



SCREENING DSM

When the TRC Blocks Efficiency, What Next?

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DUNSKY OVERVIEW



EXPERTISE

- ▶ Energy Efficiency and Demand-Side Management
- ▶ Renewable Energy and Emerging Technologies
- ▶ Greenhouse Gas Reductions

SERVICES

- ▶ Design and evaluation of programs, plans and policies
- ▶ Strategic, regulatory and analytical support
- ▶ New opportunities assessments

CLIENTS

- ▶ Utilities
- ▶ Government
- ▶ Industry
- ▶ Non-profits

We will...

Argue

- ▶ that the TRC, *as commonly practiced*, provides an inaccurate reflection of the perspective it is meant to reflect
- ▶ that this didn't matter enough in the past, but increasingly is having a material impact on DSM decision-making

Provide an example

- ▶ from British Columbia, wherein a new homes opportunity could not pass the TRC, even though it was highly desirable

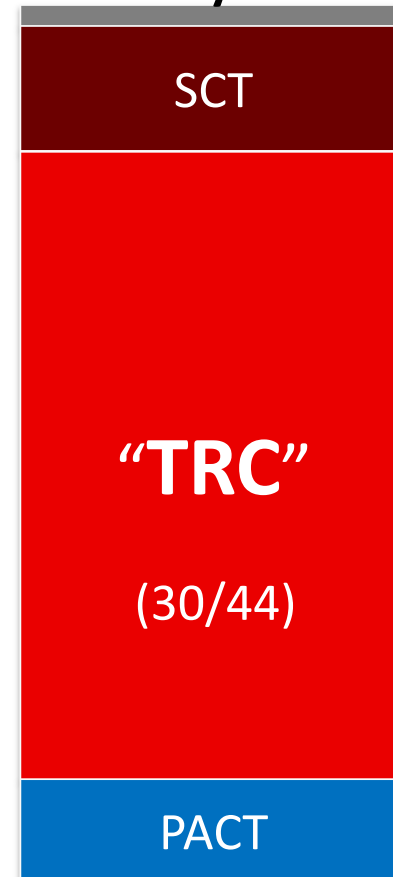
Discuss alternatives

- ▶ in particular those that are being pursued in leading regions

Why Is This Critical?

- Today, 70% of surveyed States use the TRC as their primary B/C screen
- Result of a historical compromise
 - ▶ restrictive RIM pushed by some
 - ▶ expansive SCT pushed by others
- How much does it matter?
 - ▶ 1990s: not much (many low-hanging fruit)
 - ▶ 2000s: not much (huge CFL opportunity)
 - ▶ Today: much more!
 - *baselines rising + rock-bottom gas ACs = tighter DSM window vs. rising DSM goals*

Primary Tests



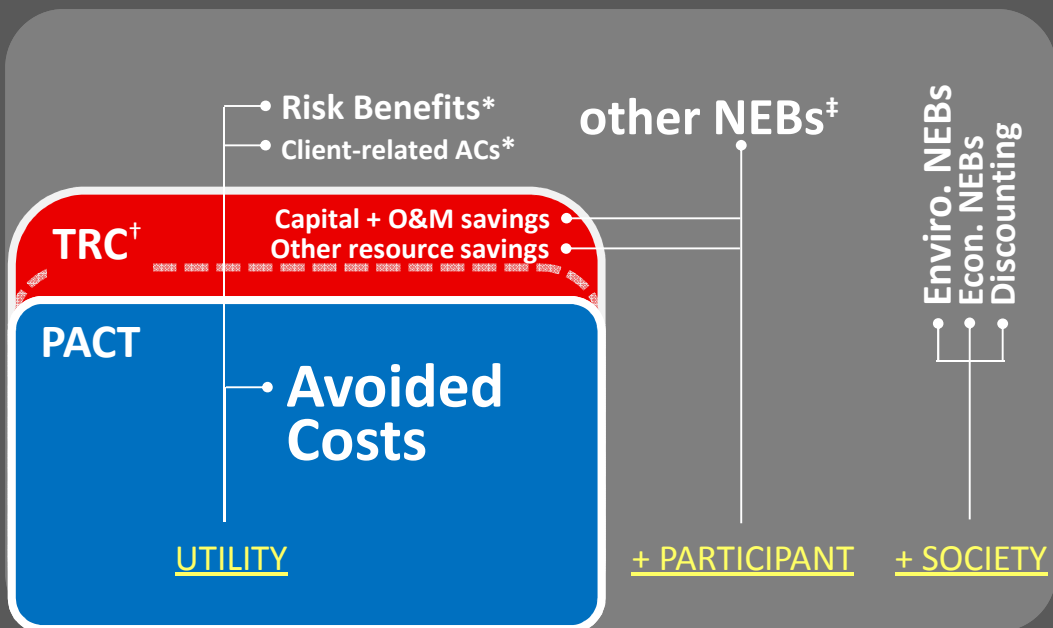
Source: Kushler et al. A National Survey of State Policies and Practices for the Evaluation of Ratepayer-Funded Energy Efficiency Programs, 2012

