

19. Glossary

| Term | Definition |
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| Activated sludge treatment | A biological method of cleaning up waste waters in three stages. Stage I involves (anaerobic) equilibration. In stage II activated sludge containing micro-organisms is led into an aeration basin to speed up oxidation of organic matter and ammonia. In stage III the sludge is allowed to settle and the treated waste water is run off. Some sludge is removed and a portion is returned to the aeration basin. |
| Accepted Modern Technology | Accepted Modern Technology is defined in the <i>State Policy on Water Quality Management 1997</i> and <i>Draft Environment Protection Policy (Air Quality) and Regulatory Impact Statement 2001</i> as a 'technology which has a demonstrated capacity to achieve the desired emission concentration in a cost-effective manner, takes account of cost-effective engineering and scientific developments and pursues opportunities for waste minimisation.' |
| Acid sulphate soils | Acid Sulfate Soils (ASS) contain iron sulfides (mainly pyrite) which can generate large amounts of sulfuric acid when exposed to air. These soils formed naturally over the last 10,000 years, and are safe unless dug up or drained. Large scale drainage of coastal flood plains for flood mitigation, urban expansion and agriculture has exposed large areas of ASS. Acid leachate, plus the aluminium, iron and the heavy metals, which it releases from soils, can cause significant environmental and economic problems ²⁶ . |
| Air shed | The area that is defined by natural or topographical features affecting air quality ²⁷ . |
| Anthropogenic | Caused by human activity |
| Aquifer | An aquifer is a geological area which produces a quantity of water from permeable rock |
| Archaeology | The scientific study of past human cultures by analysing the material remains (sites and artefacts) that people left behind |
| Australian Forestry Standard (AS4708) | This standard has been developed for Australia's unique forest environments and ancient soils. It focuses on sustainable wood production and is applicable to exotic and native hardwood (eucalypt) and softwood (pine) forests. The standard applies management controls and the science of forest management to identify the social, environmental, ecological and economical criteria that contribute towards sustainable wood production in Australia ²⁸ . |
| Ballast water | Ballast water is carried in unladen ships to provide stability, or to raise/lower it in the water column. |
| Benthic | Relates to the ocean bottom |
| Best available technology | The best technology treatment techniques, or other means which the Administrator finds, after examination for efficacy under field conditions and |

²⁶ Definition from NSW Department of Primary Industries (Agriculture) <http://www.agric.nsw.gov.au/reader/soil-acidss/ass-what.htm>

²⁷ Department of Primary Industries, Water and Environment 2000, National Environment Protection Measure for Ambient Air Quality: Monitoring Plan for Tasmania, unpublished report.

²⁸ Definition from Australian Forestry Standard website, http://www.ncsi.com.au/downloads/ForestryStandardflyer_1.pdf

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| | not solely under laboratory conditions, are available (taking cost into consideration) ²⁹ |
| Best Practice Environmental Management | Defined in the <i>Environmental Management and Pollution Control Act 1994</i> as 'the management of an activity to achieve an ongoing minimisation of the activity's environmental harm through cost-effective measures assessed against the current international and national standards applicable to the activity.' |
| Bioaccumulation | Broadly refers to the accumulation of a chemical via direct transfer from the water column and/or sediment, plus accumulation through the diet |
| Biodiversity | Biological diversity or biodiversity refers to the variety of life forms: the different plants, animals and microorganisms, the genes they contain, and the ecosystems they form. This living wealth is the product of hundreds of millions of years of evolutionary history. ³⁰ |
| Bio-flocculation process | Activated sludge process |
| Bio-fuel | Gas or liquid fuel made from plant material (biomass). Includes wood, wood waste, wood liquors. |
| Biogeochemical | Relating to the partitioning and cycling of chemical elements and compounds between the living and nonliving parts of an ecosystem ³¹ |
| Biomagnification | A cumulative increase in the concentration of a persistent substance in successively higher trophic levels of the food chain. |
| Biota | The animals, plants, and microbes of a particular location or region. |
| Biota-to-Sediment Accumulation Factor | The ratio of the lipid-normalised concentration of a contaminant in tissue of an aquatic organism to its organic carbon-normalised concentration in surface sediment. |
| CAR Reserve System | The Comprehensive, Adequate and Representative (CAR) reserve system comprises areas of both public and private land that are reserved specifically for conservation purposes, and where the tenure of the reserved areas is secured by legislation or other methods appropriate for the area concerned ³² . |
| Chain of Custody | Set of procedures to account for the integrity of specimen or sample by tracking its handling and storage from point of specimen collection to final disposition of the specimen or sample. |
| Chlorine Dioxide | Chlorine dioxide is used as a bleaching agent in the fibre line. It attacks the aromatic ring of the lignin but does not react with carbohydrates, thus preserving pulp yield and giving superior pulp strength compared to other oxidants. |
| Contaminated land | Land that retains residues resulting from a current or previous use, ranging from building materials to the chemical by-products of former industrial activity. |
| Controlled waste | Controlled waste is defined in the Environmental Management and |

