounding the gun. The shock waves are reflected and refracted by the subsurface layers of sediments and rocks and the returning signals are received by hydrophones.
airshed	A definable geographical area within which the movement of air containing gaseous emissions from industry, agriculture, bushfires, etc., takes place. An airshed will often be separated from other airsheds by local topographical and sometimes meteorological constraints.
ALARP	An acronym for the words “as low as reasonably practicable”. This is a term used in the field of risk management and describes a process where the benefits of taking an action to minimise risk are evaluated with consideration of the practicality and costs of taking (or not taking) that action.
alkane	Any of a series of saturated hydrocarbons having the general formula C_nH_{2n+2} . The first five alkanes in the series are methane (CH_4), ethane (C_2H_6), propane (C_3H_8), butane (C_4H_{10}) and pentane (C_5H_{12}).
aMDEA	See activated methyldiethanolamine above.
anastomosing	Branching and recombining in a reticulated pattern, as in the channels in river deltas, the reticulation of veins in a leaf, or the cross-connections of arteries.
anoxic	Lacking (or deficient in) oxygen.
anthropogenic	Created or caused by man, or originating from human activity.
aspect	See environmental aspect below.
asphaltene	Asphaltenes constitute the heaviest component of crude oil. They are characterised by high molecular weight, often exist in solid form at room temperature, and are relatively non-volatile. Condensates contain very low levels of asphaltenes. See condensate below.
ASS(s)	See acid sulfate soil(s) above.
Australian emissions unit	The term used in Australian climate-change legislation to refer to a carbon pollution permit. See carbon pollution permit below.
avifauna	All of the bird species of a given region, taken collectively.
barotropic	Of tidal currents, flows induced by the horizontal forces resulting from a slope in the water surface.

bathymetry	The measurement of the depth of water in oceans and other large waterbodies.
benthic zone	The lowest levels in a body of water such as a sea or a lake, including the upper subsurface layers of the sediment. See littoral zone , sublittoral zone and supralittoral zone below.
benthos	The organisms attached to, or living on, in or near the seabed (or riverbed or lake floor).
billion	A thousand million (10 ⁹ or 1 000 000 000). In the International System of Units (the SI) the prefix “giga-” (symbol G) indicates the value 10 ⁹ .
bioaccumulation	The increase in concentration of a usually toxic substance (e.g. a heavy metal such as lead or mercury or a pesticide such as DDT) in the tissues of a plant or an animal at a particular level in a biological food chain. Such toxins accumulate because they are absorbed at a faster rate than they can be excreted or broken down. Compare with biomagnification below.
bioavailability	In ecology, this term is used to describe the degree to which a substance existing or released into a particular environment is actually available for uptake by a living organism or organisms, for example a toxic metal or chemical in an aquatic ecosystem. Potentially toxic elements or substances may be unavailable for biological uptake because they are present in a form that organisms cannot absorb.
biochemical oxygen demand	Abbreviated as BOD . A measure of water pollution representing the content of biochemically degradable organic substances in water or effluent. It is typically measured as the mass of oxygen in milligrams per litre of water absorbed by a sample kept at 20 °C for five days. The oxygen is used by micro-organisms which break down organic materials into carbon dioxide and water.
bioclastic	Descriptive of sediments composed of broken fragments of organic skeletal matter, for example bioclastic limestones composed of shell fragments.
bioconcentration	The accumulation of waterborne chemicals by aquatic animals through non-dietary routes. By contrast, “bioaccumulation” is the accumulation of chemicals (by aquatic and other animals) through any route of exposure.
biodiversity	This term was defined by the United Nations Earth Summit in Rio de Janeiro in 1992 as “the variability among living organisms from all sources, including ... terrestrial, marine, and other aquatic ecosystems, and the ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems”.
biofouling	The unwanted build-up of organisms on man-made structures. In the marine environment this occurs especially on the submerged portions of ships’ hulls, oil and gas platforms, jetties, etc. It also applies to similar growths on filters, inside pipelines, and on other items of equipment used, for example, in the wastewater treatment industry.
biogenic	Produced by living organisms or biological processes.
biohermic	Descriptive of a moundlike mass of rock built by sedentary organisms such as colonial corals or calcareous algae.

biomagnification	<p>The name given to the increase in concentration of a usually toxic substance (such as a heavy metal like lead or mercury or a pesticide like DDT) in the tissues of animals at higher levels in the biological food chain. The predators at the top of the food chain (e.g. man, dolphins and eagles) ingest and store in their tissues the bioaccumulated toxins of all the levels below them.</p> <p>Compare with bioaccumulation above.</p>
bioregion	<p>A biogeographical region characterised by a distinctive fauna and flora and made up of a group of interacting and related ecosystems. Terrestrial bioregions are defined in terms of their climate, geology, landforms and vegetation; marine bioregions are defined in terms of their plants, animals and ocean conditions.</p>
biosequestration	<p>The process of converting a chemical compound through biological processes to a chemically or physically isolated or inert form. The term is most commonly used to refer to the “locking”, through photosynthesis, of the carbon in atmospheric carbon dioxide (CO₂) into plant biomass (usually trees) to offset the effect of the CO₂ and other greenhouse gases released by such activities as the development of natural gas fields, the burning of fossil fuels, etc.</p>
biota	<p>The collective term for the animal and plant life of a given region.</p>
biotic	<p>Relating to life or to living things.</p>
biotone	<p>An ecological term for a transition zone between two or more bioregions where the assemblages of species and communities are mixtures of those from the contributing bioregions.</p>
bioturbation	<p>In oceanography, the mixing of benthic sediments by the burrowing, feeding or other activity of living organisms such as annelid worms or bivalves.</p>
BOD	<p>See biochemical oxygen demand above.</p>
bombora	<p>An Australian word (from an Aboriginal language) for a coral reef or rock just under the sea’s surface over which waves swell (in calm conditions) or break (in rough conditions).</p>
BP	<p>The letters meaning “before present” used by geologists, archaeologists, palaeontologists, etc., in association with an approximate year to specify when an event occurred in the distant past (usually in the order of thousands of years before the present, e.g. “8500 BP”). Because the “present” time changes, the year AD 1950 has been arbitrarily chosen as being the “present” for the purposes of the time scale.</p>
British thermal unit	<p>This unit (symbol Btu) is a measure of the energy required to raise the temperature of one pound of water by one degree Fahrenheit. Although no longer officially used in Britain or Australia, the British thermal unit is still widely used in the USA, as well as in the oil & gas industry worldwide where it appears along with its SI equivalent unit, the joule. (1 British thermal unit = 1.055 × 10³ joules.)</p> <p>See quad below.</p>

BTEX	<p>The acronym (pronounced “bee-tex”) for the low-boiling-point aromatic hydrocarbon compounds benzene (C₆H₆), toluene (C₆H₅CH₃), ethylbenzene (C₆H₅CH₂CH₃), and xylenes (C₆H₄(CH₃)₂). (The word “xylenes” is plural as there are three xylene isomers.) The BTEX compounds form a subset of the chemicals called “volatile organic compounds” (VOCs). They are some of the most commonly encountered VOCs and are, for example, normal components of petrol. The BTEX hydrocarbons are lumped together because they have similar properties and are toxic to humans and to the environment in general, particularly when they contaminate soil and groundwater.</p> <p>See volatile organic compound(s) below.</p>
Btu	<p>See British thermal unit above.</p>
butane	<p>An alkane hydrocarbon with the chemical formula C₄H₁₀. It is a major constituent (with propane) of liquefied petroleum gas.</p> <p>See ethane, isopentane, liquefied petroleum gas, methane, pentane and propane below.</p>
bycatch	<p>The non-target species caught incidental to commercial fishing operations, including both saleable and non-saleable fish and other animals.</p>
calcarenite	<p>A sedimentary rock formed from sand, shell fragments and other carbonate material.</p> <p>See aeolianite above.</p>
carbon (dioxide) capture and storage	<p>Abbreviated as CCS. An approach to carbon dioxide (CO₂) abatement in which the greenhouse gas CO₂ is captured from industrial processes (such as power generation and gas-field development projects) and injected deep underground for long-term storage in secure geological formations. The process is also called “geosequestration”.</p> <p>See geosequestration below.</p>
carbon dioxide equivalent	<p>Abbreviated as CO₂-e. A measure, using carbon dioxide (CO₂) as the standard, used to compare the global warming potentials of the different greenhouse gases. For example, if the global warming potential for methane over 100 years is taken as 21, this means that the emission of 1 Mt of methane may be expressed as the emission of 21 Mt of carbon dioxide equivalents.</p> <p>See methane below.</p>
carbon footprint	<p>A measure of the total amount of greenhouse gas emissions (measured in carbon dioxide equivalents) that is directly and indirectly caused by an activity or is accumulated over the lifespan of a product.</p>
carbon intensive	<p>Descriptive of fuels, industries, economies, etc., whose emissions of greenhouse gases (measured in carbon dioxide equivalents) are relatively high in comparison with those of other fuels, industries, or economies.</p>
carbon pollution permit	<p>Australia’s proposed domestic unit of compliance with an emissions trading scheme. It has been proposed that each permit should correspond to one tonne of carbon dioxide equivalent. In proposed Australian legislation a “carbon pollution permit” is referred to as an “Australian emissions unit”.</p> <p>See carbon dioxide equivalent above.</p>