The Problem: Inherent Bias

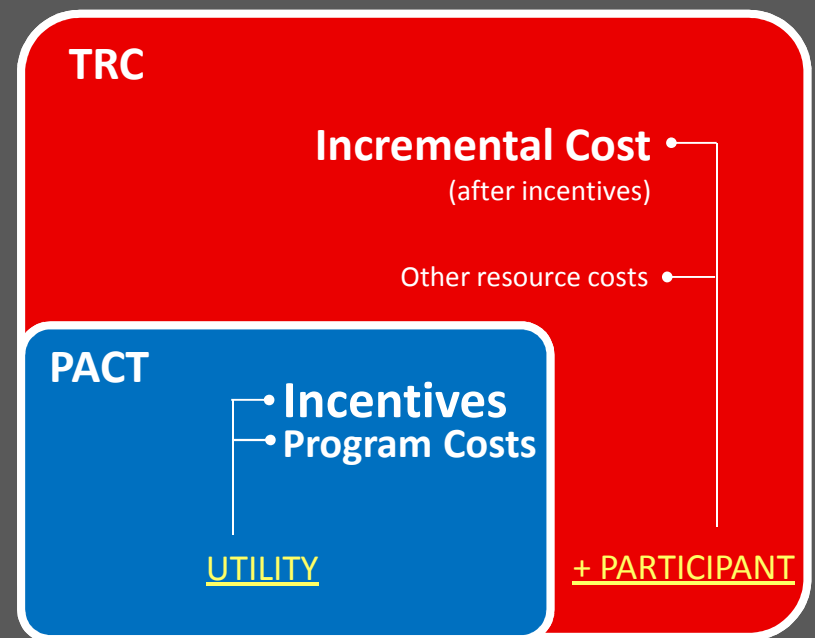


- The classic TRC systematically neglects important benefits, while accounting for the full costs (and then some)

BENEFITS



COSTS



* Avoided utility risks and ancillary costs should arguably be – but typically are not – accounted for by the PACT.
 † Some regions properly include capital, O&M and other resource savings and costs in their TRC; however many do not,
 ‡ Other participant non-energy benefits (NEBs) may include improved comfort, health, productivity, self-image, and more.

Dunsky Energy Consulting, 2012.
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The Case of BC HYDRO

CONTEXT

- New Code (anticipated)
= 32% improved baseline
- Policy goal of moving to next level... and toward “near net zero”
- Law of diminishing returns vs. TRC

