

From Candle to Spotlight: Disruptive Energy Technologies scenarios in Thailand



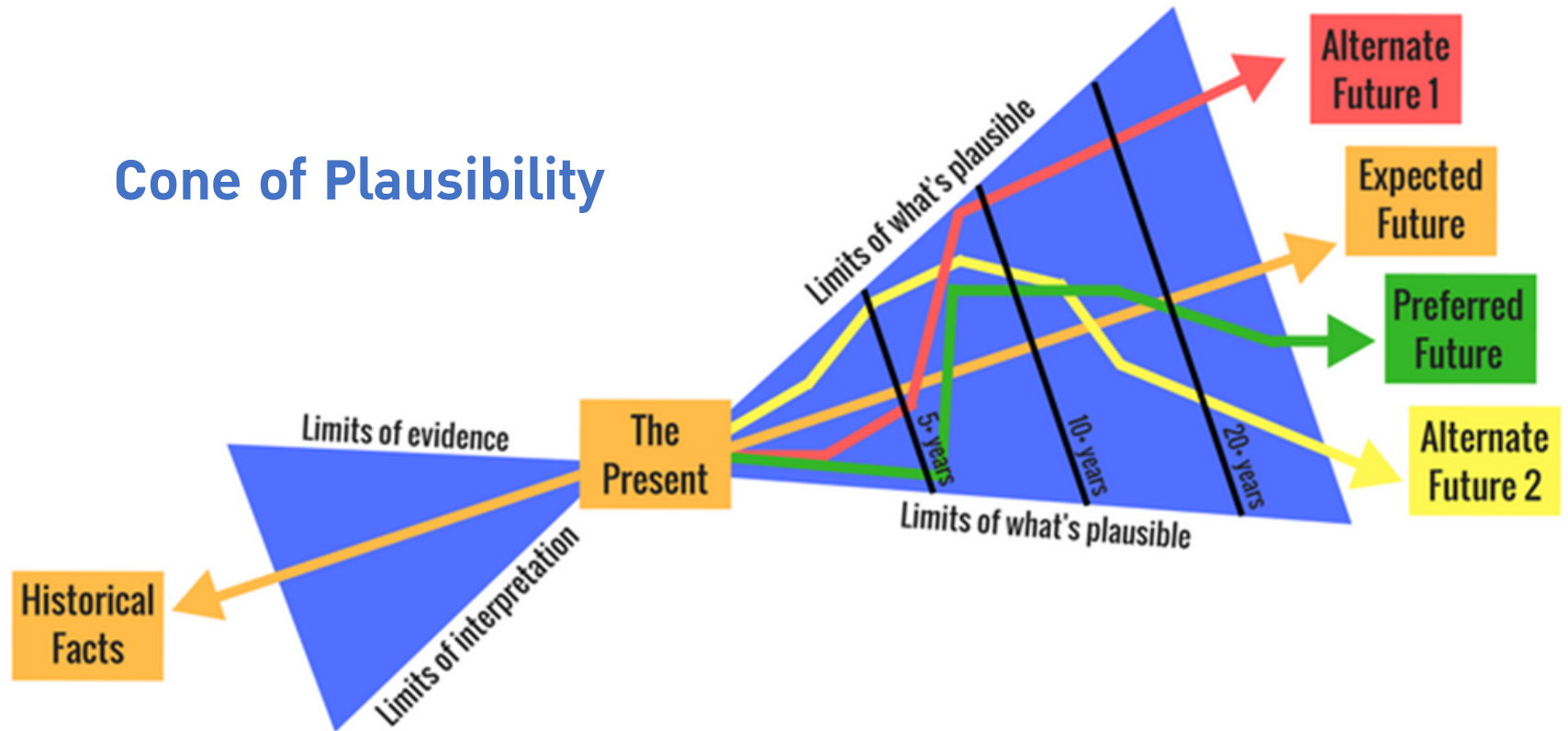
Wichsinee Wibulpolprasert, Thailand Development Research Institute

Event: RENdez-vous Southeast Asia, *RE-imagining Renewable Energy Futures for Southeast Asia.*

