



# Emerging Challenges of Leadership in the Race to RE100

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TLG on is The Lantau Group's in-house journal addressing current energy issues, and their policy and economic implications, facing the Asia Pacific region.

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In recent years, we have seen leading multinational companies (MNCs) shift their sustainability focus from compliance to strategic leadership. Yet in many Asian countries, scalable green procurement options available to MNCs are limited, complex, difficult to validate, or comparatively expensive. Up until recently, MNCs have tended to prioritise European, North American, or Australian renewable energy options, but meeting global targets means it is now time to make progress in the rest of the world.

There are many reasons why renewable energy leadership in Asia will require that MNCs forge new approaches and possibly work more closely together, especially as regards reductions in Scope 3 emissions. Asian electricity markets are, with very few exceptions, undeveloped or highly limited. Few Asian countries have clear, effective, or consistent frameworks, terms, or pricing for third-party grid access rights. Political sensitivity to tariff impacts on domestic customers is much greater throughout most of Asia than we observe in Europe, the United States, Canada, or Australia. What can be achieved with relatively commonplace commercial transactions in countries with developed electricity markets often requires bespoke arrangements in Asia. Most renewable energy development in Asia is still being channelled through specific subsidy support mechanisms, such as feed-in tariffs, which can render the projects ineligible or exceptionally expensive for MNCs seeking attribution credit towards their RE100 (or equivalent) commitments.

In this edition of *TLG On* we take a brief look at some of the challenging aspects of developing and advancing policies and leadership strategies that can make a real impact on decarbonisation.

## Key Points

- Decarbonisation is a societal, not individual, challenge
- We are in a sweet spot for renewable energy today, but the continuing transition is likely to get more complex, uncertain, and costly in the years ahead
- Additionality is about the premium
- Cost-shifting/avoidance compromises unique claims of additionality
- The goal posts must keep moving to stretch our efforts ever harder

The energy transition is disruptive on a scale never before seen. It may be gaining momentum, but it is also gaining complexity.

Attractive renewable energy opportunities exist throughout Asia, especially where growth rates are still relatively high, but important changes to commercial, regulatory, and market structures have been slow or incomplete in most countries.

## Five Framing Observations

Looking ahead, we see many emerging further complications. Some MNC's may even perceive a first mover advantage to lock in renewable energy today, as seeing through the mist of future complications and challenges is actually fairly difficult. Yet, the end game is decarbonisation, so it pays to be thinking of probable challenges as early as possible.

To that end, we offer five broad observations about the road ahead. These observations hint at difficulties as well as opportunities for strategic differentiation, public engagement, policy shaping, or expectations management.

### Firstly: decarbonisation is a societal, not individual, challenge.

No individual wins the race until enough other stakeholders also cross the line. Being able to say 'it wasn't my fault' is not the sort of satisfying end point any leader should be aiming for. Showing *how* to make it happen on reasonable terms and being willing to pay the cost premiums required are important elements of leadership. At some point we will need a 24/7 supply of decarbonised electricity. We are still some ways from that objective.

One of the challenges of leadership is to help define what the standards and requirements should be, including how they should evolve over time. These are not simple matters. The actions required over time must not only increase the amount of renewable energy in our power systems but also displace and ultimately replace conventional generation resources. This will require far more than participation by a cross-section of MNCs. Governments can create helpful pathways for MNCs to achieve their RE100 targets, but these pathways should be careful not to create even more expensive residual problems for other stakeholders to deal with later. See point 2.

### Secondly: we are in a sweet spot for renewable energy today, but the continuing transition is likely to get more complex, uncertain, and costly in the years ahead.

Costs are falling; performance is increasing; and societal preferences for a sustainable energy supply are becoming stronger. For Asian focused investors and MNCs, this means that some attractive renewable energy opportunities are already here and now.

- Renewable energy additions that can offset peak demand growth or that replace retiring conventional resources will have value not only because they avoid (displace) the use of conventional fuels, such as coal and natural gas, but also because they displace or defer capital expenditures that would otherwise be required to build *additional* conventional energy resources.
- Renewable energy resources that do not contribute materially to meeting peak demand may, nonetheless, displace the need for costly conventional fuels. It is no longer unusual to find electricity from new solar resources, for example, to be less expensive than generating electricity from *existing* natural gas-based generation resources in Asia. Fuel displacement economics is a major factor behind a proposal for Singapore, where the marginal fuel is relatively expensive LNG, to import solar power via undersea transmission cable all the way from near Darwin, Australia.<sup>1</sup>

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<sup>1</sup> See: <https://suncable.sg>

Should additionality be measured pragmatically by virtue of association with something 'new' or more accurately in terms of whether it would not otherwise have happened?