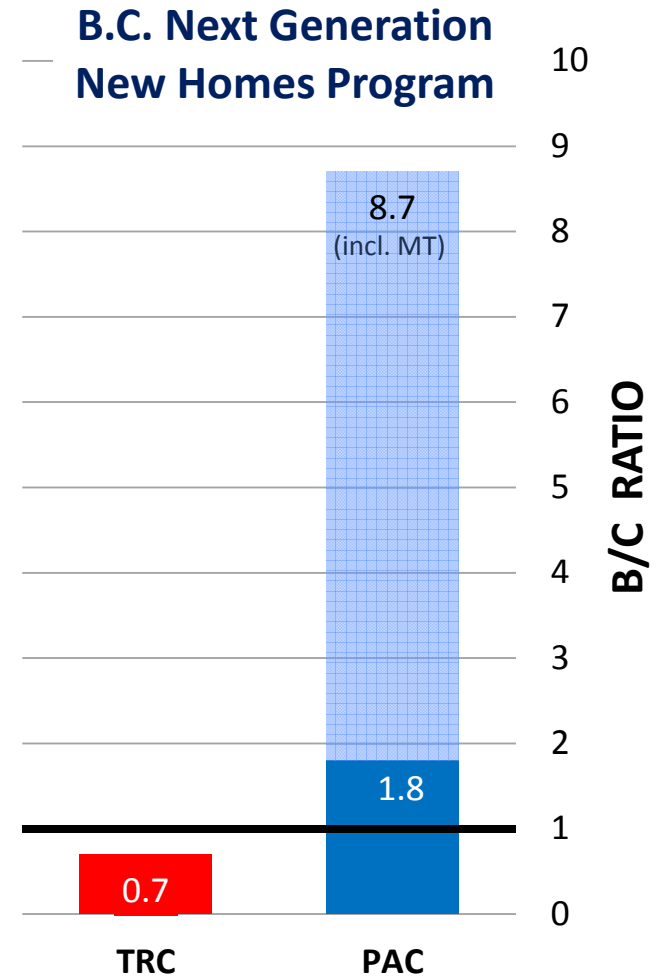
TRC BENEFIT INPUTS

- ✓ **Avoided costs**
(incl. emissions abatement)
- ✗ **Market Transformation Benefits**
- ✗ **Participant NEBs**
(comfort, “green” self-image, reduced cost risk)