Carbon Pollution Reduction Scheme	Abbreviated as CPRS . The name used for the Australian Government’s emissions trading scheme (or ETS), proposed to be established as part of a framework for meeting the climate-change challenge. See emissions trading scheme below.
carbon sink	Any natural or man-made system that takes up and stores large quantities of carbon dioxide from the atmosphere, especially forests and the oceans.
carbon tax	A tax imposed by a government on industry-generated emissions of carbon dioxide (CO ₂) and possibly other greenhouse gases. Its intention is to discourage the use of fossil fuels and thereby reduce CO ₂ emissions which are believed to contribute to the phenomenon of global warming.
cay	A small low-lying island or island-like bank or reef of sand, coral, etc.
CCS	See carbon (dioxide) capture and storage above.
cetacean	Any whale, dolphin or porpoise of the largely marine order Cetacea.
cfu	See colony-forming unit below.
“charismatic megafauna”	Large well-known animals, such as whales, tigers, elephants and eagles, which possess wide popular appeal and can therefore be used by environmentalists in publicity campaigns to raise conservation awareness and funds. As these “charismatic” species are generally key or apex species, any conservation gains made for them are likely to cascade down to all of the plants and animals of the ecosystems in which they live.
chenier	A sandy or shelly beach ridge on a mudflat area, caused by wave-induced sorting of the mudflat sediments to concentrate coarser material in ridges.
chlorophyll-a	The primary photosynthetic pigment in all plants that carry out photosynthesis.
colluvium	Unsorted and unconsolidated rock etc. material at the base of a cliff or slope, deposited there by gravity. The adjective is “colluvial”.
colony-forming unit	Abbreviated as cfu . A unit used in microbiology as a measure of the viable micro-organisms (typically bacteria) present in a water sample and commonly used to gauge the level of contamination of water. It is typically measured as the number of colony-forming units present in one hundred millilitres of water (cfu/100 mL).
combustion greenhouse gas	“Combustion greenhouse gases”, as opposed to “reservoir greenhouse gas” in the context of liquefied natural gas (LNG) production, are the greenhouse gases created by burning any type of carbon-containing fuel in the LNG production process. They are produced, for example, by the gas turbines used for compression and power generation, as well as by incinerators, hot-oil furnaces, and flares.
condensate	In the oil & gas industry, condensate is the name given to the mixture of heavier hydrocarbons which is present in hydrocarbon-containing reservoirs. Condensate is ultimately marketed, after fractionation, in liquid form at normal atmospheric temperature and pressure.

contingent gas resources	In the resources industry, contingent gas resources are those which are potentially recoverable from known accumulations, but only if a number of contingent circumstances are overcome; these may be economic, legal, environmental, political, and regulatory matters, or a lack of markets.
coralgal	Descriptive of a marine reef substrate consisting of fragments of coral and other calcareous organisms bound together with algal growths.
coralline algae	Coralline algae are red algae of the marine order Corallinales, characterised by having calcareous deposits within their cell walls. They are typically encrusting and rocklike and play an important role in the ecology of coral reefs.
corymbose	Descriptive of corals, especially of the genus <i>Acropora</i> , which have horizontal branches and short-to-medium vertical branchlets that terminate in a flat top.
CO₂	The chemical formula for carbon dioxide.
CO₂-e	See carbon dioxide equivalent above.
CPRS	See Carbon Pollution Reduction Scheme above.
cryogenic	Of or relating to very low temperatures.
cuirasse	In geology, the name sometimes given to the weathered rock “crust” or “iron crust” on the surface of a soil in tropical regions. It is also called a “lateritic duricrust”. See duricrust below.
cultural heritage	The cultural legacy of a group or society that is inherited from past generations, nurtured in the present and held in trust for the benefit of future generations. Its tangible components include both movable and immovable objects of archaeological, architectural, artistic, environmental, ethnographic, geological, historical and palaeontological importance. Its intangible components include social values and traditions, customs and practices, aesthetic and spiritual beliefs, artistic expression, language and other aspects of human activity.
Darwin Coastal Bioregion	One of the 85 terrestrial bioregions (= biogeographical regions) into which Australia has been divided. It covers an area of 28 000 km ² and includes most of the western coastline of the Northern Territory. The major population centres in the bioregion are Darwin and Palmerston and it extends from Wadeye in the south through Peppimenarti to Oenpelli and Murganella in the north.
Darwin Harbour region	The “Darwin Harbour region” was defined by the Darwin Harbour Advisory Committee in 2003 for its <i>Darwin Harbour regional plan of management</i> as an area covering Port Darwin, Shoal Bay and their catchments. It covers 3227 km ² and extends from Charles Point to Gunn Point, including the estuarine areas and tributaries of Woods Inlet, West Arm, Middle Arm, East Arm, the Howard River and all of the land that drains into these waterways. The total area of land within the Darwin Harbour region as thus defined is 2417 km ² . Six local governments are contained within the region: Darwin City Council, Palmerston City Council, Litchfield Council, Cox Peninsula Community Government Council, Belyuen Community Government Council, and Coomalie Community Government Council.

dB(A)	<p>The symbol used in acoustics for the decibel (using the “A” weighting), a measure of perceived loudness.</p> <p>Statistical sound level descriptors, such as L_{A1}, L_{A10}, and L_{A90} are used to represent noise levels in A-weighted decibels that are exceeded 1%, 10% and 90% of the time.</p> <p>See L_{A10} and L_{A90} below.</p>
decibel	See dB(A) above.
delphinid	Any member of the dolphin family Delphinidae, including dolphins, pilot whales, killer whales and the melon-headed whale.
demersal	Descriptive of a fish etc. living near the sea bottom.
depauperate	Descriptive of a fauna, flora or ecosystem, especially on islands, which is lacking the species richness of similar environments or habitats elsewhere. The term is commonly applied to “islands” of natural vegetation in an agricultural landscape as these will inevitably decline in species richness over time.
detailed design	In engineering, the process of refining and expanding the preliminary design of a structure or component of a structure to the extent that the design is sufficiently complete to allow construction etc. to commence.
detritivore	An animal that subsists entirely or predominantly on dead organic material, especially plant detritus.
differential global positioning system	<p>Abbreviated as dGPS. An enhanced global positioning system whose accuracy has been improved through the use of a network of fixed, ground-based reference stations with precisely known locations. Each station calculates its location based on the GPS satellite signals and compares this location with its true position. Any difference (that is, any inaccuracy contained in the signal from the global navigation satellite system) is broadcast to the dGPS user to correct the information received from the satellite system.</p> <p>See global positioning system below.</p>
digitate	Of corals, having short unbranched branches like the fingers of a hand.
dolphin	For the man-made mooring dolphins used in ports and marine terminals, see mooring dolphin below.
dry season (Darwin)	<p>Darwin’s climate is influenced by the tropical monsoon and thus has two distinct seasons—a wet season and a dry season. The dry season extends from May until October and the wet season from November until April. The dry season is mostly rain-free and day temperatures range from 16 to 32 °C (averaging about 25 °C).</p> <p>See wet season (Darwin) below.</p>
duricrust	<p>In geology, the weathered hard rock “crust” formed on the surface of a soil or in the upper horizons of a soil in a semi-arid climate. The duricrust is “cemented” by the precipitation of minerals such as iron oxides and oxyhydroxides by the evaporation of groundwater saturated with dissolved salts etc.</p> <p>See cuirasse above.</p>

EC₁₀	<p>The notation EC₁₀ stands for “effect concentration 10%” or the concentration of a substance that results in 10% less growth, fecundity, germination, etc., in a population. In ecology it is used as a measure of a substance’s ecotoxicity but, unlike the LC₁₀ which measures lethality, the EC₁₀ value measures sublethality—it demonstrates the adverse effects of a substance on a test organism, such as changes in its behaviour or physiology.</p> <p>See EC₅₀, IC₅₀, LC₅₀ and LD₅₀ below.</p>
EC₅₀	<p>The notation EC₅₀ stands for “effect concentration 50%”.</p> <p>See EC₁₀ above and IC₅₀, LC₅₀ and LD₅₀ below.</p>
ecotourism	<p>In the strict sense ecotourism is a specialised form of tourism aimed at ecologically and environmentally aware people. It usually has a strong educational focus and often involves travel to wilderness areas or areas with special environmental or wildlife values with a view to drawing attention to their fragility. The term has been watered down, however, and now includes any commercial tourism operations in wilderness and semi-wilderness areas.</p>
ecotoxicology	<p>The study of the adverse effects of chemical or physical agents on ecosystems and on all or any of the animal and plant species living in them. These adverse effects may be lethal (causing death) or sublethal (having negative effects on growth, development, fertility, genetic constitution, etc.). Ecotoxicity tests may be carried out at the request of regulatory authorities, typically using well-studied “indicator” species.</p>
EEZ	<p>See exclusive economic zone below.</p>
effect concentration 10%	<p>See EC₁₀ above.</p>
EIS	<p>See environmental impact statement below.</p>
emissions trading scheme	<p>Abbreviated as ETS. The name applied to a government approach to reducing pollutant production, especially of greenhouse gases but also of pollutants such as sulfur dioxide, through which economic incentives to achieve reductions are offered to industry. In Australia, the Commonwealth Government’s ETS, the Carbon Pollution Reduction Scheme, proposes to achieve CO₂-e reduction through a “cap and trade” process whereby the government sets a limit or “cap” on the total emissions allowable from the activities or sectors covered under the scheme by setting a limit on the number of permits it releases. An industry needs to produce a “credit” or “permit” or “offset” for every tonne of gas it emits. This creates a market where some industries that cannot avoid reducing their CO₂-e production to below the cap are allowed to buy or trade “carbon credits” from another business that is emitting below its own cap.</p> <p>See carbon dioxide equivalent, Carbon Pollution Reduction Scheme and CO₂-e above.</p>
endemic	<p>Of plants or animals, native to and restricted to a specified geographical region.</p>
endemicity	<p>In biodiversity science, a measure of the extent to which the plants or animals (or both) of a particular region are endemic to it. It may be applied to the whole fauna or flora of the region or to a specified taxonomic group. It is often expressed as a percentage.</p>

