

Realistic Approaches

The greatest trick the devil ever pulled was convincing the world he didn't exist — Verbal Kint

Ivo Welch

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Goal

- ▶ Real reduction of CO₂ in the atmosphere.
- ▶ Not wellness solutions to anxiety.
 - ▶ I encourage your and others' wellness,
 - ▶ except when it distracts from what should be done,
 - ▶ and gives false illusion of progress;
 - ▶ and I am not the right person to teach this, anyway.

□ CO₂ Reduction Solutions

1. Must work many places around the world.
 - ▶ not all places are identical.
 - ▶ 6-7 bln Chinese, Indians, Africans, etc.
2. Must work over decades and generations.
3. Must not be too much against self-interest.
 - ▶ a modicum could be sustainable.
4. Must be able to sustain majority support.

Viabile Solutions

*Many small solutions but **must** aggregate. (I am not against others; it's just not a planetary realistic approach.)* □

1. Only **Economics** and **Technology** scale.
 - ▶ Fortunately, fossil fuels are expensive to obtain and move to destination.
2. Locally justifiable fossil-fuel taxes are viable..
 - ▶ Local health benefits are big. Real big!
3. Trees

Advice To Environmentalists

- ▶ Focus laser-sharp on viable solutions
 - ▶ ... when temporarily in power.
- ▶ Don't push solutions that are hugely divisive and can be undone every four years.
- ▶ Look for *catalytic solutions*.
 - ▶ Get over the big one-time hump.
 - ▶ Ideally low expense with accelerating self-dynamic.

War On Climate Change

- ▶ Haha — not true (see Ch 12).
- ▶ Tough to count up, but humanity's spending on fighting CC is tiny.
 - ▶ Definitely collectively suboptimal.
 - ▶ World collectively should spend more.
 - ▶ Better: *we* should spend more.
 - ▶ COP demonstrators are right on this point.

Un Cop Demonstrators

- ▶ If you are one of them, stop kidding yourself and look around:

YOU ARE OUT OF TOUCH

You are just in your echo chamber.

- ▶ The world's 8 bln barely care.
 - ▶ They really care about their own problems of the day.
 - ▶ They are not highly educated activists.
 - ▶ Heck, even in wealthy places. Let's vote:
 1. *free tuition, or*
 2. *-0.1°C in 30years.*



You Jackass professor

[Lomborg]...

- ▶ Compare CO₂ campaign not to university education and malaria eradication.
- ▶ Compare to useless military expenses!
 - ▶ Yes, I wish this too,
 - ▶ but this is fantasyland — not a chance.
 - ▶ Especially lamentable in Africa.

Fight the Power then? The Man? Capitalism?

(1) Viable Local Taxes

▶ US Economists Statement

- ▶ We agree, but
- ▶ we are perhaps a little more worried about long-term escape. Over 30 years, companies and industries can move to other countries.
- ▶ Also, only modest public support for proposal, because CO₂ is not deadly and barely opposed.

Better: Local *Fossil Fuel* Taxes

CO₂ may not be deadly, but fossil fuels are!

PM 2.5 particles:

- ▶ “Great”: visible, harmful, murder!
- ▶ Think 1 million deaths per year.
- ▶ Smog/health can mobilize population
 - ▶ clean air is a luxury good.

I worry about clean coal, which is what Manchin wants for Build Back Better.

Local *Fossil Fuel* (Coal) Taxes

- ▶ Realistic local externality: \approx \$50/tCO₂.
 - ▶ Location-specific: \$10 in AZ, \$100 in NJ.
 - ▶ Winners and losers.
 - ▶ Difficult even within the same country,
 - ▶ but local pollution fighting has a chance.