- ✗ Utility and societal NEBs
- ✗ Others (EUL limits, etc.)

The Case of BC HYDRO

- Dunsky designed a post-code new homes program and ran the numbers...

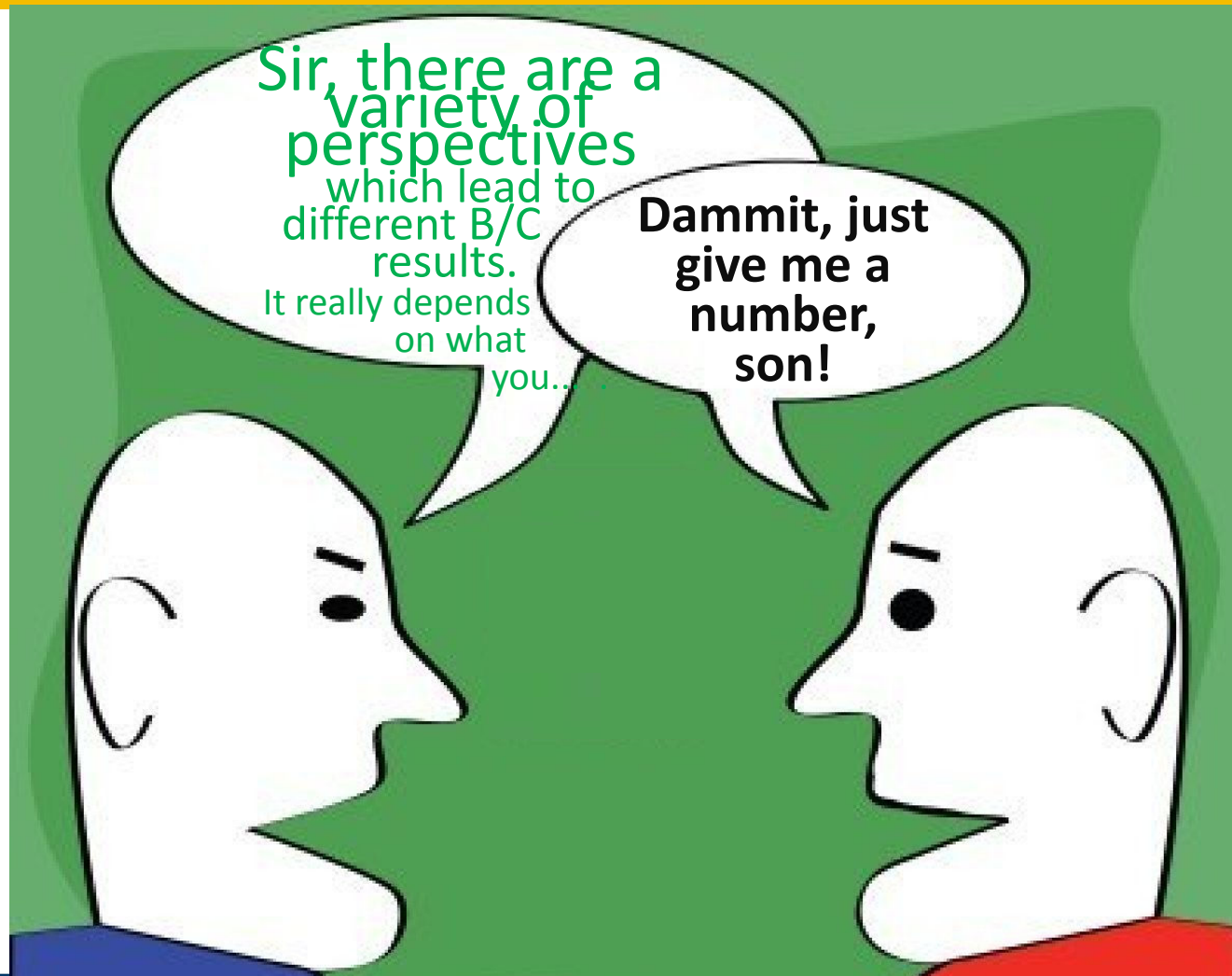
Q: Should this program fail?



