

Preserving the Bankability of RE Investments under Future Electricity Market Designs



RE-TRANSITION

TRANSITIONING TO POLICY FRAMEWORKS FOR COST-COMPETITIVE RENEWABLES

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[STROMMARKTTREFFEN]

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BRIEF PROFILE:



Toby Couture is Founder and Director of E3 Analytics, an international renewable energy consultancy based in Berlin that focuses on renewable energy markets, policy, and finance. He has worked with over forty countries around the world on the economic, financial, and policy aspects of renewable energy development, including in Asia, the Pacific region, the Middle East, Africa, and the Americas.

Outline

- 1. The Evolution of RE Policy**
- 2. Three Key Pillars of Future Power Systems**
- 3. Preserving Bankability**
- 4. Concluding Remarks**

Short Summary

- RE policy has historically been about bridging the cost gap between RE and conventional technologies
- But now, RE technologies like solar PV and onshore wind are increasingly out-competing fossil and nuclear technologies in tenders around the world
- Is it time for RE policy to call it a day?



Short Summary

- Not quite
- A range of factors make it unlikely that RE policies can be phased out completely, including:
 - low wholesale market prices,
 - excess generation capacity,
 - having to compete against amortized plants,
 - incomplete (or non-existent) pricing of externalities,
 - inertia associated with incumbent utilities,
 - the existing asset base,
 - inherent capital intensity of RE generation

Disclaimer:

“Making predictions is difficult, especially about the future.”

- Danish Proverb

“I do not believe the introduction of motor-cars will ever affect the riding of horses.”

- Scott-Montague, UK MP, 1903

“There is no reason anyone would want a computer in their home.”

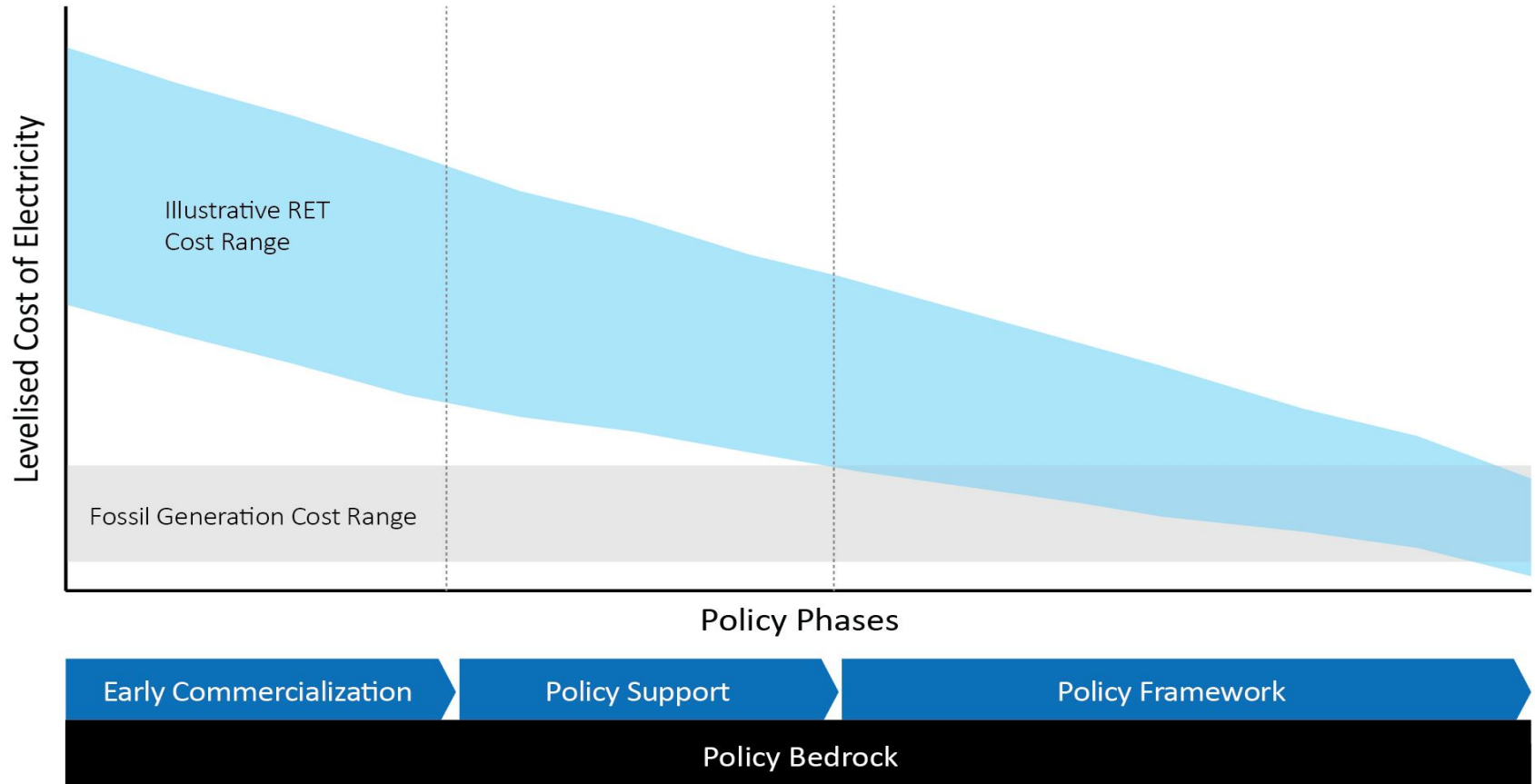
- Ken Olsen, CEO, Digital Equipment Corp. 1977