enhanced greenhouse effect	<p>The name given to the imbalance created in the natural greenhouse effect—the historical equilibrium between incoming solar radiation and outgoing emissions of heat energy from the earth—by the increase in greenhouse gas emissions from human actions such as burning fossil fuels, intensive agriculture and land clearing. The “enhanced greenhouse effect” is believed to be the cause of global warming.</p> <p>See greenhouse effect below.</p>
ENVID	<p>This is the acronym for “environmental (impact) identification”. An ENVID process is a risk assessment process that investigates the likelihood of an accidental or unplanned event which could cause adverse impacts to air, land, water or living organisms in the natural (or urban etc.) environment.</p>
environment	<p>The Northern Territory Government defines the term “environment” in the <i>Environmental Assessment Act (NT)</i> as follows:</p> <p>“environment” means all aspects of the surroundings of man including the physical, biological, economic, cultural and social aspects</p> <p>The Commonwealth Government defines the term “environment” in the <i>Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)</i> as follows:</p> <p><i>environment</i> includes:</p> <ul style="list-style-type: none"> (a) ecosystems and their constituent parts, including people and communities; and (b) natural and physical resources; and (c) the qualities and characteristics of locations, places and areas; and (d) the social, economic and cultural aspects of a thing mentioned in paragraph (a), (b) or (c). <p>These definitions are adhered to in the <i>Ichthys Gas Field Development Project: draft environmental impact statement</i>.</p>
environmental aspect	<p>In environmental management in Australia an “environmental aspect” is an element or activity of a project or operation that may result in an impact upon the environment, for example gas emissions, light emissions, the production of waste material, and vegetation clearing.</p>
environmental impact	<p>In environmental management in Australia an “environmental impact” is any change to the environment, whether adverse or beneficial, wholly or partly resulting from an organisation’s environmental aspects.</p> <p>See environmental aspect above.</p>
environmental (impact) identification	<p>See ENVID above.</p>
environmental impact statement	<p>Abbreviated as EIS. An environmental impact statement is a comprehensive report, based on detailed studies, that discloses the possible, probable and certain environmental consequences of a proposed development or project and outlines the measures that would be implemented to mitigate them. It is required by law and is prepared by or for a project proponent for submission to government as part of a formal review process. The EIS is also made available to the general public for comment. The final EIS forms the basis for a decision by the regulatory authorities as to whether a project may proceed and, if so, under what conditions.</p>

environmental indicator	A significant physical, chemical, biological, social or economic variable which can be measured in a defined way for environmental management purposes.
environmental risk analysis	The systematic process undertaken to understand the nature of and deduce the level of environmental risk.
environmental risk assessment	The overall process of environmental risk identification, analysis and evaluation.
environmental risk evaluation	The process of comparing the level of risk against a set of risk criteria.
environmental risk identification	The process of determining what might happen to have an impact on the environment as the result of the implementation of a project etc., and where, when, why and how this could happen.
epibenthic	Of an organism, living at the surface of a seabed or lake floor.
epibenthos	The community of plant and animal organisms living at the surface of a seabed or lake floor.
ethane	An alkane hydrocarbon with the chemical formula C ₂ H ₆ . It is present in liquefied natural gas at anything from 1% to 10% by volume (methane being the main constituent at 83% to 99%) and is a valuable feedstock for the petrochemical industry. See butane above and isopentane , liquefied natural gas , methane , pentane and propane below.
ETS	See emissions trading scheme above.
exclusive economic zone	Abbreviated as EEZ . Australia's exclusive economic zone was declared in relation to Australia and its external territories under the <i>Seas and Submerged Lands Act 1973</i> (Cwlth). It commences at the outer limit of the territorial sea (12 nautical miles from the territorial sea baselines established under the Act) and extends generally to 200 nautical miles from the baselines. In its exclusive economic zone, Australia has sovereign rights to explore and exploit, conserve and manage the natural resources of the waters, seabed and subsoil.
fauna	All of the animals of a given region, taken collectively.
FEED	See front-end engineering design below.
ferruginous	Containing iron or iron compounds.
FID	See final investment decision below.
final investment decision	Abbreviated as FID . The commitment by a company, a joint venture, etc., to make funds available to proceed with the execution phase of a project based on a robust concept definition and a budget developed during the front-end engineering design phase.
flaring	The controlled burning off of hydrocarbon streams through flare stacks at an oil or gas facility such as an offshore processing facility or an LNG or LPG processing plant. Flaring is primarily carried out for safety reasons. The hydrocarbon streams flared will typically consist largely of natural gas but may also include higher alkanes.

floating production, storage and offtake (facility or vessel)	<p>Abbreviated as FPSO. A converted tanker or barge or specially designed fixed facility in the ocean. Its purpose is to receive hydrocarbons from an oil or gas platform, to carry out a degree of processing, and to act as a storage vessel for liquid hydrocarbons before these products are offloaded into export tankers. The FPSO planned for the Ichthys Project will store condensate and monoethylene glycol (MEG) and will have a condensate storage capacity of more than 1 000 000 barrels.</p> <p>See monoethylene glycol below.</p>
foliose	Of corals, having a flattened, leaflike growth form that may be folded and convoluted, often forming whorls.
formation water	<p>Saline water trapped under natural gas and oil deposits and the surrounding rock formations.</p> <p>See produced formation water and produced water below.</p>
4-D seismic technology	Time-lapse or 4-D seismic technology involves the acquisition, processing and interpretation of seismic data obtained from seismic surveys repeated at intervals over a producing oil or gas field. The technique analyses differences in successive data sets in order to determine the changes occurring in the reservoir as a result of hydrocarbon abstraction or the injection of water or gas into the reservoir.
FPSO	<p>The abbreviation used for a “floating production, storage and offtake” facility or vessel.</p> <p>See floating production, storage and offtake (facility or vessel) above.</p>
front-end engineering design	Abbreviated as FEED . The phase of an industrial plant construction project etc. where a single concept is defined in sufficient detail to allow a company to make its final investment decision (FID) prior to the project entering the execution phase. It entails undertaking a number of studies to provide a robust design where risks are well understood and the potential for (expensive) change following FID is minimised. These include technical studies; health, safety and environment studies; and operability, maintainability and availability studies.
frugivore	An animal that subsists entirely or predominantly on fruit.
frugivorous	Feeding on fruit.
fuel oil	Heavy distillates obtained from the refining of petroleum, used as fuels for engines to produce power or in boilers to produce heat. They have different grades from No. 1 to No. 6. Fuel oil graded No. 2, for example, with alkanes in the C_{14} – C_{20} carbon-chain range, is the diesel that trucks and some cars use and it is also used as heating oil. The heavy and viscous so-called “bunker oil” used to power ships is usually taken as being No. 6 and has carbon-chain lengths in the range C_{20} – C_{70} .
fugitive emissions	In the oil & gas industry, the term used to describe all gaseous emissions that result from leaks, including those from pump seals, pipe flanges and valve stems, and from accidents and equipment failures such as pipeline breaks.
gabbro	A dark volcanic rock of crystalline structure.
geographic information system	Abbreviated as GIS . A suite of computer applications widely used by planners to create multi-layered maps which permit the manipulation, analysis, and modelling of a wide range of spatially referenced data.