OPTIONS Going Forward



OPTION 1: Human Judgment

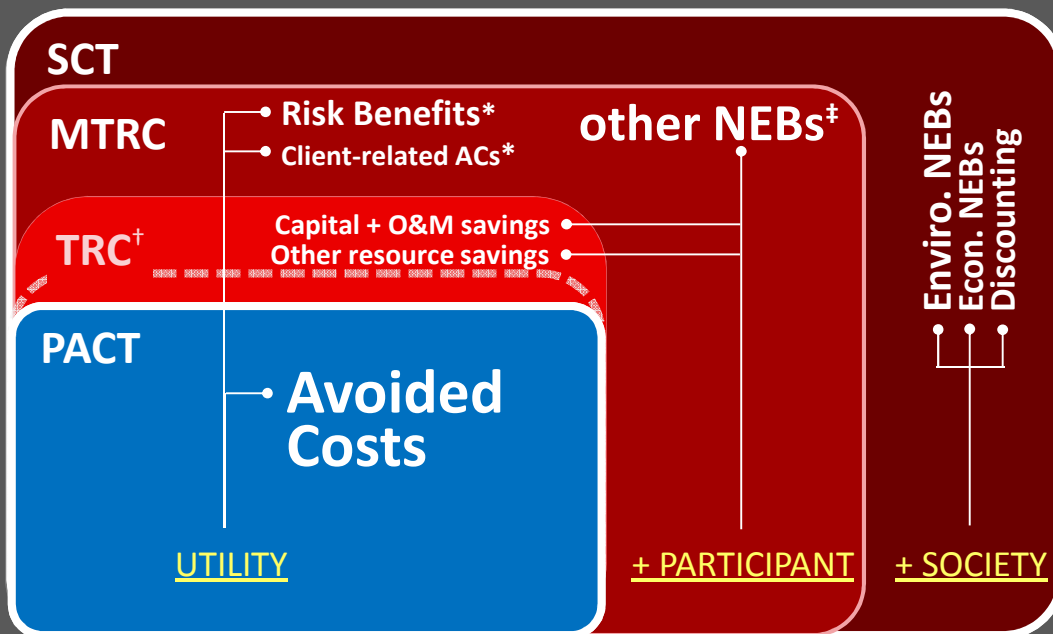


OPTIONS 2 & 3

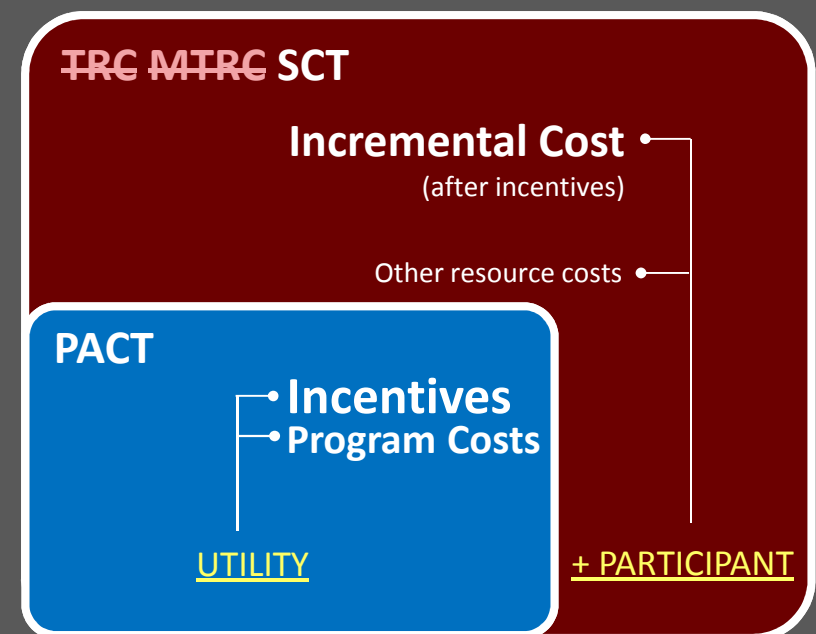
Consistency through MRTC/SCT or PACT

- To ensure a more consistent and coherent view, PAs may consider expanding the breadth of benefits, or restricting the scope of costs

BENEFITS



COSTS



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What are the leaders doing?

Q: Of ACEEE “top 5” states, how many still apply a pure TRC?

A: ZERO

Who's moved away from original TRC?

	ACEEE Rank*	PRIMARY TEST	"BEYOND-TRC" COMPONENTS				SCREENING LEVEL		
			Participant NEBs	Utility NEBs (risk)	Societal NEBs (enviro)	Social Discount Rate	Portfolio	Program	Measure
MASSACHUSETTS	#1	MTRC	✓	✓		✓	✓	✓	
CALIFORNIA	#2	TRC+PACT			✓		✓		
NEW YORK	#3	MTRC	✓		✓	✓		✓	✓
OREGON	#4	SCT+PACT	✓	✓	✓			✓	✓
VERMONT	#5	SCT	✓	✓	✓	✓	✓		
CONNECTICUT	#8	PACT			✓		✓	✓	
MINNESOTA	#8	SCT+PACT			✓	✓	✓	✓	
COLORADO	#12	MTRC	✓		✓		✓	✓	
BRITISH COLUMBIA	n/a	MTRC	✓	✓			✓*		

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MASSACHUSETTS	#1	MTRC	✓	✓		✓	✓		
CALIFORNIA	#2	TRC+PACT			✓		✓		
NEW YORK	#3	MTRC	✓	✓		✓	✓	✓	
OREGON	#4	SCT+PACT						✓	
VERMONT	#5	SCT						✓	
CONNECTICUT	#8	PACT			✓		✓	✓	
MINNESOTA	#8	SCT+PACT			✓	✓	✓	✓	
COLORADO	#12	MTRC	✓		✓		✓	✓	
BRITISH COLUMBIA	n/a	MTRC	✓	✓			✓*		