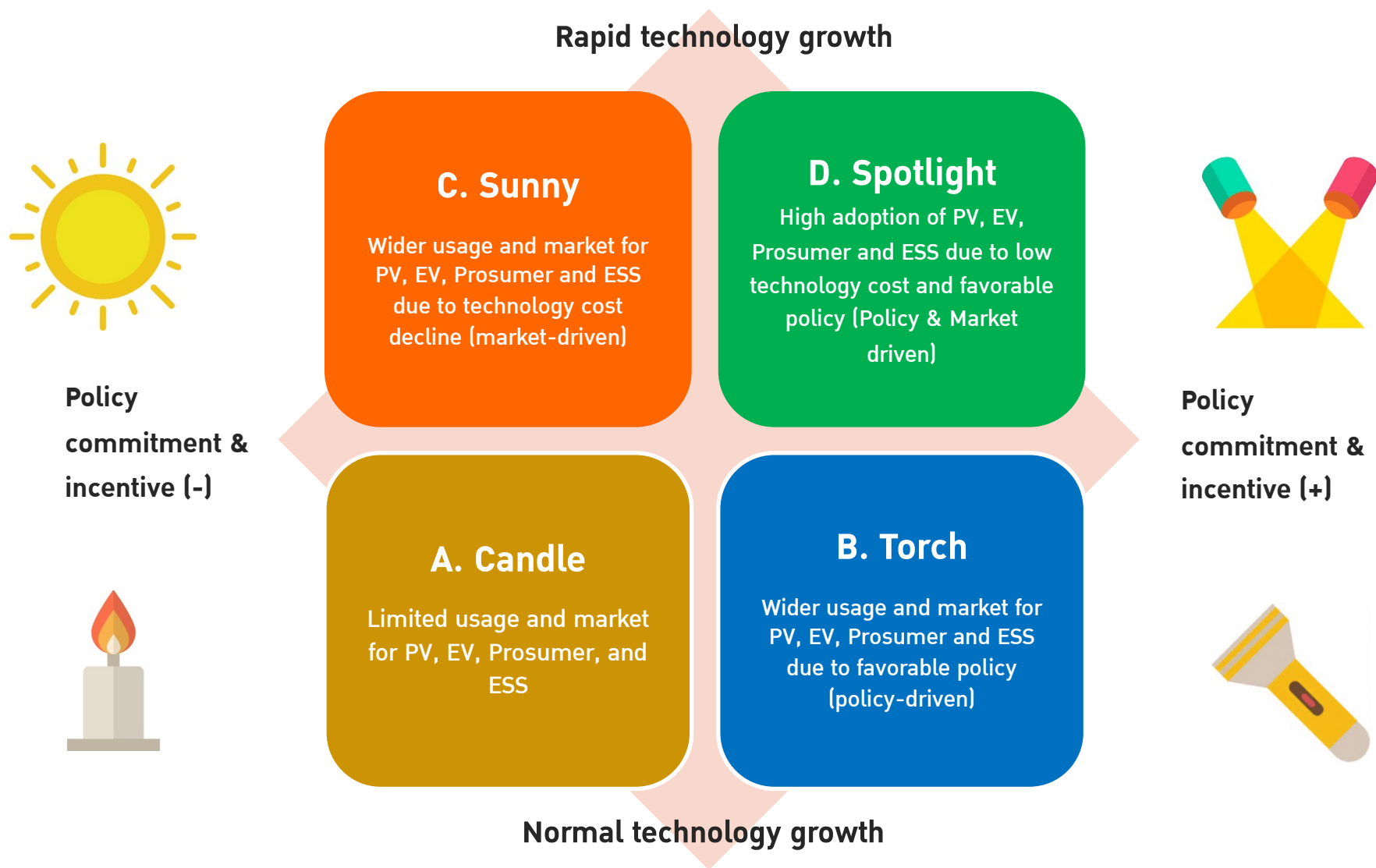
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What would be possible, plausible, probable futures? A Scenario Analysis