geosequestration	<p>The process of capturing carbon dioxide, one of the most important greenhouse gases, from natural gas reservoirs and industrial sources such as power stations, and injecting it deep underground for long-term storage in secure geological formations. The technique is also called “carbon (dioxide) capture and storage”.</p> <p>See carbon (dioxide) capture and storage above.</p>
GHG(s)	See greenhouse gas(es) below.
GHG intensive	Descriptive of fuels, materials, processes, techniques, etc., with a direct or indirect capacity to produce undesirable quantities of greenhouse gases (GHGs).
GIS	See geographic information system above.
global positioning system	<p>Abbreviated as GPS. Any worldwide navigational and surveying system based on radio signals transmitted from an array of orbiting satellites to hand-held or vehicle-mounted receivers.</p> <p>See differential global positioning system above.</p>
global warming	<p>The gradual increase in the earth’s surface temperature caused by the enhanced greenhouse effect.</p> <p>See enhanced greenhouse effect above and greenhouse effect below.</p>
global warming potential	<p>Abbreviated as GWP. A measure of how much a given mass of a greenhouse gas is estimated to contribute to global warming. It is a relative scale which compares the global warming potential of the gas in question with that of an equivalent mass of carbon dioxide (which has been assigned the point-of-reference global warming potential of 1).</p> <p>See methane and nitrous oxide below.</p>
GPS	See global positioning system above.
gravid	Pregnant. The term is usually used in relation to non-human animals, particularly reptiles and arthropods.
greenhouse effect	<p>The natural warming process of the earth caused by the trapping of solar energy in the lower levels of the earth’s atmosphere by greenhouse gases, principally carbon dioxide, methane and water vapour. In recent years, however, the necessary equilibrium between incoming solar radiation and outgoing emissions of heat energy from the earth has been affected by the increase in greenhouse gas emissions from human actions such as burning fossil fuels, intensive agriculture and land clearing. This is called the “enhanced greenhouse effect” and is believed to be the cause of global warming.</p> <p>See enhanced greenhouse effect above.</p>
greenhouse gas(es)	<p>Abbreviated as GHG(s). Any of a number of gases found in the atmosphere which contribute to the greenhouse effect. The gases principally responsible for the greenhouse effect are defined in the <i>National Greenhouse and Energy Reporting Act 2007</i> (Cwlth) as carbon dioxide, methane, nitrous oxide and sulfur hexafluoride, together with certain specified hydrofluorocarbons and perfluorocarbons.</p> <p>See carbon dioxide equivalent and greenhouse effect above.</p>

grey water	Non-industrial wastewater resulting from domestic activities in kitchens, showers, baths and laundries.
GWP	See global warming potential above.
HAT	See Highest Astronomical Tide below.
hazard	In industry, a hazard is any operation that could possibly cause a release of toxic, flammable or explosive chemicals or any action or situation that could result in injury to personnel or harm to the environment.
hazard and operability (analysis)	See HAZOP below.
hazard identification	See HAZID below.
HAZID	Acronym for “hazard identification”. A HAZID process is a high-level process of hazard identification that addresses the overall project, not only the process equipment.
HAZOP	Acronym for “hazard and operability” (analysis). A HAZOP analysis is a systematic methodology used to examine facilities or processes to identify actual or potentially hazardous operations and procedures with a view to eliminating or mitigating them.
herpetofauna	All of the reptile and amphibian species of a given region, taken collectively.
Highest Astronomical Tide	Abbreviated as HAT . Highest Astronomical Tide is the highest level to which sea level can be predicted to rise under normal meteorological conditions.
hub	See LNG hub below.
hydrocarbon	Any compound consisting of hydrogen and carbon. The light hydrocarbons with low molecular weights are gases under room temperature and pressure (e.g. methane (CH ₄)) and the heavy hydrocarbons with higher molecular weights are liquids (e.g. pentane (C ₅ H ₁₂) and benzene (C ₆ H ₆)) or solids (e.g. eicosane (C ₂₀ H ₄₂), a constituent of candle wax). See methane and pentane below.
hydrogeology	The branch of geology that deals with the occurrence, distribution, movements and effects of groundwater.
hypothermia	The condition of having an abnormally low body temperature.
ichthyofauna	All of the fish species of a given region, taken collectively.
Ichthys Field	The Ichthys Field is the name given to the gas and condensate field discovered by INPEX in petroleum exploration area WA-285-P in the Brewster Member and the Plover Formation in the Browse Basin. <i>Ichthys</i> is the classical Greek word for “fish”—the modern word is <i>psari</i> . The Latin equivalent is <i>piscis</i> . It appears as an element in the (compound) scientific names of many fish. Examples include several fossil fish genera of the class Placodermi which flourished in the Late Devonian period some 360 to 400 million years ago. Three such genera are <i>Dinichthys</i> , <i>Gorgonichthys</i> and <i>Titanichthys</i> , after which three of the Ichthys Field’s wells are named. The names for the wells were chosen by Shinsuke Ban (then the General Manager of INPEX’s Perth office) in 2000 because of his interest in fossils, in particular those of the Devonian placoderms.

	<p>The name “Ichthys” was chosen for the gas field because it was the common element in the names <i>Dinichthys</i>, <i>Titanichthys</i>, and <i>Gorgonichthys</i>.</p>
igneous	<p>In geology, descriptive of rock that has been solidified from molten rock material (magma) generated deep within the earth. It may solidify on the surface of the earth by volcanic action or under the surface of the earth by magmatic action.</p> <p>See metamorphic and sedimentary below.</p>
IC₅₀	<p>The notation IC₅₀ stands for “inhibition concentration 50%”. The IC₅₀ value is the concentration of a substance that causes an inhibition of growth of 50% in a population of a target species when compared with controls.</p> <p>See EC₁₀ and EC₅₀ above and LC₅₀ and LD₅₀ below.</p>
Indonesian Throughflow	<p>A major ocean current which transports warm low-salinity water from the western Pacific into the high-salinity waters of the eastern Indian Ocean through the Indonesian archipelago. Flowing between the southern extremity of the Asian mainland and Australia, the Throughflow is one of the primary links or “choke points” in the global exchange of water and heat between the major ocean basins.</p>
infauna	<p>The animal life inhabiting the sediments of a river, lake, sea, or ocean, usually in burrows or in the interstices between the sediment particles.</p>
intraspecific taxon	<p>Any taxon below species level. In botany there are five ranks (taxa) below species level (subspecies, variety, subvariety, form and subform) while in zoology there is only the subspecies.</p>
inhibition concentration 50%	<p>See IC₅₀ above.</p>
inter-nesting period	<p>Of marine turtle nesting, the period of time that elapses between the laying of the first and the laying of the last clutch of eggs by a female in one nesting season.</p>
inter-nesting area	<p>Of marine turtle nesting, the seas adjacent to a nesting beach where a gravid female will spend the time between the laying of successive clutches in one breeding season.</p>
intertidal zone	<p>See littoral zone below.</p>
introduced species	<p>An animal, plant or other organism present (either established or not) in any given ecosystem, which is not native to that ecosystem and has arrived there usually as a result of human activities.</p>
invasive species	<p>Defined by the International Union for Conservation of Nature and Natural Resources (IUCN) as “organisms (usually transported by humans) which successfully establish themselves in, and then overcome, otherwise intact pre-existing native ecosystems”.</p>
isobath	<p>A contour line on a map connecting points of the same depth below the surface of a waterbody.</p>
isopentane	<p>Pentane (C₅H₁₂) has three isomers: the straight-chain isomer “pentane”; the single-branched isomer “isopentane”; and the double-branched isomer “neopentane”.</p> <p>See pentane below.</p>

JHA	See job hazard analysis below.
job hazard analysis	Abbreviated as JHA . A routine workplace requirement to assess the hazards and potential hazards associated with a job, and which identifies the measures to be taken to eliminate or mitigate causes of such hazards before the job is carried out. It is sometimes called “job safety analysis” (JSA).
Kjeldahl nitrogen	See total Kjeldahl nitrogen below.
Kyoto Protocol	An agreement made under the United Nations Framework Convention on Climate Change (UNFCCC). Countries that ratify the protocol commit to reduce their emissions of CO ₂ and other GHGs or to engage in activities such as emissions trading if they maintain or increase emissions of these gases. The protocol was adopted in Kyoto, Japan on 11 December 1997 and entered into force on 16 February 2005. As of November 2009, 187 states had signed and ratified the protocol.
landform	A naturally formed feature of the earth’s surface such as a hill, a plateau or a cliff.
L_{AE}	The symbol for “sound exposure level”. See sound exposure level below.
L_{A max}	The maximum noise level in A-weighted decibels (dB(A)), measured as an L _{A Slow} value.
L_{A Slow}	The reading in decibels (dB) obtained using the “A” frequency-weighting characteristic and the “S” (Slow) time-weighting characteristic as specified in Australian Standard AS 1259.1:1990, <i>Sound level meters. Part 1: Non-integrating</i> .
LA₁₀	The noise level in A-weighted decibels (dB(A)) which, measured as an L _{A Slow} value, is exceeded for more than 10% of a specified period.
LA₉₀	The noise level in A-weighted decibels (dB(A)) which, measured as an L _{A Slow} value, is exceeded for more than 90% of a specified period.
LAT	See Lowest Astronomical Tide below.
laterite	Laterite is a residual rock or hard claylike crust formed in hot and wet tropical and subtropical areas by the weathering of pre-existing rocks through the action of rainwater. It is characteristically enriched in iron and aluminium compounds as they are less soluble in water than the sodium, potassium, calcium and magnesium minerals, which are leached out.
LC₅₀	The notation LC ₅₀ stands for “lethal concentration 50%”. It is the concentration of a chemical in air or water that will kill 50% of a group of a specific test animal species exposed to it in a given time, for example 4 hours or 24 hours. The LC ₅₀ is a measure of the short-term poisoning potential of a substance. See EC ₁₀ , EC ₅₀ and IC ₅₀ above and LD ₅₀ below.
LD₅₀	The notation LD ₅₀ stands for “lethal dose 50%” and is the amount of a material, given all at once, which will kill 50% of a group of test animals (typically laboratory mice or rats) in a given time. The LD ₅₀ is a measure of the short-term poisoning potential of a substance. See EC ₁₀ , EC ₅₀ , IC ₅₀ and LC ₅₀ above.

