Tar Sands vs. Asphalt: Round 1

Posted by Prof. Goose on February 2, 2008 - 11:00am in The Oil Drum: Local
Topic: Demand/Consumption
Tags: asphalt, environment, petroleum, tar sands [list all tags]

This is a guest post by Hans Noeldner.

OK, Oil Drummers, it's quiz question time.

Would it make sense to extract crude oil from asphalt? The process for extracting it from tar sands is, after all, very energy- and capital-intensive, not to mention the horrific environmental impact. Meanwhile Earth would be much improved if we-the-people replaced many of our biologically dead highways and parking lots with useful things like forests, wetlands, farms, gardens, and user-friendly habitation for *homo pedestrianus*. This would give us a lot of torn-up asphalt from which we could harvest energy...

Anyway, here are the quiz questions:

(1) On average, how many barrels of petroleum are there in a ton of asphalt? (Apparently there is about one barrel of oil in two tons of tar sands.)

(2) How many barrels of petroleum are used to asphalt binder per year in the USA? What about other binders like black liquor from papermaking?

(3) Considering highways and parking lots only, what is the total amount of asphalt binder in the USA?

(4) Is a significant percentage of this binder lost (via leaching and evaporation) as asphalt breaks down?

(5) Can the binders used in asphalt be cracked (or whatever) to make the usual range of refined petroleum products – particularly gasoline and diesel?
