



## A focal point for material scarcity research

Posted by [Rembrandt](#) on December 15, 2009 - 11:05am in [The Oil Drum: Europe](#)

Topic: [Supply/Production](#)

Tags: [material scarcity](#), [metal mineral scarcity](#), [metal scarcity](#), [peak metals](#), [peak minerals](#), [shell](#) [[list all tags](#)]

Last November, a group of Dutch institutes and companies launched a platform on the topic of material scarcity ([www.materialscarcity.nl](http://www.materialscarcity.nl)). The goal of the platform is to exchange information and start a number of research programmes to aid in the adjustment to a world where many elements are no longer abundantly available because of scarcity.

At the launch meeting, presentations were given by TNO, Shell, Philips, the Hague Centre for Strategic Studie (HCSS), TU/Delft and the Dutch Ministry of Housing Spatial Planning & Environment. In addition, the first report under the sponsorship of the platform, written by the [Materials Innovation Institute \(M2I\)](#), was presented ([click for download](#)).

At the platform launch, 100 people from business, government, and science were present. Most of the presenting organizations at the seminar had only recently become aware of the issue of material scarcity, and most attendees were unfamiliar with the topic. For instance, the spokesperson for Philips made a remark that the long term availability of elements like terbium had only this year become a topic of concern at the company.

At Shell, the issue of material scarcity is already receiving attention at the higher echelons. The Chairman of Royal Dutch Shell, Jorma Ollila, gave a talk at [the Koli Forum on Natural Resources](#) in Finland ([Transcription available here](#)). With respect to electric cars, Ollila stated in his talk:

Take lithium, a crucial component of the lithium-ion batteries that power electric cars. It can be easily produced in large quantities in only a few places on earth, and current production methods put pressure on the environment. Making a big shift to electric vehicles would require a formidable expansion of the world's capacity to mine lithium, even if we assume most car batteries will be recycled.

The possibility of a potential lack of lithium was also raised by a representative of Shell at the platform seminar in November. The representative of Shell presented a graph illustrating the availability of lithium-ion based on current reserve figures and the corresponding number of cars that could be produced using this technology. At a maximum, several hundred million cars could be built, making it likely that lithium-ion battery powered electric cars can only partially replace the current 800 million+ oil-fueled autos on the road.

In one presentation, the Rector Magnificus of the Technical University of Delft, Prof. Dr. Fokkema, showed a very nice example of enhancing materials with life extending properties. This was done by adding a sedentary bacteria to concrete which [precipitated calcite when the concrete came in contact with water](#). When this process is used, cracks can be healed, thereby extending the lifespan of concrete to over a hundred years.

Now that the topic of material scarcity has been introduced, the next steps will be to expand existing research, to launch new research initiatives, and to continue the exchange of information, with the goal of eventually expanding the network to existing groups in other countries. If individuals are interested in contacting the platform, this can be done through the [mineral scarcity](#) webpage.

**Links to more information on material scarcity:**

Web site of the [Materials Innovation Institute \(M2I\)](#).

Recent [presentation by Andre Diederer \(TNO\) at the Technical University of Delft](#).

Report by Chris Clugston (individual researcher), [continuously less and less](#), on material scarcity.



This work is licensed under a [Creative Commons Attribution-Share Alike 3.0 United States License](#).