lenticel	<p>A blister-like or lens-shaped pore on the stem of a woody plant containing loosely aggregated cells which provide a pathway for the exchange of gases between the plant and the surrounding air.</p> <p>See pneumatophore below.</p>
lethal concentration 50%	See LC₅₀ above.
lethal dose 50%	See LD₅₀ above.
liquefied natural gas	<p>Natural gas is natural gas that has been converted to liquid form by cooling to under $-160\text{ }^{\circ}\text{C}$. It contains only the lightest gaseous hydrocarbons of the alkane series, predominantly methane (CH_4), but also ethane (C_2H_6), a small amount of propane (C_3H_8), and a very small amount of butane (C_4H_{10}).</p> <p>See liquefied petroleum gas below.</p>
liquefied petroleum gas	<p>Abbreviated as LPG. The generic name for mixtures of the gaseous hydrocarbons of the alkane series, slightly heavier than LNG hydrocarbons, which are converted to liquid form by slight cooling and/or compression. LPG is usually predominantly propane (C_3H_8) and butane (C_4H_{10}), but may contain small quantities of pentane (C_5H_{12}) and other hydrocarbons.</p> <p>See butane and liquefied natural gas above and pentane and propane below.</p>
littoral zone	<p>In marine biology the littoral zone is taken as extending from the high-water mark of the seashore to the low-water mark. It is also called the intertidal zone.</p> <p>See benthic zone above and sublittoral zone and supralittoral zone below.</p>
LNG	See liquefied natural gas above.
LNG hub	<p>As more natural gas (and condensate) fields are discovered off the Australian coast, particularly in Western Australia and the Northern Territory, there is a risk that there may be an unnecessary proliferation of project-specific onshore gas-processing plants. This could lead to unnecessary duplication of infrastructure and unnecessary damage to environmental, cultural and scenic values. This has led to governments developing the “hub” concept, whereby several gas-processing plants would be brought together at one location to minimise the overall level of environmental, cultural and scenic impact.</p>
LNG train	<p>An LNG train is the processing unit that carries out the purifying and liquefying of natural gas for transport to domestic and international markets. The facility is popularly known as a “train”, as on an engineer’s process flow diagram the major steps in the liquefaction process are represented by rectangular blocks coupled in a row, fancifully resembling a series of railway carriages. A train typically consists of a mercury removal unit; an acid gas removal unit (to remove carbon dioxide and hydrogen sulfide which are dangerous to the liquefaction process); a dehydration unit; a liquefied petroleum gas recovery unit; and a gas liquefaction unit with its associated refrigerant compressors, gas turbines, etc.</p>
LOEC	See lowest-observable-effect concentration below.

London Convention	<p>The Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972. This was drafted in London and is known as the “London Convention” for short. It is one of the first global conventions to protect the marine environment from human activities and it has been in force since 1975.</p> <p>In 1996 a special meeting of the contracting parties adopted the “1996 Protocol” to further modernise the 1972 Convention and eventually replace it. The Protocol entered into force on 24 March 2006 and had 36 State Parties as of November 2008. The London Convention is still in force and has 85 State Parties.</p> <p>The purpose of the London Convention 1972 is to control all sources of marine pollution and to prevent pollution of the sea through regulation of the dumping of waste materials into the sea.</p> <p>See MARPOL 73/78 below.</p>
low-carbon economy	<p>An economy which produces low quantities of greenhouse gases (especially carbon dioxide) either naturally or because of a conscious political and social effort to use technologies that produce and use energy and materials with minimal emissions of greenhouse gases. The economic viability of such an economy may depend on legislative enforcement through the imposition of a “carbon tax” or an “emissions trading scheme”.</p> <p>See carbon tax and emissions trading scheme above.</p>
Lowest Astronomical Tide	<p>Abbreviated as LAT. Lowest Astronomical Tide is the lowest level to which sea level can be predicted to fall under normal meteorological conditions. It is the datum used on Australia’s hydrographic charts and is the zero value from which all tides and depths are measured.</p>
lowest-observable-effect concentration	<p>Abbreviated as LOEC. The lowest concentration used in a toxicity test on a test sample of a species that causes an effect significantly different from that observed in the control sample.</p> <p>See no-observable-effect concentration below.</p>
LPG	<p>See liquefied petroleum gas above.</p>
lunate	<p>Crescent-shaped.</p>
macroalga	<p>Any seaweed visible to the naked eye.</p>
macrophyte	<p>A plant large enough to be seen by the naked eye. Most marine macrophytes are macroalgae, but the term also includes seagrasses which are flowering plants and not algae.</p>
macrotidal	<p>Descriptive of a sea or estuary experiencing large tidal ranges, usually taken to be 4 metres and above.</p> <p>Compare with mesotidal and microtidal below.</p>
mangal	<p>See mangrove below.</p>

mangrove	An intertidal salt-marsh community in the tropics and subtropics dominated by specialised trees and shrubs which have developed physiological adaptations to withstand fluctuating salinity levels and water levels together with a lack of oxygen in the mud substrate. The word may be used to describe individual species or groups of species, or it may be taken as a collective noun describing the mangrove community or ecosystem. The name “mangal” is sometimes applied to the mangrove forest community.
marine pests	<p>Marine pests in Australia are marine plants or animals that are not native to Australia and which have been translocated to Australian waters by various vectors. Commercial vessels, for example, may discharge ballast water containing pest species from foreign waters; the biofouling organisms growing on the hulls and piping systems of commercial and recreational vessels may include pest species; commercial aquaculture operations may lead to the accidental introduction of pest species; and the aquarium industry may unknowingly or carelessly import pest species.</p> <p>Marine pests may have a significant impact on human health, fisheries and aquaculture, shipping and ports, tourism, environmental values, biodiversity and ecosystem health. They can be very expensive to eradicate.</p>
MARPOL 73/78	<p>The abbreviated name of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto. It entered into force on 2 October 1983. “MARPOL” is short for “marine pollution” and 73/78 denotes the years 1973 and 1978.</p> <p>The Convention covers all the technical aspects of pollution from ships, except the dumping of wastes by ships and pollution arising from exploration and exploitation of seabed mineral resources. The dumping of wastes by ships is covered by the London Convention.</p> <p>See London Convention above.</p>
matters of national environmental significance	<p>Eight “matters of national environmental significance” are specially protected under national environment law and are listed in the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cwlth). They are as follows:</p> <ul style="list-style-type: none"> • listed threatened species and ecological communities • migratory species protected under international agreements • Ramsar wetlands of international importance • the Commonwealth marine environment • World Heritage properties • National Heritage places • the Great Barrier Reef Marine Park • nuclear actions. <p>See Ramsar wetland below.</p>
MDEA	See methyldiethanolamine below.
MEG	See monoethylene glycol below.
megafauna	<p>Large animals. In a marine context the term includes animals such as whales and dolphins, dugongs and whale sharks.</p> <p>See charismatic megafauna above.</p>

megaripples	<p>High, ripple-like sand waves formed on the seabed, ranging in height from tens of centimetres to several metres.</p> <p>See sand wave below.</p>
meiofauna	<p>Small invertebrate animals that can pass through a 1-mm mesh but are retained by a 0.1-mm mesh.</p>
mesocosm	<p>In the context of toxicological studies of marine organisms, a mesocosm is an enclosed experimental ecosystem in which the fate and effects of, for example, oil on individual organisms or populations can be studied and evaluated.</p>
meso-scale bioregion	<p>The Integrated Marine and Coastal Regionalisation of Australia (IMCRA) framework for classifying Australia’s marine environment has defined 41 “provincial” bioregions and 60 “meso-scale” bioregions. The meso-scale (= intermediate scale) bioregions may be hundreds to one or two thousand kilometres wide. The IMCRA program operates under the auspices of the Commonwealth’s Department of the Environment, Water, Heritage and the Arts.</p>
mesotidal	<p>Descriptive of a sea or estuary experiencing a moderate tidal range, usually taken to be between 2 and 4 metres.</p> <p>Compare with macrotidal above and microtidal below.</p>
metamorphic	<p>In geology, descriptive of rock that has undergone partial or complete recrystallisation by natural agencies such as heat and pressure.</p> <p>See igneous above and sedimentary below.</p>
methane	<p>A colourless, odourless gas with the chemical formula CH₄. It is the simplest alkane and the principal component of natural gas. It is the main constituent of liquefied natural gas, at usually 83–99% by volume.</p> <p>According to the Second Assessment Report of the United Nations Intergovernmental Panel on Climate Change (1995), whose figures have been adopted by the Commonwealth Government’s Department of Climate Change, weight for weight methane has the capacity to cause 21 times more global warming than carbon dioxide (CO₂), calculated over a time horizon of 100 years. Not including water vapour, after carbon dioxide it is the second-largest greenhouse gas contributor to global warming both by volume and on a carbon-dioxide-equivalent basis.</p> <p>See butane, carbon dioxide equivalent, ethane, isopentane and liquefied natural gas above and pentane and propane below.</p>
methyldiethanolamine	<p>Abbreviated as MDEA. A compound which absorbs the acid gases carbon dioxide (CO₂) and hydrogen sulfide (H₂S) at lower temperatures and releases them at higher temperatures. It is used to separate CO₂ and H₂S from natural gas streams in the form of activated methyldiethanolamine (aMDEA).</p> <p>See activated methyldiethanolamine above.</p>
metocean conditions	<p>Meteorological and oceanographic conditions. The word “metocean” is a compressed adjective derived from the first syllables of “meteorological” and “oceanographic”.</p>