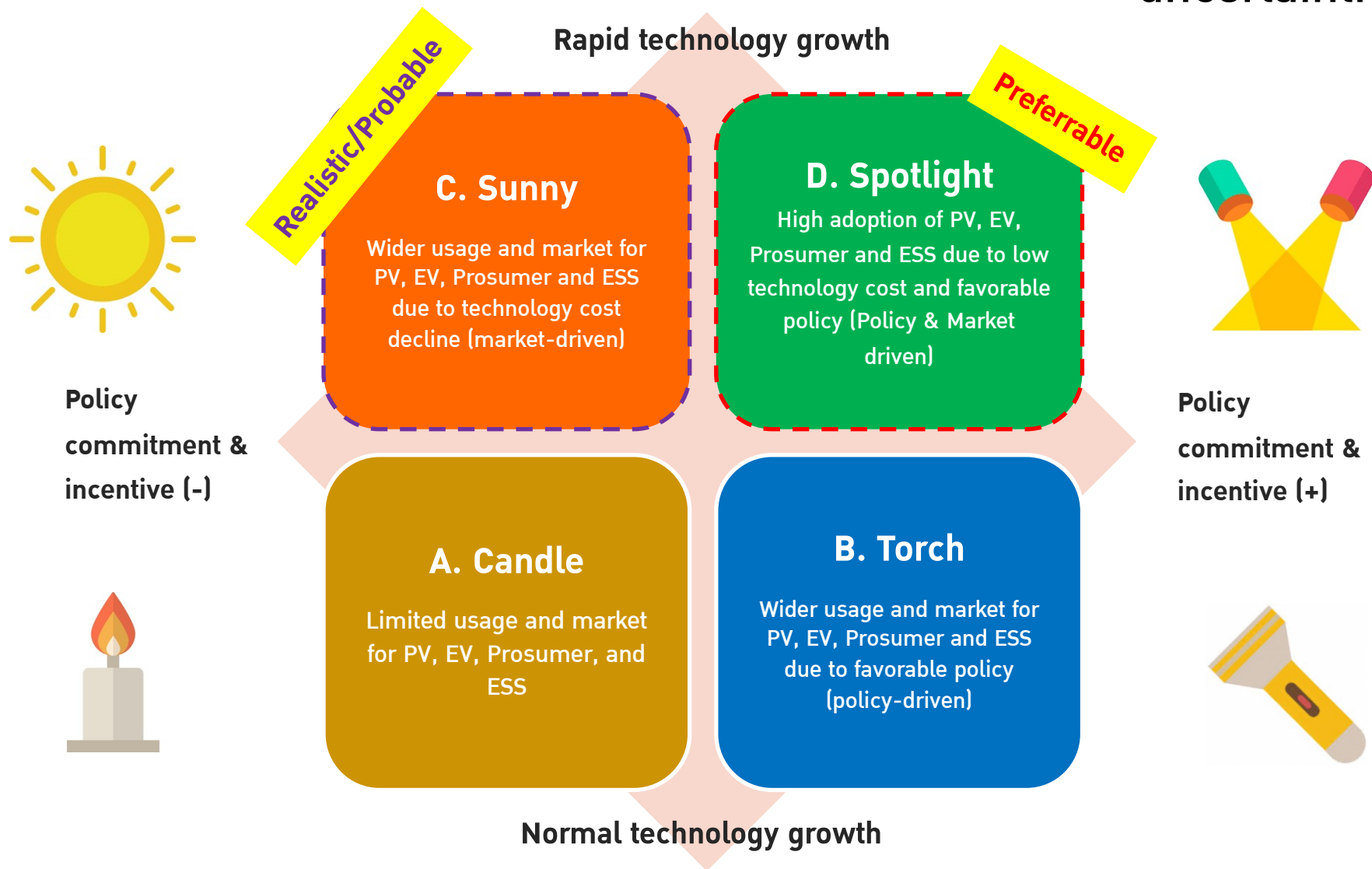
Objective: To imagine different plausible futures that could be materialized based on various uncertainties



Plausible Scenarios for new energy technologies in Thailand is governed by technology and policy uncertainties



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Chasing the Spotlight for Energy Storage Adoption in Power System

Cost



1. Technology cost
2. Implicit costs from regulations
3. Related taxes

Widespread
Adoption?



