

# Things you need to know about Oil Independence

By: Eyal Aronoff , October 2010

# Strategic Commodity: What's in your wallet?

- Petroleum has a monopoly on transportation fuel
- Transportation is the driver of world commerce
- World commerce is the driver of the global economy
- **Conclusion: Petroleum has a monopoly on the global economy**
- When you have a monopoly on the global economy you can charge almost any price!

# Global Warming: Who's your daddy?

## PETROLEUM

- Use: 68% transportation  
~1% electricity
- Direct cost: **~\$500 billion**
- GHG: **#1** pollutant
- Urban pollution: **#1**
- Substitutions: cheap
- Production: 60% import
- Supply risk: high

## COAL

- Use: 0% for transportation  
~95% electricity
- Direct cost: **~\$30 billion**
- GHG: **#2** pollutant
- Urban pollution: **>#2**
- Substitutions: expensive
- Production: 0% import
- Supply risk: very low

**So why exactly are we trying so hard to  
get off coal?**

# Alternative Energy: Nuke'em, Nuke'em All!

- **Nuclear power** generates clean electricity  
It is a replacement for coal, not for oil
- **Solar power** generates clean electricity  
It is a replacement for coal, not for oil
- **Wind power** generates clean electricity  
It is a replacement for coal, not for oil

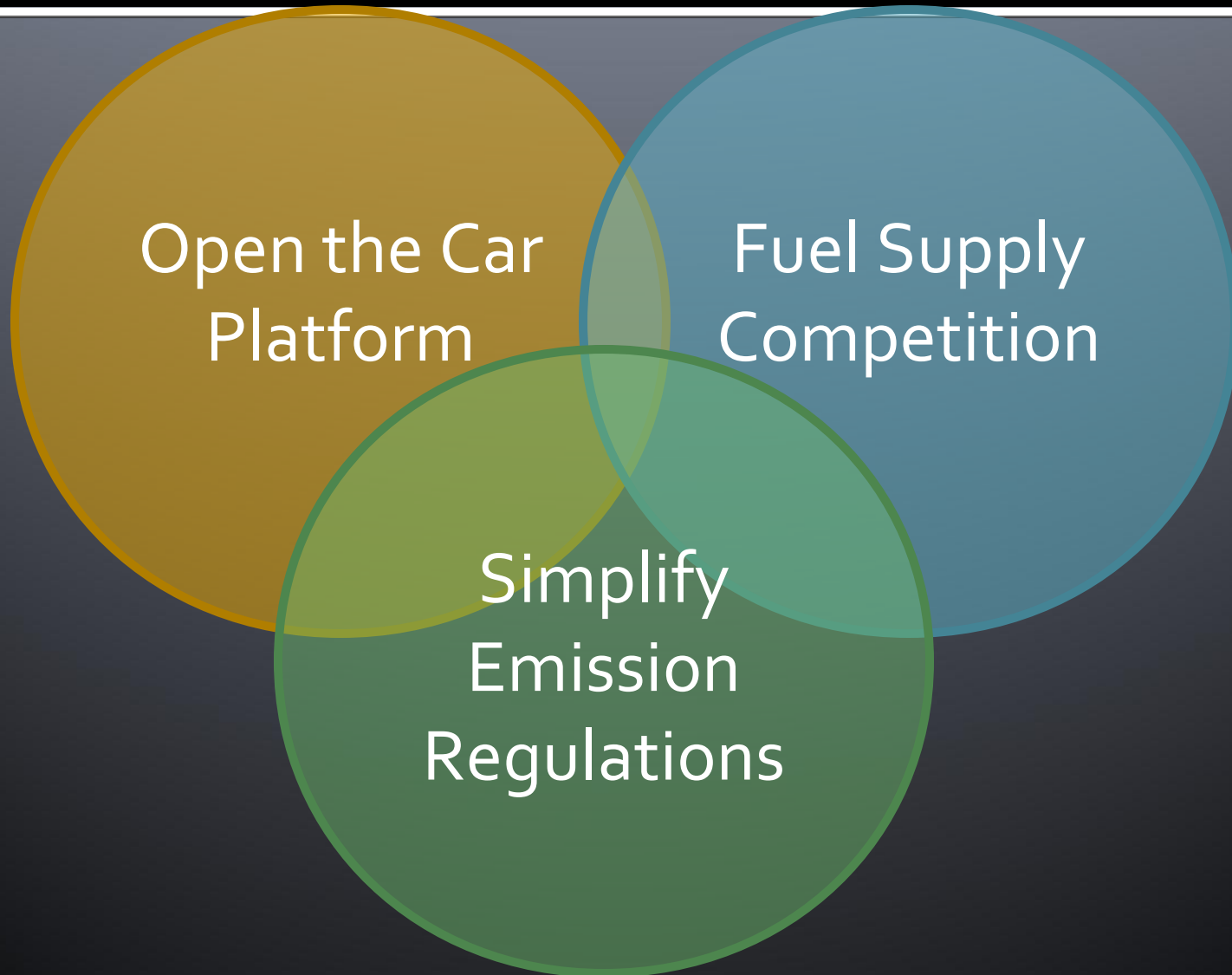
**So why again are we trying so hard to  
get off coal?**