The commercial case for new renewable energy resources becomes more complex, however, once high value conventional generation resource 'displacement' opportunities run out or the grid starts to become congested. Clearly, it is one thing to displace a coal plant that is about to retire anyway, whose thermal efficiency is low and on-going maintenance costs are high. It is another to displace a coal plant built in the last decade that hasn't yet been fully paid for and whose short-run operating costs are very low. The premium required to fully displace modern, efficient, coal-fired generation resources is far higher than anything we are seeing being paid today. The best of these newer coal-fired resources, in almost all air quality respects other than carbon, are exceptionally low emitting. You don't have to like them to appreciate that they are going to be very expensive to replace. The price of natural gas and LNG are a factor as well. Higher natural gas prices can accelerate the transition to increasing amounts of renewables plus storage. Lower gas prices can slow down the transition to energy storage and challenge us to find other solutions.

As the amount of renewable energy increases on a system, many other costs start to increase as well. Incremental renewable energy imposes additional costs due to: (1) the need for investment in time-shifting technologies (storage); (2) increased ancillary services costs due to the need for more frequency control and contingency reserve resources; and (3) the need for grid augmentation or the risk of exposure to curtailment or wholesale market price collapse in specific grid locations. There are also learning curve risks. You can reasonably argue that Texas reminded us of the importance of certain design and operating characteristics necessary to ensure reliability over a broadening range of possible weather conditions. It takes time to learn new things and to make sure that market designs, market behaviours, regulatory mechanisms, and standard setting bodies incorporate those insights accordingly.

It's not clear how all of these factors will play out. One possibility is that low hanging fruit (least cost) renewable energy resources are available *now*, but that accelerating renewable energy uptake much faster will trigger an onslaught of these complex and higher costs. Will the early movers get the lower cost renewable energy, leaving later movers with harder and more expensive problems to solve? Quite possibly. Will this 'musical chairs' problem (where the early movers get to sit in the comfy chairs when the music stops but later movers are left standing and must figure out what to do) that pose a possible strategic problem or risk for future RE100 messaging? Possibly. It's certainly something to think about. To that end, consider point 3.

### Third: additionality is about the (risk) premium.

Additionality is when someone takes an otherwise non-viable project and makes it happen anyway. Additionality implies a *premium*, and while a premium is not strictly required when taking credit for renewable energy resources in sustainability circles, it is clearly a requirement of the economic concept of making something happen that would not otherwise have happened.

We also must recognize an important element of 'risk' that we have left out of the above simplified consideration of 'additionality' – which is admittedly an ironic omission, given that we are making a broader point that the details matter. (Indeed, getting into these details highlights just how complex and interwoven so many aspects of renewable energy quickly become.) An investor might see an opportunity that looks attractive in the current market even without a subsidy or REC value. But if that value proposition is incomplete or *could deteriorate* in the future, the investor has to consider risk. Accordingly, a project with associated green certificates that offset this risk, *could* still be at least partly additional even if its underlying 'story' is more complicated.



It is *today's version* of pragmatism – the recognition that there is no perfect world – rather than economic theory, that argues for paying more attention to the underlying REC market structures, rules, standards, and integrity than to the price outcomes. If the underlying information that supports voluntary REC markets is accurate and sufficient to make prudent judgements about how RECs contribute to additionality, then that is a starting point for improvement. We are at the beginning of a journey, not the end.

Looking ahead, we must remember that compliance tracking and accounting are simplifications of the underlying economic reality. These simplifications clearly have pragmatic value, but they are also subject to reconsideration. When renewable energy resource costs fall below the costs of conventional energy resources, the implicit 'cost' of securing the associated green certificates can be very low. A project that, from a commercial perspective would, or should, be undertaken anyway is not a project for which a small number of stakeholders have a *unique, causative, claim on additionality*. At the same time, a working definition of additionality that is too precise or pedantic won't help anyone move the needle either. One needs to keep the fundamentals in mind to avoid drinking too much of one's own 'kool-aid'. There is a clear and unavoidable tension and even inconsistency in some of the words and concepts being commonly applied.

Thinking about the future, MNCs will need to make credible, justifiable, claims that they have hit their RE100 targets. These claims should be durable and robust as well. If it is possible to achieve RE100 targets without paying a material premium, what, exactly, does the achievement actually mean? If RE100 achievement is simple and inexpensive, then the real challenge is not for the few to achieve RE100, but to get the many to do the same. And if it is neither simple nor inexpensive, the challenge is to get those who value it most to demonstrate that incurring the extra cost is worth it. To that end, see point 4.

