



New Patent Application Filed

Thursday 24 November 2016: Environmental Clean Technologies Limited (ECT or Company) (ASX:ESI) is pleased to announce it has submitted a new Australian provisional patent application on an improved Metal Oxide Reduction process, HydroMOR.

As the market is aware, the Company's Matmor process has been the subject of much activity in the last two years:

- The purchase of the Matmor Test Plant assets at its Bacchus Marsh facility
- The acquiring of the Matmor intellectual property from the original owners
- Subsequent development work related to the India project opportunity with partners, NLC India and NMDC
- Most recently, upgrade works to the Test Plant to ready it for a new period of operational activity in support of Pilot Plant design works

The new process, HydroMOR, is an improvement over the existing Matmor process, deriving further advantage from its unique raw material base, especially the hydrocarbon-rich low-rank coals used in the role of reductant.

The process derives its name from the utilisation of Hydrogen to enhance the reduction process used to create metals from ore.

The benefits the Company sees in the application of the HydroMOR process include further reductions in capital cost due to its ability to achieve the required metal reduction at a lower temperature, and operating savings in terms of raw material efficiency improvements, as well as decreased CO₂ intensity. With the capital cost savings being applied to carbon offsets, this brings closer the potential of carbon emissions neutral steel production.

ECT Managing Director Ashley Moore stated "The Company is in the business of developing and commercialising innovative new technologies which bring us closer to a zero emissions future. HydroMOR is a significant step in that direction. The filing of this provisional patent application also improves the company's ability to better protect and monetise our intellectual property. We also look forward to incorporating the capacity into our next projects to deploy and develop HydroMOR, to be able to demonstrate at scale its improved capabilities."

Background

Patents

A patent is a legally enforceable and exclusive right to commercially exploit an invention for a defined period in a particular territory.

In Australia, where the invention is a product, exploitation includes making, hiring, selling or otherwise disposing of the product, or offering to make, sell, hire or otherwise dispose of the product, using or importing the product, or keeping the product for the purpose of doing any of those things. For a method or process, exploitation includes using the method or process or exploiting a product resulting from performing the method or process. Other territories have their own laws regarding the rights afforded by a granted patent, and advice should be sought on a country by country basis if further information is required.

A patent is granted for inventions that meet defined criteria. Each territory in the world has its own patent laws and different countries therefore generally have different criteria, and hence make their own assessment as to the patentability of an invention. In general, the requirements include that the claimed invention is novel, involves an inventive step and meets subject matter eligibility requirements.

Patent Application Process

To obtain patent protection, it is ultimately necessary for an application to be filed with a Patent Office in each country where protection is to be sought. However, International conventions exist that enable applications to be initially filed in a single country, with subsequent applications being filed individually in each country within a defined time limit.

For example, the Paris Convention provides a mechanism that allows patent applications to be filed to cover additional countries within 12 months of the date of lodging a first patent application in Australia. Thus, one or more provisional patent applications can be filed in Australia, and then subsequent applications can be filed covering other countries within 12 months of the earliest provisional application, in a process known as claiming priority.

The subsequent applications can be separate applications in each country of interest. Alternatively, a single International Patent Cooperation Treaty (PCT) application can be filed covering a number of contracting states. The PCT application does not ultimately get granted as a patent, but rather allows the filing of national patent applications in individual countries to be deferred up to a set date, typically 30 months from the filing date of the first patent application, such as the first provisional patent application.

Once filed, the International (PCT) application undergoes an assessment process, in which a designated patent office performs a search and issues an International Search Report and associated International Search Opinion, providing a preliminary view on whether the patent application meets novelty, inventive step and industrial applicability requirements. Responses to the International Search Opinion can be optionally filed during a subsequent examination process, before an International Preliminary Report on Patentability issues, providing an opinion of patentability.

It should be noted however that the outcome of this process is not binding and subsequent assessment is typically performed by patent offices in each country, after individual national patent applications have been filed. In this regard, each country will typically perform an independent search, and then assess whether the patent application meets the patentability requirements, additionally taking into account their own local law.

Whilst most countries require a local patent application to be filed, in some cases regional patent applications can be filed covering a group of individual countries. For example, a European patent application can be filed, which can allow subsequent patents to be granted in up to 38 countries.

Assuming any objections are overcome, the patent application can then be granted allowing this to be subsequently enforced to prevent third parties exploiting the invention.

Patent rights can be assigned or can be licensed on an exclusive or non-exclusive basis.

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