# Oil Supply Risk: How fast can the Drill Baby Drill?

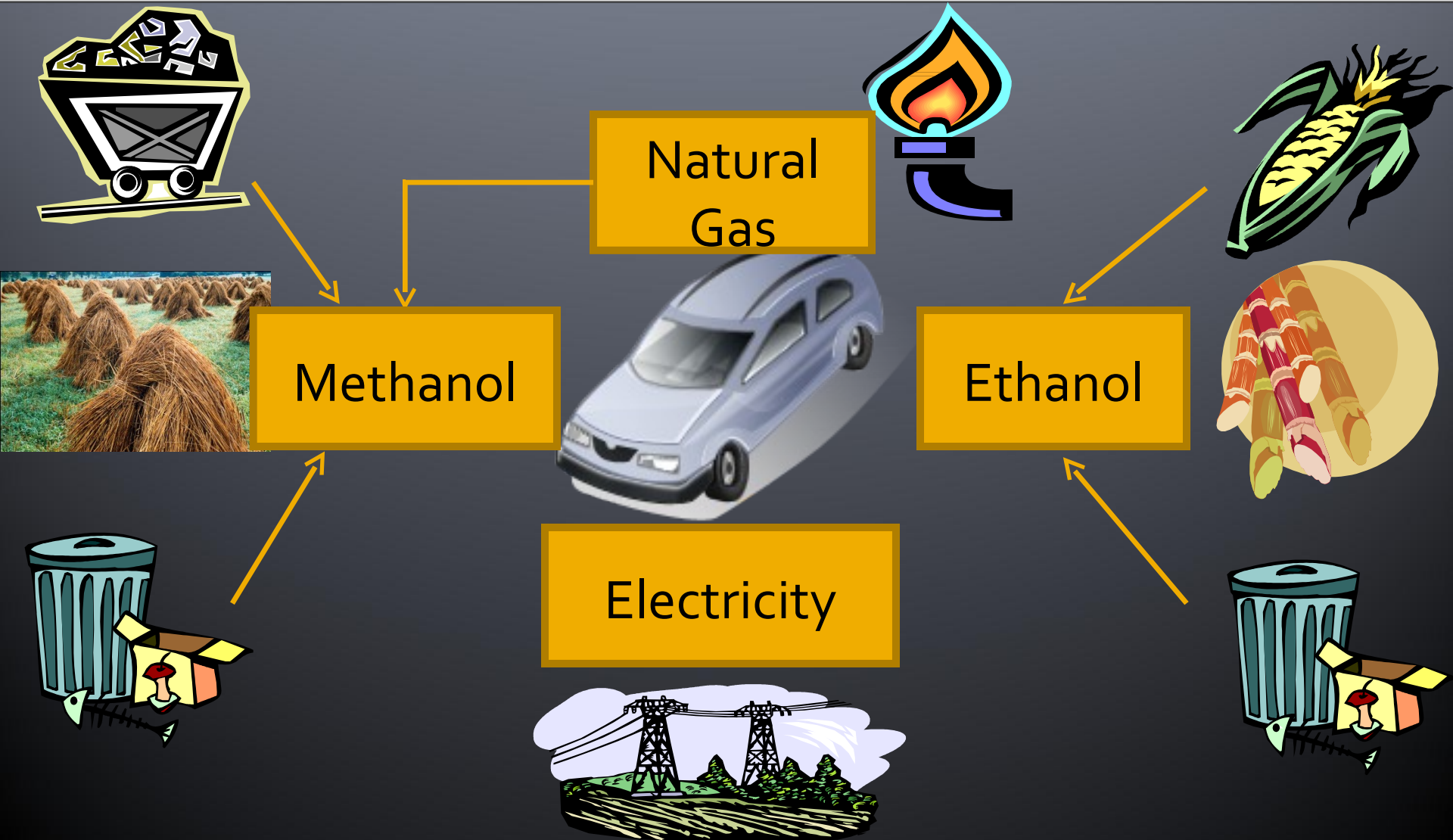
- 250 million new commuters in China in 5 years
- The \$2,000 Tata Nano car will motorize India
- New oil fields are harder to find, take longer to develop and require a lot more capital
- Iran nuclear future will threaten its neighbors, causing oil price to rise

How many more warnings do we need before  
we realize that the future of oil is  
**EXPENSIVE?**

# Solution: Multipronged Approach



# Fuel Choice: Four Main Alternatives



# 4 Alternative Fuels

- All are less expensive than gasoline
- All are domestically produced
- All emit less greenhouse gases
- Methanol and electricity are particularly scalable
  - Over time will migrate to renewable sources
- The problem is that the cars we buy today can not use any of these fuels

# Electric Cars: The long road ahead

- Electric cars are the long-term solution
- Ramp-up time can be as long as 20 years before there will be marked impact on the price of oil
- What do you think is the chance of an oil shock within the next 20 years?
- We need interim solutions in the form of alternative liquid fuels

# It is the oil stupid!

- Not doing anything could:
  - Bring \$200 oil and the specter of the Greater Depression
  - Open the door to global resource warfare
- Reducing our oil burden by half while switching to domestic alternative fuel supply would:
  - Save the US consumers over \$4 trillion a decade
  - Increase US global competitiveness
  - Increase GDP growth by an extra 1% a year
  - Free 30%-50% of the US defense budget
  - Free the hands of the US foreign policy makers

# We can have our cake and eat it too!

Without significantly cutting the amount of transportation and world commerce, we can have

- Economic expansion with less deficit
- Less taxes with more discretionary income
- More jobs
- Less pollution and greenhouse gas emissions
- Less terrorism
- Reduce the chance our kids will go to the draft

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