#### Fourth: cost-shifting/avoidance compromises unique claims of additionality

Whenever the fundamental economics of additionality are unclear or otherwise unable to be confirmed, an MNC claiming the associated renewable energy credit takes on at least some risk of being called out for a convenient 'benefit grab' in the sense that the credit for going green is claimed from backing projects that should have been done anyway. Or, in some cases – often due to the mis-pricing of tariffs but also due to differences in tax policies or other more nuanced factors – the cost of renewable energy merely appears to fall below the cost of conventional energy. In fact, the adopter is saving money by avoiding paying other costs of, or incurred by, the system, and which are now passed on to others.

The relationship between cost-shifting and additionality is one of the more divisive topics to debate amongst energy stakeholders, but it is undeniably relevant in every system with rapidly increasing renewable energy penetration. The tension is not so much about the additionality per se but about who should get the credit?

In the energy efficiency world, there are many 'tests' to determine whether an energy efficiency program is cost-effective. A customer may receive a payment, incentive, or discount for adopting certain measures designed to reduce the cost of the overall power system. Whereas the adopting customer sees a bill reduction as a result of adopting the measure, the average 'other' customer may see a bill increase to offset some of the costs that were previously being paid for by the adopting customer, but which are not avoided (or not yet avoided in the case of deferred capital expenditure benefits). The overall program may still be cost-effective and justifiable. The problem may only be that

Cost-shifting is pervasive and divisive. It also has an unavoidable logical connection to 'who' should get credit for additionality. How much should we care?

It is too easy to change things in ways that simply make winners win because losers lose. The challenge is to grow the pie, not divide it differently.

the way revenue is collected through tariff structures and the way that underlying costs are incurred through behaviours are not perfectly aligned. The important issue is that *part of the benefit of the energy efficiency program justified in this way is paid by other customers.*

An alternative test is called the 'no-losers' test in which the program is not considered cost-effective unless the one who benefits is also the one paying the full cost necessary to ensure that no one else loses (pays more). This is a more stringent test that takes account of the tariff structure. A customer who increases their energy efficiency will reduce their bill by the interaction of their reduced electricity usage and the various determinants of their charges, such as whether there is a peak demand charge, or a per kWh charge, and so forth. If a program has no losers, then the adopting customers clearly can claim credit for paying the *full cost of the associated additional energy efficiency*. There is no hidden cross subsidy.

Now let's apply these same concepts when customers 'go green.' Clearly, such customers are contributing to two important changes we need to be aware of at a higher level. Firstly, they are contributing to renewable energy usage. This is a factual issue. The additional electricity usage can be measured. If the resource is new, then the associated renewable energy is clearly *additional*.

But who, exactly, has paid for this renewable energy, either directly or indirectly?

Tariff design and market structures may result in an opportunity for adopting or contracting customers to avoid paying certain costs they were previously covering in their tariffs. Consider an example in which I pay \$100 for renewable energy that costs \$130. The missing \$30 of costs is borne by my neighbours. It's fair for me to say I installed solar panels or that I contracted for renewable electricity supply. That's factual. But if I then go around claiming that I am now *paying* for 100% green energy, I should not be surprised when my neighbour gets upset. Who is right? And what is the implicit understanding that RE100 achievers want to project and communicate?

We have previously written<sup>2</sup> about how tariff structures and regulation throughout Asia have barely begun to recognize and adapt to the new realities of cost-shifting that become more problematic as pressures for green power purchase agreements and development of behind-the-meter solar and battery storage reach ever-higher levels. Regardless of one's position, cost-shifting is a particularly insidious and politically sensitive issue in many Asian countries given the significant customer protection burden felt acutely by ministerial bodies when setting tariffs.

Even in countries with advanced electricity markets, cost-shifting/cost allocation questions are likely to become more complex and material over time. As intermittent generation resources increase, the resources required and costs incurred to manage system frequency and assure adequate contingency response also increase, particularly on smaller systems. The question: 'who should pay for these?' is a material and divisive one for many stakeholders. Do you charge the resources that cause these costs so as to maximize 'efficiency' and avoid cross-subsidy? Or do you recover these costs from all loads more broadly because everyone 'benefits' from decarbonisation? These decisions determine who bears what costs. Similar debates occur with respect to 'net metering' for behind-the-meter solutions.

The prevalence and materiality of cost-shifting and cost allocation challenges is a significant feature of the energy transition almost everywhere at the moment. Those to whom costs are being shifted are rarely credited with the portion of renewable energy they are effectively paying for. Finding a reasonable way to address this imbalance would signal that the renewable energy purchaser has a choice: to pay more for full

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<sup>2</sup> See: [www.lantaugroup.com/publications/display/Transitioning-to-Green--Electricity-Supply-in-Asia](http://www.lantaugroup.com/publications/display/Transitioning-to-Green--Electricity-Supply-in-Asia)

As the pace of change quickens, these (types of) issues will pose complications that require continuing leadership in business and policy.

additionality credit or to settle for reduced additionality credit adjusted for the amount of cost-shifting involved. Right now, investors often have it both ways with respect to shifted costs. They can get 100% RE credit even if they are not paying 100% of the associated costs. The only requirement is that the projects are not supported by policies like feed in tariffs or explicit subsidies. There's no reporting standard or policy concerning implicit or structural subsidies and cross subsidies.