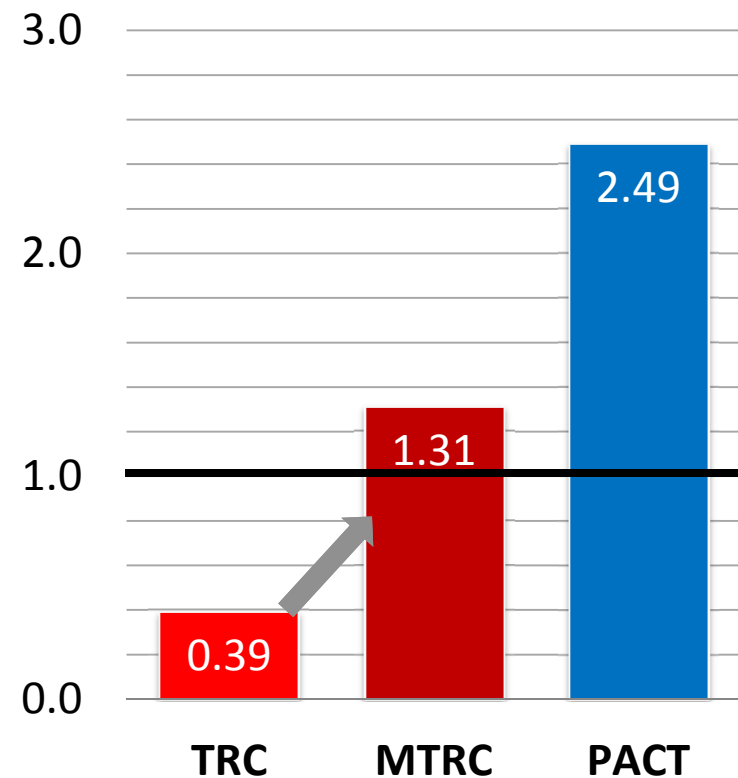
Note: the states that are moving away from the "classic" TRC are also the states that need to go deepest

The Case of BC: a new “MTRC”

After our work was complete, the government of BC adopted a regulation that modified the TRC algorithm, including:

- **Avoided Costs**
 - ▶ Electric = clean energy only
 - ▶ NatGas = 50% of electric ACs
- **Non-Energy Benefits**
 - ▶ 15% across the board
 - ▶ Potentially more for individual programs if substantiated
- **Code & Standard savings (some)**
- **Other details**

Is this (Fortis BC) plan cost-effective?



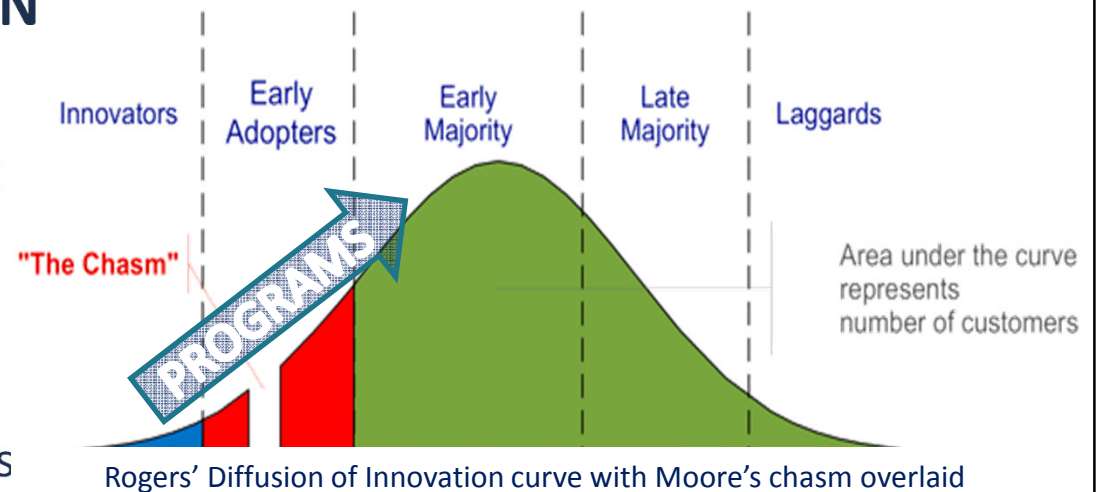
Other Concerns (briefly)

■ POLICY CLASH

- ▶ Many DSM goals now policy-driven
- ▶ Often inconsistent with test-driven decisions

■ STIFLING INNOVATION

- ▶ The cycle of innovation does not wait for B/C tests
- ▶ Consider exempting some innovative measures and/or program pilots



CONCLUSIONS

- **Classic TRC significantly understates benefits and may no longer support some needed DSM**
- **Opportunity for change is different in each region**
 - ▶ MTRC/SCT: focus on getting comprehensive view, but accept large uncertainty / potential controversy
 - ▶ PACT(UCT): focus on getting apples-to-apples view, but accept it is more limited in scope/perspective
- **In all cases, take a long, hard look at inputs, and keep in mind that tests are tools, not truth machines.**

Questions?

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