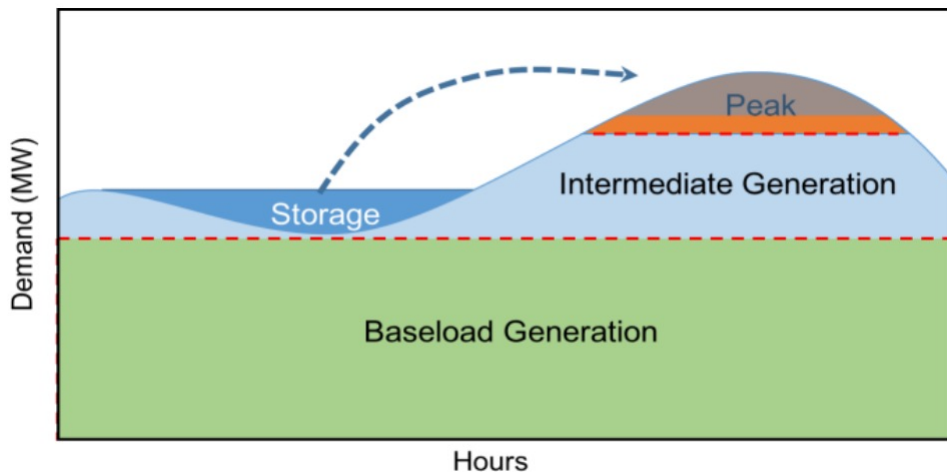
Benefit



1. Cost saving / Revenue generation
2. Application stacking

Technology and policy uncertainties affect both sides of the equation

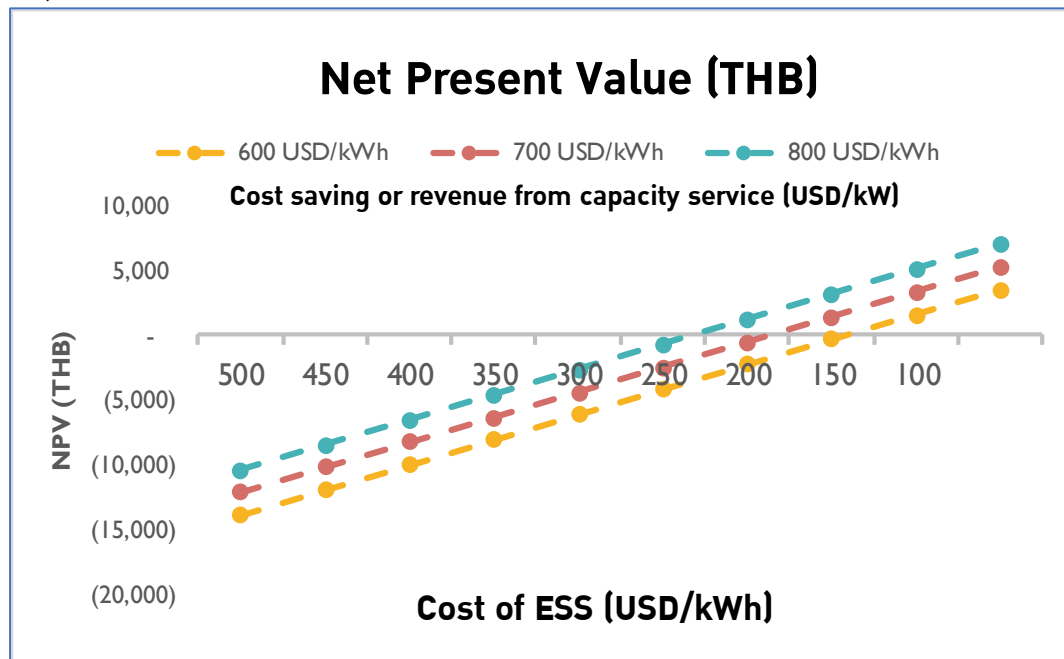
Example: ESS capacity application has a potential to be profitable soon



Use ESS to provide capacity service instead of building new power plants

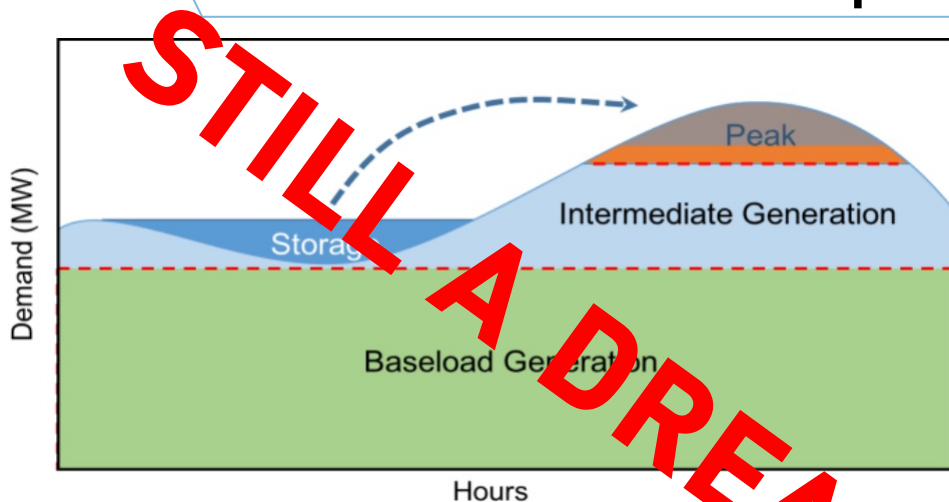
Source: Massachusetts Energy Storage Initiative Study (2013)