Perhaps those who do pay fully for additionality should be recognised more clearly for the integrity of their efforts.

The growing materiality of cost-shifting and the undeniable relevance of the question 'who should pay for what' eventually risk becoming the new elephants in the room – going right to the heart of whether RECs establish a sufficiently credible claim on 'additionality.'

The worst of all worlds is to assume passively (without taking a well-considered position) that the knock-on cost and cost-recovery impacts on the rest of the system and other stakeholders can simply be ignored. That brings us to point 5.

### Fifth: the goal posts must keep moving to stretch our efforts ever harder.

The accelerating energy transition is great, but it is not like other transitions: it is not some disruptive change that settles wherever it lands, but rather it is tied to an overall decarbonisation objective. Accordingly, the goal posts will need to keep moving for reporting standards and for our appreciation of what actions, investments, mechanisms, and contracts result in *additionality* – a key consideration when determining effectiveness of various strategies and initiatives to decarbonise.

A common approach of MNCs in their efforts to meet renewable energy targets has been to rely on a variety of different types and sources of renewable energy attribute certificates. Perhaps what is less well known is that the virtues of these certificates' flexibility, availability, and simplicity are not automatically or necessarily aligned with key sustainability objectives of additionality and materiality. Environmental attribute reporting systems put the burden of verification and validation against your own stated sustainability objectives on you. Some reporting systems are simply information registries. The actual amount of information reported about renewable energy projects is not especially extensive. Some observed certificate pricing is almost too good to be true. Greenwashing and double counting are still valid concerns in Asia as REC markets evolve. Accordingly, certificate registries alone are not enough to ensure the integrity of REC markets.

Most importantly, *you* have to determine the attributes you want to procure on the basis of *your* view of how these align with your objective and associated messaging. Some MNCs may take a purely compliance perspective and procure the minimum of what they believe to be acceptable. Other MNCs will choose to set higher standards and procure attributes more closely aligned with their view of additionality. The resulting costs, complexity, and messaging options may differ materially. Equally important, though, the standards do not stay constant. What works today may not work tomorrow.

The myriad of pathways progressing towards 100% renewable energy in *reporting (accounting) terms* do not necessarily each achieve the same decarbonisation *impact*. Nor do they each result in the same burden or allocation of responsibility for the associated costs.

The point is not that some theoretical solution is better, but that the best pragmatic solutions come from clearer thinking about what matters most and what can be ignored or pushed off for future deliberation.

In some specialised sports, scoring is two-fold: execution and difficulty. In a just and analytically righteous world, one might imagine RECs as being scored in a similar way. You can meet your RE100 target with RECs (reflecting 'execution') but must also recognize that not all RECs are created equal. Those RECs that reflect additionality more comprehensively because they involve less cost-shifting or benefit-grabbing are rated higher (reflecting 'difficulty'). Lower rated RECs pose reputational risks or may not represent the additionality impact that was intended. Ideally a score would tie these two aspects together. It's not a big leap from where we already are. Organisations, like CDP, that already score companies on their overall sustainability achievement, will surely not stop doing so once an MNC reports it has achieved 100% renewable energy for itself or even for its entire supply chain.

## Keeping it as Simple as Necessary (but no simpler)

Ultimately, RECs are commercial products whose availability and effectiveness depend on the integrated actions of many stakeholders to integrate renewable energy physically into the system and to ensure that all associated costs are accounted for. The supporting system and associated dynamics are not simple, and there are nuances that have material impacts on the perceived cost and value of various renewable energy uptake strategies from various perspectives.

These complexities need not all be resolved today, but they will demand more attention over time. The unifying question is something along the lines of: 'how can we really know we are making the difference we say we are?'

In our experience, the best way to keep it all real – to have a sound basis for making well-considered and impactful decisions that best fit your own objectives and capabilities – is to understand the fundamentals. There is no substitute for clear thinking when determining if your strategies and initiatives are having the impact that you say they are having.

When looking around the corner and figuring out how to get the world to follow, some of the most complex emerging issues often need to be simplified for pragmatic reasons. Just don't assume things will stay as they are today. The details matter and the goal posts must keep moving.

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## About The Lantau Group

The Lantau Group is a specialist economic and strategy consultancy focussed on the energy sector in the Asia Pacific and Middle East regions. With offices in Hong Kong, Shanghai, Singapore, Korea and Australia, we also have senior advisors based in Abu Dhabi, Indonesia, New Zealand, Thailand, UK, USA, and Vietnam.

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