²⁹ Definition from www.nsc.org/ehc/glossary.htm

³⁰ Definition from DEH website: <http://www.deh.gov.au/biodiversity/publications/series/paper1/index.html#1>

³¹ Definition from www.visionlearning.com/library/pop_glossary_term.php

³² Definition from Australian Government, Department of Agriculture, Fisheries and Forestry website, www.affa.gov.au

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| | Pollution Control Act 1994 (EMPCA) and the Environmental Management and Pollution Control (Waste Management) Regulations 2000. Once a waste is classified as being a “controlled waste” and is allocated a suitable code, special arrangements should be made with a suitably qualified and approved waste management company to provide advice on transport, treatment and disposal. |
| Cost Benefit Analysis | Analysis of the potential costs and benefits of a project to allow comparison of the returns from alternative forms of investment. |
| Design life | Period of time for which a facility is expected to perform its intended function. |
| De-superheating | A process of spraying demineralised water to control the steam temperature |
| Dioxins | Polychlorinated dibenzo-p-dioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs) are collectively called dioxins. Co-planar polychlorinated biphenyls (co-planar PCBs) possess toxicity similar to that of dioxins and are called dioxin-like compounds. Dioxin or dibenzo furan molecules consist of two benzene rings joined together by oxygen atom(s) with various amounts of chlorine or hydrogen atoms attached in the numbered positions. There are 75 kinds of PCDDs, 135 PCDFs and more than 10 co-planar PCBs. The different types of dioxins are called congeners. Dioxins have no known industrial use but occur as unwanted by-products of some industrial and combustion processes such as metal smelting and burning wastes and fuel. ³³ |
| Diurnal | Belonging to or active during the day |
| Ecologically Sustainable Development | The National Strategy defines Ecologically Sustainable Development (“ESD”) as using, conserving and enhancing the communities resources so that ecological processes, on which life depends, are maintained and quality of life for both present and future generations is increased |
| Elemental chlorine free | A bleaching process that uses no chlorine gas, no chlorine water and no sodium hypochlorite as bleaching agents, with the only chlorine-containing bleaching agent being chlorine dioxide (ClO ₂) |
| Environmental Management Plan | A plan to undertake an array of activities that provide for the sound environmental management of a project so that adverse environmental impacts are minimised and mitigated; beneficial environmental effects are maximised; and sustainable development is ensured. |
| Environmental Management System (EMS) | A management approach that enables an organisation to identify, monitor and control its environmental aspects. An EMS is part of the overall management system that includes organisational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy. ³⁴ |
| Environmental Policy | Statement by the organisation of its intentions and principles in relation to its overall environmental performance, which provides a framework for action and for the setting of its environmental objectives and targets ³⁵ . |

³³ Definition from Toxikos, Toxicology Consultants, Human Health Risk Assessment- Bell Bay Pulp Mill Effluent, Draft for Comment, prepared for Gunns Ltd. December, 2005.