microtidal	<p>Descriptive of a sea or estuary experiencing a low mean tidal range, usually taken to be less than 2 metres.</p> <p>Compare with macrotidal and mesotidal above.</p>
monoethylene glycol	<p>Abbreviated as MEG. Monoethylene glycol is used to prevent hydrate formation in subsea pipelines. Gas produced at the wellhead contains water which, under conditions of high pressure and low temperatures, can react with methane or ethane to form solid methane or ethane hydrate. This material can block pipelines and its formation must therefore be prevented to allow gas to flow.</p> <p>The MEG will be injected into the reservoir fluids flowing out of the Ichthys Field wellheads. After the reservoir fluids have been separated into liquid and gas streams on the central processing facility, the MEG will pass in the liquid stream of condensate and water to a regeneration unit where it will be recovered and returned to the wellheads for reuse.</p> <p>See triethylene glycol below.</p>
Montreal Protocol	<p>The Montreal Protocol on Substances that Deplete the Ozone Layer is an international agreement signed in 1987 and subsequently amended on several occasions, most recently in 1999. It establishes in participating countries a schedule for phasing out release to the earth's atmosphere of chlorofluorocarbons and other substances with ozone-depleting potential.</p>
mooring dolphin	<p>An independent maritime structure at a port or maritime terminal that is not connected to the shore. It is fixed to the seabed and extends above water level as a platform or similar structure to provide a mooring point for ships. It permits tying mooring lines at favourable angles without having to extend an entire pier or wharf structure. Adjacent mooring dolphins are generally connected by pedestrian walkways.</p>
native species	<p>In the context of the Ichthys Project, a species (or subspecies etc.) that is considered to be indigenous to the offshore, nearshore or onshore Project areas.</p>
natural gas	<p>A mixture of hydrocarbon gases formed underground by the decomposition of organic materials from the decay of plants and animals. It commonly occurs in association with crude oil, but many gas (or gas and condensate) reservoirs have little or no oil. The main component of natural gas is methane, but there will also be other alkanes such as ethane, propane, butane and pentane as well as a range of heavier hydrocarbons. Possible contaminants include water, carbon dioxide, hydrogen sulfide, nitrogen and mercury.</p>
naturally occurring radioactive material(s)	<p>Abbreviated as NORM(s). Naturally occurring radioactive materials occur in trace amounts in most of the earth's crust and all humans are exposed to low levels of radiation from this source. Certain minerals and other resources such as natural gas reservoirs contain radioactive substances and these may be concentrated in scale deposits in pipelines, processing vessels, etc., if not managed properly.</p>
neap tide	<p>The tide with the least difference between high and low water, occurring just after the first and third quarters of the moon.</p> <p>See spring tide below.</p>

nephelometric turbidity unit	Abbreviated as NTU . A unit used to measure the degree of turbidity in water. It is measured by an instrument, a nephelometer (from Greek <i>nephele</i> “cloud” + English <i>meter</i> = “measuring device”), which quantifies how much light is scattered by suspended particles.
nitrogen oxides	<p>Any of six gaseous oxides of nitrogen, three of which (N_2O_3, N_2O_4 and N_2O_5) are rare and unstable and may be discounted here. The two mononitrogen oxides, nitrogen monoxide (nitric oxide) (NO) and nitrogen dioxide (NO_2), are produced during combustion, especially at high temperatures. They are environmental pollutants which are harmful to human health. They are together known as NO_x and are not greenhouse gases.</p> <p>Nitrous oxide (N_2O) is a dinitrogen oxide and is an important greenhouse gas. It is not a NO_x.</p> <p>See NO_x below.</p>
nitrous oxide	Nitrous oxide (N_2O) is a colourless non-flammable gas. It is the third-largest greenhouse gas contributor to global warming. According to the Second Assessment Report of the United Nations Intergovernmental Panel on Climate Change (1995), whose figures have been adopted by the Commonwealth Government’s Department of Climate Change, weight for weight nitrous oxide has the capacity to cause 310 times more global warming than carbon dioxide (CO_2), calculated over a time horizon of 100 years.
NOEC	See no-observable-effect concentration below.
no-observable-effect concentration	<p>Abbreviated as NOEC. “No-observable-effect concentration” is the highest concentration of a substance used in a toxicity test on a sample of a particular test species that causes an effect that is not significantly different from that observed in the control sample.</p> <p>See lowest-observable-effect concentration above.</p>
NORM(s)	See naturally occurring radioactive material(s) above.
normal cubic metre	A normal cubic metre (symbol Nm^3) is a quantity of any gas that, under “normal” conditions of temperature and pressure, occupies a volume of one cubic metre. The “normal” (or “standard”) conditions must be defined, however, as there are a number of different measures in common use. It is usually defined as being measured at 0 °C and 1 atmosphere of pressure.
NO_x	<p>The generic symbol or formula for the two mononitrogen oxides, NO (nitric oxide) and NO_2 (nitrogen dioxide). (By convention, the “x” is subscripted and italicised.)</p> <p>See nitrogen oxides above.</p>
NTU	See nephelometric turbidity unit above.
octanol–water partition coefficient	Abbreviated as P_{ow} . This coefficient is the ratio of the concentration of a chemical in octanol and in water at equilibrium and at a specified temperature. Octanol is an organic solvent that is used as a surrogate for natural organic matter. this coefficient is used in many environmental studies to help determine the fate of chemicals in the environment, for example in predicting the extent to which a contaminant will bioaccumulate in fish.

odontocete	Any (usually) marine mammal of the suborder Odontoceti, the toothed whales. Odontocetes include dolphins, the orca or “killer whale”, porpoises, beaked whales, pilot whales, bottlenose whales and the sperm whale. Most species live in the marine environment but several live in fresh water. The baleen whales such as the humpback and southern right whales make up the suborder Mysticeti.
Operator	INPEX Browse, Ltd. and Total E&P Australia are in joint venture for the development of the Ichthys gas and condensate field in the Browse Basin. INPEX Browse, Ltd., however, is the Joint Venturer designated as the Operator of the Ichthys Gas Field Development Project and, as such, is responsible for managing the operation for and on behalf of the Joint Venturers in accordance with the terms of the two companies’ joint operating agreement.
organotin	Compounds containing at least one bond between tin and carbon. They are often highly poisonous, especially to marine life. See tributyltin below.
PAH(s)	See polycyclic aromatic hydrocarbon(s) below.
palaeodrainage	Drainage systems of past geological ages, whose direction and structure can be inferred from geological analysis.
parasite	Any organism which is intimately associated with another organism (the host) and metabolically dependent upon the host for the completion of the whole, or part, of its life cycle. The activities of the parasite are typically detrimental to the host to a greater or lesser degree.
particulate matter	Abbreviated as PM . A term used to describe a complex group of air pollutants that are collectively regarded as a health hazard. These pollutants are a mixture of fine airborne solid particles and liquid droplets (aerosols) and include, for example, smoke, soot, dust particles, pollen, and a variety of chemical compounds. Particulate matter is usually categorised as PM_{10} and $PM_{2.5}$. The fraction of suspended particles whose diameter is less than 10 micrometres (10 μm or 10 millionths of a metre) is PM_{10} ; these particles can enter the main passages in the lungs. Smaller particles, designated $PM_{2.5}$ (less than 2.5 μm in diameter), can enter the fine tubules deep in the lungs.
PASS(s)	See potential acid sulfate soil(s) below.
pathway	In biological quarantine terminology, a pathway is a means, method or route that can provide an alien organism with the opportunity to move across a declared quarantine border.
pelagic	Relating to the open sea. Of fish and other organisms, living and feeding in the open sea but not in close association with the seabed.
penplain	An extensive area of land that has been levelled to a flat or gently undulating plain by long-term erosion.
pentane	An alkane hydrocarbon with the chemical formula C_5H_{12} . It is a liquid at normal temperature and pressure and is a minor constituent of liquefied petroleum gas (LPG) and a more significant constituent of condensate. See butane , ethane , isopentane , liquefied petroleum gas and methane above, and propane below.