Has a potential to be profitable very soon (if market/procurement allows)



Source: TDRI (2019)

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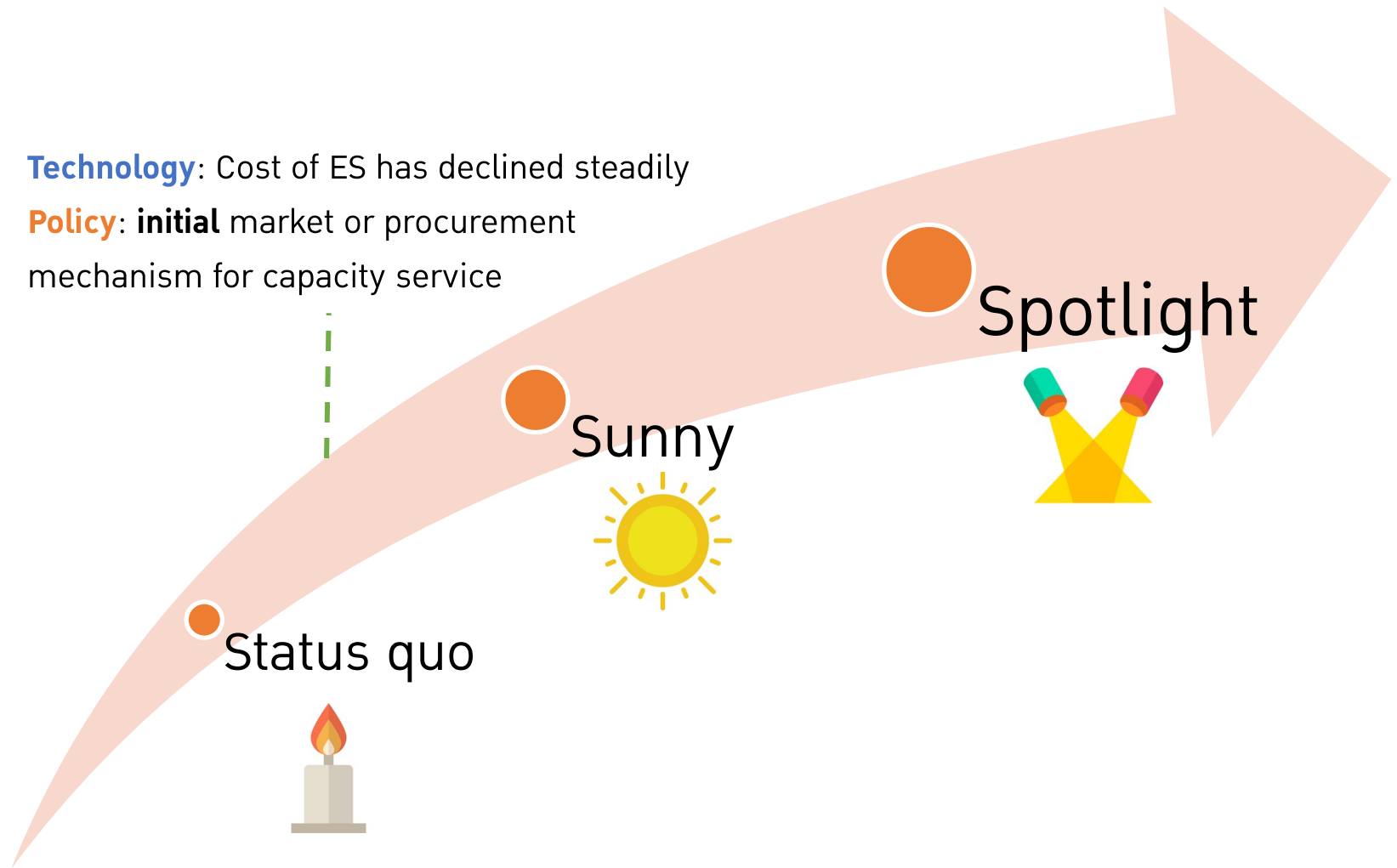
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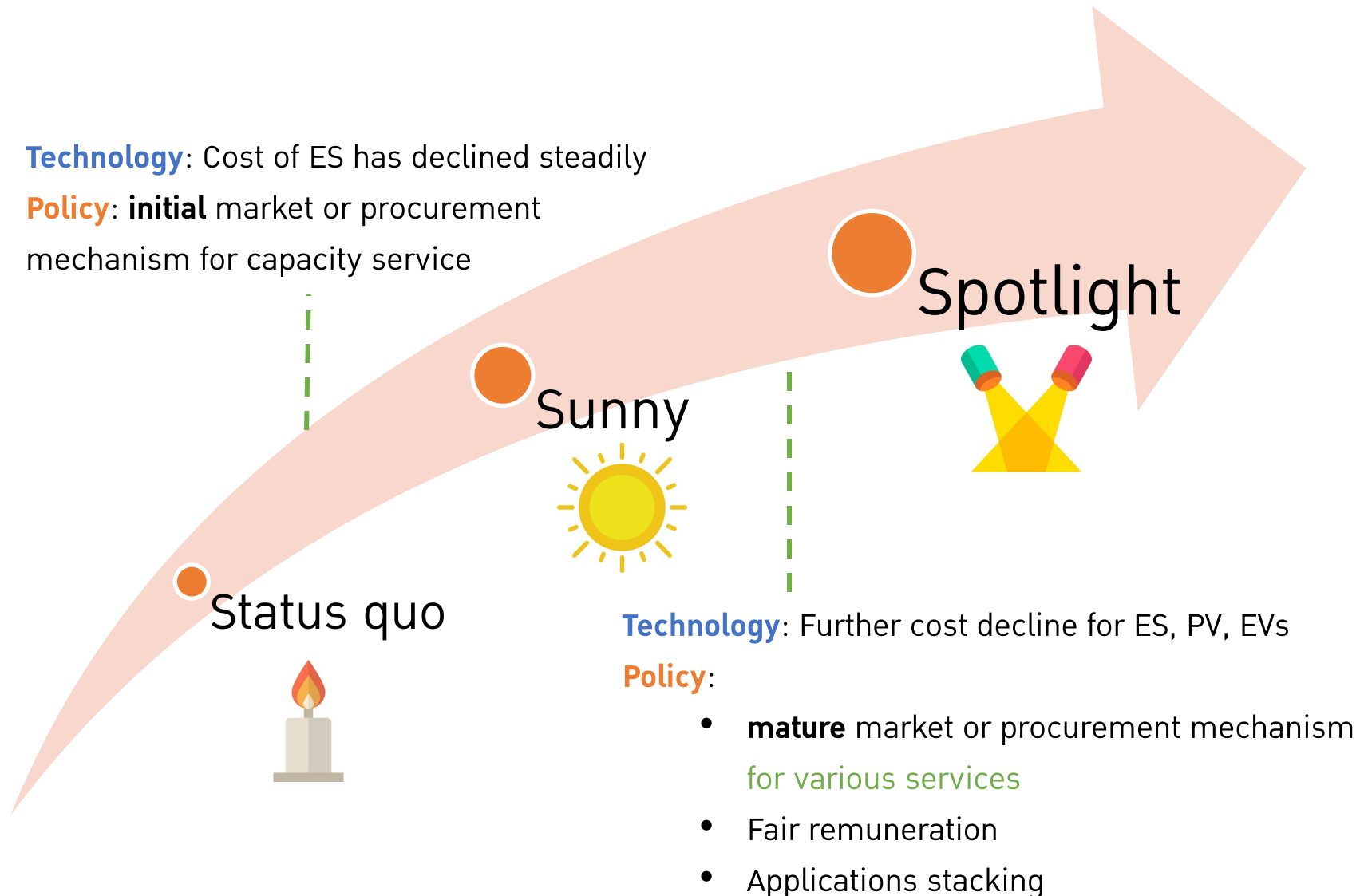
Source: TDRI (2019)

Technology: Cost of ES has declined steadily

Policy: **initial** market or procurement mechanism for capacity service



A journey to achieving the Spotlight



Technological progress is inevitable: a highly plausible future for clean energy in SEA is technology-driven (“Sunny”).



To realize the full potential of energy technologies, including RE (“Spotlight”), we need to unblock policy/regulation bottleneck, which is **challenging but still possible**.

THANK YOU

