



Take up the 1 litre 100 km challenge and be prepared for peak oil

Posted by [Luis de Sousa](#) on October 6, 2010 - 5:55pm in [The Oil Drum: Europe](#)

Topic: [Miscellaneous](#)

Tags: [automobile](#), [efficiency](#), [hybrid cars](#), [hybrids](#), [original](#), [students](#) [[list all tags](#)]

This is a guest post by Jean-Luc Wingert from [ASPO-France](#). Jean-Luc is a sustainability consultant and author of the book "[La vie après le pétrole](#)". He is presently the president of the Association Challenge 1 litre 100km.

Anyone interested in “peak oil” or oil future scarcity knows that transportation is soon going to be a difficult issue. This is one of the main motivations for launching the Challenge 1 litre 100 kilometer contest. It is a car race where participants will have only 1 litre of petrol to travel 100 kilometers. Of course, trying to take up the challenge with your regular car doesn’t make sense. It will be necessary to build a vehicle especially for this contest.



This is a guest post by Jean-Luc Wingert from [ASPO-France](#). Jean-Luc is a sustainability consultant and author of the book "[La vie après le pétrole](#)". He is presently the president of the Association Challenge 1 litre 100km.

Anyone interested in “peak oil” or oil future scarcity knows that transportation is soon going to be a difficult issue. This is one of the main motivations for launching the Challenge 1 litre 100 kilometer contest. It is a car race where participants will have only 1 litre of petrol to travel 100 kilometers. Of course, trying to take up the challenge with your regular car doesn’t make sense. It will be necessary to build a vehicle especially for this contest.



Challenge 1litre 100 km

The Challenge 1 litre 100 km is open to students aged 18 or above from any country of the world. The small car they are required to build must have two seats and space for luggage. We would like this vehicle to herald an efficient mobility option for the near future. Therefore we encourage interdisciplinary entries, with the involvement of graphic designers and innovative materials. The idea is not to have a vehicle built for “engineers only”--rather a nice car-of-the-future-after-oil. We have chosen a race circuit that is quite demanding in braking and acceleration, but the requirements should leave room for engineering creativity, notably around hybrid technology. If we do encourage creativity, for safety reasons, we are setting up some boundaries in the Challenge’s official rules.

A recently-published confidential report by a German military think-tank very seriously considers the possibility that peak oil will be around 2010. The permanent supply crisis they describe and its consequences seem quite dramatic. The people who have followed ASPO’s (Association for the Study of Peak Oil and gas) work for many years will not be surprised. The idea of the Challenge 1 litre 100 km is to address a serious issue with a touch of fun. If the

The Oil Drum: Europe | Take up the 1 litre 100 km challenge and be prepared for peak oil. <http://peakoil.theoil Drum.com/node/7022>
challenge is ambitious and departs from old ways of doing things, it's also because the situation demands it.

There is probably an important market for these two seat-cars. First, for economic reasons, since the crisis is unfortunately here to last. Without this crisis, oil prices would be skyrocketing as production limits close in. We are now seeing the first electric cars being introduced, but they are quite expensive. For the young middle-class couple that chose to have their house built 35 km away from the city (where land price is affordable), the problem is knowing what type of vehicle to buy and use. Available public transport is likely to be poor because of a low population density. The evolution of transportation will probably be in the direction of specialisation by usage. Having the same car to drive alone to work all year around and twice a year with your entire family on holidays is not the best for energy efficiency. The solution will be to rent a vehicle for extraordinary use, so renting a big car twice a year and owning a small one seems to be a good option. Of course, reality is more complex, but the idea is that we need vehicles that fit the needs they satisfy on an everyday basis. In the future mobility landscape, public transport is likely to play an important role, but it requires infrastructure that takes a long time to build. So does the setting up of supply systems for electric cars on a large scale.

The Challenge 1 litre 100 km is a platform for stimulating innovation in the field of extremely energy efficient vehicles. The challenge of finding new solutions to old problems is an opportunity to invent new mechanisms with 21st century technology, and to register new patents. For example, the motorcycle maker Piaggio patented more than 20 inventions to develop the MP3, its new three wheel vehicle. The technical rules of the challenge give room for technical creativity: the vehicle's weight must be between 225 kg and 275 kg and its length between 2.2m and 3.5m. It is reasonable to imagine most teams will use fibreglass for the main body to produce attractive shapes. This will be the best way to win one of the 3 design prizes : the Design Prize to the car with best outside design, Inside design Prize and Last coating Prize. Teams can also aim for the Eco Design Prize or the Special Prize given by the jury for the vehicle best combining race performance and outside design. And of course, the main prize will go to the first car that completes the 100 Km distance, including the celebration lap, podium and everything.

These small cars can be expected to be more than simply transition vehicles to manage peak oil, while waiting for electric cars and their costly energy supply infrastructure to be finished. For the long term, these very efficient vehicles should be able to operate with other types of liquid fuels, such as bio-fuels, methanol or synthetic fuels derived from other fossil fuels. All of these fuels may eventually be substitutes for oil products, but will certainly be in much reduced supply. Under this scenario efficiency will be capital.

In terms of time-frame, peak oil is virtually "around the corner," and when it takes place, we will need to react very quickly. Having students build their future now seems one approach to the road to sustainability. These cars will only emit 27 grams of CO₂ per km, because of their very low fuel requirements. Their average speed will be the surprise. For the first round of the contest, we are expecting teams to use existing motorcycle engines, since they are probably the cheapest and most reasonable option. The first race will take place in June 2011 in the North East area of France. We chose this area because it's close to the German border, from where we are expecting good teams. Within a distance of 500 kms from the track, there are nine countries, so it will be exciting to see the results.

Will you participate in the Challenge as a student, journalist, teacher, spectator or sponsor ?

For more Internet information: www.1litre100km.com



This work is licensed under a [Creative Commons Attribution-Share Alike 3.0 United States License](http://creativecommons.org/licenses/by-sa/3.0/).