permanent threshold shift	Abbreviated as PTS . In acoustics, the irreversible hearing loss that results from exposure to intense impulse or continuous sound, as opposed to the reversible “temporary threshold shift” that also results from somewhat or significantly less exposure.
P₅₀ resources	In the terminology of the oil & gas industry, P ₅₀ resources (often called “proved plus probable”) are a median estimate of the resources expected to be extracted from a hydrocarbon field. A P ₅₀ estimate refers to a value which has a 50% probability of being exceeded.
pH	The standard measure of acidity and alkalinity (from German <i>Potenz</i> = power, and H, the symbol for hydrogen). It is a logarithmic index for the hydrogen ion concentration in an aqueous solution.
photic zone	The upper layer of the ocean water column penetrated by light.
phytoplankton	The plant-life component of plankton. See plankton and zooplankton below.
pig	In the oil & gas industry, a pig is a device sent through an active pipeline either to inspect the condition of the interior of the pipe or to scrape off rust or other foreign matter. It is propelled by the pressure of the fluid behind it.
plankton	The mostly microscopic plants and animals which drift in the upper layers of seas, lakes, and other waterbodies. Although some species can propel themselves feebly, they are moved more or less passively by currents, wind or waves. See phytoplankton above and zooplankton below.
PM	See particulate matter above.
PM₁₀	Particulate matter smaller than 10 micrometres (10 µm) in diameter. See particulate matter above.
PM_{2.5}	Particulate matter smaller than 2.5 micrometres (2.5 µm) in diameter. See particulate matter above.
pneumatophore	Pneumatophores are specialised aerial roots developed by many of the mangrove species which inhabit tidal swamps and estuarine mudbanks. The subterranean roots grow in waterlogged, saline, anaerobic soils and cannot obtain enough oxygen to function. The pneumatophores allow atmospheric oxygen to enter through their lenticels and reach the submerged roots by diffusion. See lenticel above.
polycyclic aromatic hydrocarbon(s)	Abbreviated as PAH(s) . Polycyclic aromatic hydrocarbons (also called polynuclear aromatic hydrocarbons) are a complex class of hydrocarbon compounds with two or more fused benzene rings. They can be released into the atmosphere through incomplete combustion of organic matter and are environmental contaminants. Some are known to be carcinogens.
P_{ow}	See octanol–water partition coefficient above.

potential acid sulfate soil(s)	<p>Abbreviated as PASS(s). Potential acid sulfate soils are soils which contain iron sulfides or sulfidic materials which are in an anaerobic environment and have therefore not been exposed to air and oxidised. The pH of such a soil in its undisturbed state can be 4 or higher and may even be neutral (pH 7) or slightly alkaline. However, if disturbed, exposed to air and oxidised, PASSs pose a considerable environmental risk as they will become acidic (“actual acid sulfate soils”) and leach sulfuric acid. Disturbances that can result in the oxidisation of PASSs include the lowering of natural water tables and the excavation of soils that were previously below natural groundwater levels.</p> <p>See acid sulfate soil(s) and actual acid sulfate soil(s) above.</p>
ppmv	<p>Parts per million by volume. In atmospheric chemistry, the unit “ppmv” is a measure of the volume of a gaseous component per million volumes of total gas.</p>
ppt	<p>The abbreviation for both parts per thousand and parts per trillion. It is used in the <i>Ichthys Gas Field Development Project: draft environmental impact statement</i> in the meaning “parts per thousand” in salinity measurements.</p>
produced formation water	<p>The saline formation water produced during the extraction and processing of oil and gas from underground reservoirs.</p> <p>See formation water above and produced water below.</p>
produced water	<p>Water is always produced during the extraction and processing of gas from a natural gas field. It has two sources: one is the saline “produced formation water” found as a liquid in the geological formation below the gas, and the other is the water vapour commingled with the gas which is condensed out during the processing phase. “Produced water” is the combination of produced formation water and the condensed water. The produced water that is normally discharged from offshore oil and gas facilities contains dissolved compounds from the geological formation (such as organic acids, salts and hydrocarbons of low molecular weight) and finely dispersed oils and production chemicals.</p> <p>See formation water and produced formation water above.</p>
propane	<p>An alkane hydrocarbon with the chemical formula C_3H_8. Propane and butane are the major constituents of liquefied petroleum gas.</p> <p>See butane, ethane, isopentane, methane, liquefied natural gas and pentane above.</p>
PTS	<p>See permanent threshold shift above.</p>
pulverulent	<p>In soil studies, descriptive of soils composed of fine particles which are powdery and dusty when dry and disturbed.</p>

quad	<p>A unit used in discussing large amounts of energy, equal to a quadrillion (10¹⁵) British thermal units (symbol Btu). In the International System of Units (SI), energy is measured in joules (symbol J). The United States, however, uses the Btu and the US Department of Energy employs the term “quad” in calculating and reporting national and international energy budgets. For convenience, large-scale energy use is therefore measured in quadrillions (or quads) of Btu. A quad is equal to 1.055 × 10¹⁸ joules or 1.055 exajoules (1.055 EJ).</p> <p>See British thermal unit above.</p>
quadrillion	<p>One thousand million million (10¹⁵ or 1 000 000 000 000 000). In the International System of Units (the SI) the prefix “peta-” (symbol P) indicates the value 10¹⁵.</p> <p>See quad above.</p>
quarantine	<p>A system of regulatory measures put in place by governments to prevent or control the introduction, establishment or spread of plants and animals, or of pathogenic fungi, viruses, bacteria or protozoa, that could cause damage to natural ecosystems, agriculture, human health, etc. In the context of the Ichthys Project, the quarantine measures put in place are to prevent or control the introduction of any living organism not native to any part of the terrestrial or marine environment in which the Project operates.</p>
quarantine waste	<p>In the context of the Ichthys Project, quarantine waste means materials or goods of quarantine concern as determined by the Australian Quarantine and Inspection Service (AQIS) and which are subject to and/or identified under the <i>Quarantine Act 1908</i> (Cwlth) and associated legislative instruments. It includes material used to pack and stabilise imported goods; galley food and other waste from overseas vessels; human, animal or plant waste brought into Australia; refuse or sweepings from the hold of an overseas vessel; and any other waste or other material that has come into contact with the quarantine wastes listed above.</p>
Ramsar wetland	<p>A wetland (or site) designated for inclusion on the Ramsar List of Wetlands of International Importance. The Ramsar Convention (the “Convention on Wetlands of International Importance, especially as Waterfowl Habitat”) was signed in Ramsar in Iran in 1971 and came into force in 1975. It is an intergovernmental treaty which provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. There are presently 159 contracting parties to the convention. Australia signed the convention in 1971.</p> <p>Wetlands included in the list acquire a new status at the national level and are recognised by the international community as being of significant value for humanity as a whole. Contracting parties are committed to ensuring the maintenance of the ecological character of each Ramsar site under their control.</p>
receptor	<p>In environmental management and ecology, receptors are living organisms, the habitats or ecosystems which support such organisms, or natural resources which could be adversely affected by any form of environmental contamination (e.g. toxins, sewage, dust, light or noise).</p>

relevé	A simple quantitative sampling technique in which a visual description is made of the vegetation of an area, including characteristics such as species found, cover, density, etc. It allows large areas to be classified and mapped in a limited amount of time. The name is also applied to the sampling site itself.
reservoir CO₂	A term used in the oil & gas industry to describe the carbon dioxide (CO ₂) naturally present in a natural gas formation and which is typically vented to the atmosphere when the gas is extracted from the reservoir and processed. It is also called “native CO ₂ ”.
residual (environmental) risk	In environmental risk management, the level of risk remaining after the implementation of risk-control strategies.
rhizobenthic	Descriptive of seaweeds etc. which are rooted in the substrate of the seabed.
ria	A drowned river valley, usually long and narrow, formed as a result of a rise in sea level relative to the land, either by an actual rise in global sea level or by the land sinking. A “ria coast” is a deeply indented coastline with numerous rias.
salp	A free-swimming marine invertebrate with a transparent barrel-shaped body. Salps are tunicates related to the sea squirts.
sand wave	The term used for wave-like bed forms in sand on the seabed. These can vary in height from a few centimetres (sand ripples) to several metres (megaripples). See megaripple above.
SBM	See synthetic-based mud below.
sedimentary	In geology, descriptive of rock that has been formed by the consolidation of sediment carried by water, ice or wind and deposited on land or under water, for example sandstone. See igneous and metamorphic above.
SEL	See sound exposure level below.
semidiurnal	Descriptive of tides having cycles of approximately 12 hours. The predominant type of tide throughout the world is semidiurnal, with two high waters and two low waters each day.
semi-hispidose	Literally “half-bristly”. Of corals, having numerous short side branchlets projecting outwards from the main branch.
septage	The liquid, sludge and solid material pumped from a septic tank, cesspool, or other primary treatment source.
sheetflow	Water flow that occurs overland in places where there are no defined channels. The floodwater may spread out over a large area at a relatively uniform depth.
SI	The international abbreviation for the French words <i>Système International</i> from <i>Le Système International d’Unités</i> , known in English as the International System of Units. The SI is the internationally recognised system of measurement.