³⁴ Definition from www.peercenter.net/glossary/

³⁵ Definition from www.peercenter.net/glossary/

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| Ethno-historic | The study of especially native or non-Western peoples from a combined historical and anthropological viewpoint, using written documents, oral literature, material culture, and ethnographic data ³⁶ |
| Fugitive emissions | Emissions which can escape from the process since they are not collected at the source of origin |
| Geographic Information System (GIS) | Digital mapping system that allows the capture of spatial (that is, location) data and of associated attributes for that spatial feature. |
| Green Energy | According to the Sustainable Energy Development Authority (SEDA), green energy or power is renewable energy that is bought by energy suppliers on behalf of their customers and independently audited and verified by the National Green Power Accreditation Steering Group. http://www.basslink.com.au/Envir_GreenEnergy.html www.greenpower.com.au . |
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| Green liquor | The term given to the recovery boiler smelt dissolved in weak white liquor due to its green appearance |
| Greenfield | Undeveloped land |
| Gross State Product (GSP) | The total value of goods and services produced in the state, after deducting the costs of goods and services used in the production processes. |
| GTSpot | A GIS database that lists recorded sightings of threatened plant and animal species as identified in the Tasmanian <i>Threatened Species Protection Act 1995</i> . |
| Hardwood | Eucalypt |
| Homeostatic | Balanced state of the living body despite variations in the environment |
| Intertidal | The zone between high and low tide. |
| ISO14001 | Environmental Management System – International Standards Organisation (ISO) 14001: 2004 |
| Kappa Number | The number assigned according to the amount of residual lignin, or the delignification degree. A high Kappa number indicated high residual lignin in the pulp. The higher the kappa number the higher the use of bleaching chemicals. |
| Kraft | German adjective for strong. (The Kraft process is the dominant chemical pulping process worldwide because of its superior pulp strength properties). |
| Land Capability | Capability of land for long-term sustainable agricultural production |
| Lime Mud | Very fine mud formed of microscopic crystals of calcium carbonate |
| Meso-tidal | Tides that have a strong, but not necessarily dominant, influence on the |

³⁶ Definition from <http://www.answers.com/ethnohistoric&r=67>

| Term | Definition |
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| | estuarine environment and have a typical range of 2 - 4 m |
| Native Growth | All native forest excluding old growth as defined by the RFA |
| Operational life | The duration of time that an activity is in operation or being actively managed. |
| Permeability | Ability of a substance to transmit fluids through pore spaces |
| Permit | A legal document giving official permission to do something (license) |
| Pharmacokinetic modelling | Pharmacokinetics is the study of the time-course of a drug in the body. It deals with both the rates and extent of drug absorption, distribution, metabolism and elimination, and the mechanisms of these processes. By applying mathematical modelling techniques, pharmacokinetic analysis enables the prediction of a drug's concentration in the body at a given time after exposure ³⁷ |
| Pipe jacking | Pipe jacking involves hydraulically pushing pipes from a constructed drive shaft. There are various types of equipment that fall under the pipe-jacking category, including micro-tunnelling and auger boring. |
| Planning Scheme | Legal instrument, that sets out the provisions for land use, development, and protection |
| Polymer | Large organic molecule formed by combining many smaller molecules (monomers) in a regular pattern. |
| Pulp Mill | A manufacturing facility where woodchips undergo a series of processes including screening, cooking, bleaching and drying to separate the wood fibre from the water and natural glues (lignin), leaving cellulose fibre for the production of paper. Pulp is the intermediate stage between wood fibre and paper. |
| Sensitive Sites | For example residences, motels, schools, nesting sites |
| Silviculture | Care and cultivation of forest trees (forestry) |
| Softwood | Pine |
| Stratification | Division into distinct layers |
| Stripper gas | Non-condensable gases from the condensate stripping column. (The stripper column removes chlorine from the chlorine dioxide gas and reduces the chlorine content in the chlorine dioxide solution to approximately 0.2 g/l by stripping with air.) |
| Subtidal | Portion of a tidal-flat environment below the level of mean low tide mark |
| Sustainability | The ability to provide for the needs of the world's current population without damaging the ability of future generations to provide for themselves. When a process is sustainable, it can be carried out over and over without negative environmental effects or impossibly high costs to anyone involved. ³⁸ |
| Total chlorine free | uses no chlorine-containing bleaching agents |
| Triple Bottom Line | Whole set of values, issues and processes that companies must address in order to minimise any harm resulting from their activities and to create economic, social and environmental value |
| Water or Wastewater Treatment Plant | A location where water or wastewater (e.g. sewerage) is treated |

³⁷ Definition from <http://www.adelaide.edu.au/health/pharm/research/clinpharm1.html>

³⁸ Definition from www.sustainabletable.org/intro/dictionary/

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| Web | a web is the term used for the continuous sheet of pulp formed on the wire of a pulp machine |