“I think there is a world market for maybe five computers.”

- Thomas Watson, President of IBM, 1943

1: The Evolution of RE Policy

Policy evolution driven by cost evolution



2: Three Key Pillars of Future Power Systems

Key Pillars

BANKABILITY	FLEXIBILITY	LONG-TERM VISION
<p>Maintain the bankability of new investments in renewable energy technologies</p>	<p>Enhance the overall flexibility of the power system, specifically in order to adapt to growing shares of variable renewables</p>	<p>Establish a long-term vision for a clean, sustainable power sector</p>

3: Preserving Bankability

What is Bankability?

A project is deemed bankable when it can provide a sufficiently attractive risk-adjusted return to justify investment based on prevailing economic, policy, and market conditions.

Different investor types have different return expectations, as well as risk tolerances (banks, private equity, corporates, individuals and cooperatives, etc.)

→ **To ensure flourishing RE market development** (high social acceptance, broad political support, competitively priced capital) **broad participation from a wide range of different investor types is key**

Bankability in Liberalized Markets

In many **liberalized electricity markets** today, virtually no technologies are financeable solely via the spot market:

- Low wholesale market prices;
- Excess generation capacity;
- Flat or negative demand;
- Low carbon prices;
- Inconsistent policies;
- Little long-term investment certainty

Little sign of this changing soon, at least in the EU

The “Impossible Trinity” in Economics¹

Economic theorem that says you can't simultaneously have the following three things:

1. A stable foreign exchange rate
2. Free capital movement (absence of capital controls)
3. An independent monetary policy

You can have two (2), but not all three.

¹Mundell, Robert A. (1963). "Capital mobility and stabilization policy under fixed and flexible exchange rates". *Canadian Journal of Economic and Political Science* 29 (4): 475–485.

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The Trilemma Facing Future Electricity Markets

In electricity markets, the trilemma may be framed as follows:

Policymakers cannot simultaneously have the three following things:

1. Full generator exposure to spot market prices
2. Fully unsubsidized electricity supply
3. A rapid scale-up in renewable energy investment

Bankability in Liberalized Markets

- Electricity market reform is traditionally dominated by people trained as **economists**, rather than people trained in **finance**
- To maintain long-term bankability of RE projects, re-focusing policy around **finance**, rather than solely around economics, will be critical

Options for Liberalized Markets

The challenges of maintaining bankability in liberalized markets are significant (cannibalization effects, “missing money” problem, etc.). Options include:

1. New contractual arrangements: synthetic PPAs, more bilateral contracts, partial offtaker agreements, more hedging instruments, aggregators, new business models

2. New revenue streams: ancillary services markets, carbon revenues, locational pricing, as well as floating premiums to compensate for low market prices

Or, a more fundamental redesign of the market...

3: Concluding Remarks

Concluding Remarks

- The transition to a sustainable, low carbon power system will be faster and easier if finance is available *at scale* and at reasonable rates, both for generation, as well as for flexibility related investments
- Neither monopolized, single-buyer, nor liberalized electricity markets will be able to sustain the scale of investments required without policies that foster **bankability, flexibility,** as well as long-term **certainty**

In other words:

There's still a lot of work to do!



Report:

RE-TRANSITION: Transitioning to Policy Frameworks for Cost- Competitive Renewables

http://iea-retd.org/?smd_process_download=1&download_id=6063



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Thank you!

Questions?

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