slug catcher	A large vessel placed at the outlet of a gas pipeline before the gas enters the processing facilities at an off- or onshore hydrocarbon processing plant. A “slug” is a mass of liquid (condensate, water, etc.) travelling through the pipeline along with the gas. The slugs (along with any other liquids arriving continuously at the onshore processing plant through the pipeline) are captured in the slug catcher and removed before they can overload the downstream receiving equipment at the plant. The slug catcher essentially acts as a large gas–liquid separator ahead of facilities that will separately process the gas and the liquids.
sound exposure level	Abbreviated as SEL . The total noise energy produced from a single noise event. Its symbol is L_{AE} .
sound pressure level	Abbreviated as SPL . In acoustics, a logarithmic measure of the root mean square sound pressure of a sound relative to a reference value.
SO _x	The generic symbol for the oxides of sulfur. (By convention, the “x” is subscripted and italicised.) See sulfur oxides below.
SPL	See sound pressure level above.
spring tide	The tide with the greatest difference between high and low water, occurring just after the new moon and full moon. See neap tide above.
stakeholder	Any organisation, government agency, group or person that has an interest in, or may be affected by, a project or by the activities or decisions of an organisation.
“step back 5 x 5”	A workplace safety mantra which encourages workers to figuratively step back five paces and pause for five minutes to reflect upon likely hazards before embarking on an activity.
stochastic	Occurring in a random pattern.
subarborescent	Of corals, tending to be treelike in form.
sublittoral zone	The area of shallow water on a seashore immediately below the littoral (or intertidal) zone. It is permanently under water. See benthic zone and littoral zone above and supralittoral zone below.
Suezmax	A naval architecture term for the largest ships capable of passing through the Suez Canal fully loaded. It is almost exclusively used in reference to tankers.
sulfur oxides	Abbreviated as SO_x . Gaseous sulfur oxides are produced by the combustion of coal, oil, gas and metal-containing ores. Sulfur oxide emissions consist principally of the stable sulfur dioxide (SO ₂), but include the unstable or short-lived sulfur monoxide (SO) and sulfur trioxide (SO ₃). Anthropogenic emissions are caused by fossil-fuel combustion, smelting, etc. Sulfur oxides in the atmosphere are harmful to human health when in high concentrations and are considered to be environmental pollutants.

supralittoral zone	<p>The area of a seashore immediately above the level of a spring high tide that is subject to splash by sea water but is not submerged.</p> <p>See benthic zone, littoral zone and sublittoral zone above.</p>
supratidal	<p>Of or relating to the coastal zone (often salt flats or sand dunes) above the high-tide mark.</p>
synthetic-based mud	<p>Abbreviated as SBM. A fluid used to facilitate the drilling of boreholes into rock. The mud is formulated using a variety of synthetic organic base fluids and has most of the performance properties of oil-based muds but without the adverse environmental effects caused by the use of diesel and mineral-oil muds. Synthetic-based muds are generally used deeper in the wells than the water-based muds in formations where the material being drilled swells if water-based muds are used.</p> <p>See WBM and water-based mud below.</p>
tabular	<p>Of corals, having a tiered, table-like growth form consisting of horizontal flattened plates.</p>
TBT	<p>See tributyltin below.</p>
TEG	<p>See triethylene glycol below.</p>
temporary threshold shift	<p>Abbreviated as TTS. In acoustics, the reversible hearing loss that results from exposure to intense impulse or continuous sound, as opposed to the irreversible “permanent threshold shift” that may result from more intense exposure.</p>
terrigenous	<p>Descriptive of marine rock material, sediments, etc., derived from the land. (From Latin <i>terrigenus</i> “earth-born”.)</p>
thermocline	<p>A temperature gradient, especially an abrupt one in a body of water.</p>
tidal excursion	<p>The net horizontal distance covered by a water molecule or particle during one complete tidal cycle of flood and ebb.</p>
Tiwi Islands	<p>The Tiwi Islands are approximately 80 km north of Darwin at the junction of the Arafura Sea and the Timor Sea. There are three islands in the group—Melville Island, Bathurst Island and Buchanan Island. The first two are large, with a total area of 8320 km², while Buchanan Island in Shoal Bay in the south is only 170 ha in extent.</p>
TKN	<p>See total Kjeldahl nitrogen below.</p>
Top End	<p>The colloquial expression “the Top End” is used to distinguish the tropical and monsoonal northern quarter of the Northern Territory from the semi-arid and arid southern three-quarters. No southern boundary line has been officially defined for the Top End.</p> <p>For the purposes of the environmental impact statement for the Ichthys Gas Field Development Project, the Top End may be taken as being the whole of the Darwin – Arnhem Land peninsula south to a line joining the points where the eastern border of Western Australia and the western border of Queensland meet the sea in the Joseph Bonaparte Gulf and the Gulf of Carpentaria respectively.</p>

total Kjeldahl nitrogen	Abbreviated as TKN . A quantification of total organic nitrogen and ammonia nitrogen present in water, used in environmental science in particular to determine the level of nitrogen pollution. It differs from the measure of total nitrogen (TN) in that it does not include the oxidised forms of nitrogen existing as nitrates and nitrites.
train	In the oil & gas industry a “train” is a “gas liquefaction train” or “liquefied natural gas train”. See LNG train above.
tributyltin	Abbreviated as TBT . Tributyltin compounds are biocides and were used especially in marine antifouling paints to protect the hulls of boats and ships against the growth of marine organisms. They are now recognised as environmental pollutants and as of 1 January 2008 there is a complete prohibition on the presence of TBT paints on ships worldwide.
triethylene glycol	Abbreviated as TEG . Triethylene glycol has a strong affinity for water and is used in the oil & gas industry to dehydrate natural gas. It will be used on the central processing facility at the Ichthys Field to remove the water from the gas stream before the gas is sent through the gas export pipeline to the LNG plant in Darwin. See monoethylene glycol above.
trillion	A million million (10 ¹² or 1 000 000 000 000). In the International System of Units (the SI) the prefix “tera-” (symbol T) indicates the value 10 ¹² .
TTS	See temporary threshold shift above.
tubicolous	Living in tubes. Descriptive, for example, of those species of polychaete worm which construct “cemented” tubular burrows in seabed sediments.
tunicate	Any of various small marine animals of the subphylum Tunicata usually having a cylindrical or globular body enclosed in a tough outer covering. The adults are often colonial and affixed to rocks etc., but some are free-swimming. See salp above.
turbidity	The cloudiness in a liquid caused by the presence of finely divided suspended particles.
ultraviolet A	Abbreviated as UV-A . Ultraviolet radiation in the 320–400 nm band.
umbilical	In the oil & gas industry an umbilical is an assembly of hydraulic hoses which can also include electrical cables or optic fibres, used to control subsea structures from a platform or a vessel.
UV-A	See ultraviolet A above.
vacant Crown land	In the Northern Territory the expression “vacant Crown land” is the name used for Crown land currently not being used and not reserved for any specific future purpose.
viewshed	The area of a landscape that is visible from a given vantage point. The viewshed concept is used in urban and industrial planning and landscape architecture to assist planners to mitigate the impacts of developments.
VOCs	See volatile organic compound(s) below.

volatile organic compound(s)	<p>Abbreviated as VOC(s). Volatile organic compounds are organic chemical compounds that have a high enough vapour pressure under normal conditions to significantly vaporise and enter the atmosphere. It may contain hydrogen, oxygen, nitrogen and other elements. Methane (CH₄) is not generally included as a VOC. Volatile organic compounds react with nitrogen oxides in sunlight to form ground-level ozone and thus contribute to smog. Some VOCs, such as benzene (C₆H₆), have been identified as potential carcinogens.</p> <p>See BTEX above.</p>
vug	<p>A small hollow or cavity in rock, often lined with crystals whose mineral composition is different from that of the surrounding rock.</p>
water-based mud	<p>Abbreviated as WBM. A fluid used to facilitate the drilling of boreholes into rock. It consists of a blend of water with clay (bentonite) and other additives. The water-based muds are generally used higher in the wells than the synthetic-based muds.</p> <p>See SBM and synthetic-based mud above.</p>
WBM	<p>See water-based mud above.</p>
wet season (Darwin)	<p>Darwin's climate is influenced by the tropical monsoon and thus has two distinct seasons—a wet season and a dry season. The dry season extends from May until October and the wet season from November until April. Most rain falls in the period from December to March and “the Wet” is characterised by high humidity and high-intensity electrical storms. Wet-season temperatures range from 25 to 36 °C and the average annual rainfall is over 1700 mm (c.67 inches).</p> <p>See dry season (Darwin) above.</p>
zone of visual influence	<p>Abbreviated as ZVI. The zone within which a human can both see and define an object. The term is used by landscape architects and environmental planners especially in the preparation of visual impact assessments made as part of the approvals process for industrial developments. The ZVI has been defined to demonstrate what a person sees without assistance and is subject to factors such as air quality, illumination and light reflectivity.</p>
zooplankton	<p>The animal-life component of plankton.</p> <p>See phytoplankton and plankton above.</p>
ZVI	<p>See zone of visual influence above.</p>