*Just start by removing darn \$10-\$20/tCO₂ subsidies on fossil fuels!! Don't worry about \$100/tCO₂ 10 years from now. Worry about **NOW!***

(2) Technological Change

- ▶ Dominant clean tech is within reach!
 - ▶ Market agrees: At times, Exxon < Nextera
- ▶ Solar/wind are cheapest energy **ever!**
 - ▶ Storage remains big problem. Soon.
- ▶ Technology is about two decades away.
 - ▶ Subsidize RDD to speed up.
 - ▶ Subsidize FOAK

Example: German windmills. Germans were not prime beneficiaries, though. Even German reduction was unimportant. Good example of example ;-).

Next Chapters

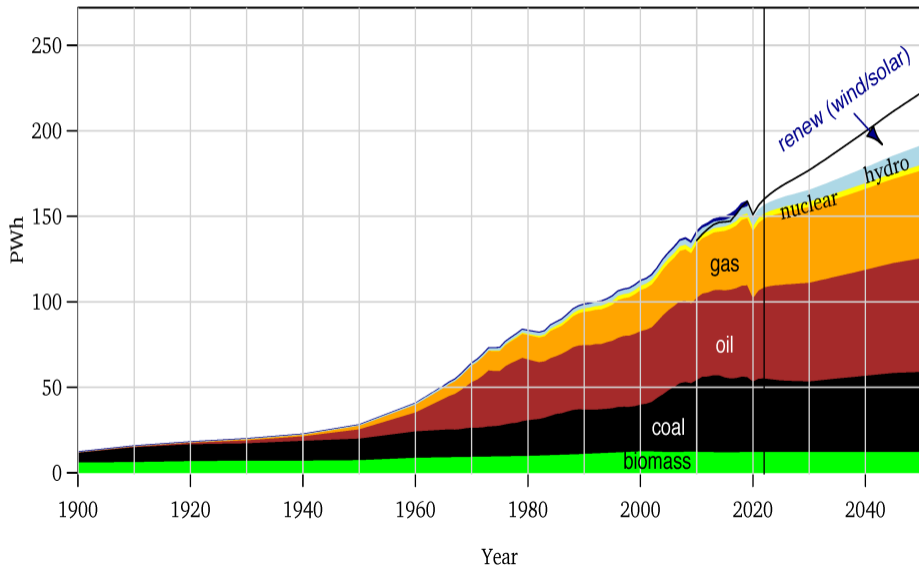
- ▶ You really need to understand what's technologically feasible,
 - ▶ now, close future, distant future.
 - ▶ Save the world **and** get rich.
 - ▶ Like computers in 1980.
- ▶ What are the magnitudes? (Recall Ch-1, covered next.)
- ▶ Where are the (potential) bottlenecks?

Some More Big Problems

- ▶ Public is ignorant and easy to sway:
 - ▶ Outrage makes clicks.
 - ▶ Many journalists are ignorant or conflicted.
 - ▶ Even some scientists are too alarmed to remain fair and objective.
 - ▶ And foreign nations stoke fire with systematic misinformation campaigns.

It's not as bad as it seems, but...

Existing Problem Is Big



Social Return On R&D Investment

- ▶ Irrelevant but interesting:
 - ▶ R.o.R has to work for entrepreneurs,
 - ▶ and it also happens to work for the world!
- ▶ \approx \$5-\$10 for every \$1 invested on R&D!
 - ▶ OECD+US can even go it mostly **alone!**
 - ▶ competitive aspects can push it further.

Our Messaging Recommendation

1. Clean energy technology is in *your* own interest.
 - ▶ It will create well-paying jobs and prosperity, for *you* and for *your* children.
2. Reducing fossil fuel use is in *your* own interest.
 - ▶ They are harming *your* health *today*.

Reduce antagonizing, shaming, divestment, international treaties, United Nations, China, global warming, etc. — all the things activists like. Get rich on the right activism!

Conclusion

- ▶ Pick battles (more) smartly.
- ▶ Lots of useful approaches, especially:
 1. Invest in clean technology, and
 2. advance local fossil-fuel (health) taxes.
- ▶ Today's Situation:
 - ▶ Good approaches are already pursued, but not enough.
 - ▶ Dumb approaches are also pursued.
 - ▶ Please shift resources towards effective environmentalism.