

Post-Session Notes on **THE INNOVATION ECONOMY**

9TH EDITION OF THE QED CHANGEMAKER FORUM
ON 26 MAY, 2022



ABOUT POST-SESSION NOTES

These post-session notes will shed light on key takeaways from the roundtable discussions at the 9th QED Changemaker Forum – how we can turn theoretical discussions around the convergence of growth and sustainability into tangible action, and explore how innovation can play a role in making it a reality.

ABOUT THE QED CHANGEMAKER FORUM

The QED Changemaker Forum brings together senior management and leadership from enterprise and governmental organisations, to engage in dialogue and discussion around critical industry issues in an intimate closed-door setting. The forum aims to both challenge and chart the future for their respective industries and organisations, and empower change for the better.

Each edition of the QED Changemaker Forum is focused around a new pertinent business issue voted on by senior leaders in the QED Changemaker Network. Senior leadership speakers, moderators, and attendees are then brought together to exchange views, share candid opinions, and gain a deeper appreciation of the issue through exclusive, by-invite only panel sharings, Q&A sessions, roundtable discussions, and networking opportunities.

The event (including these post-session notes) adheres to the Chatham House Rule. Beyond the information received at the session, no identities nor affiliations to the attendees have been included in these notes.



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TOPIC OF FOCUS: THE INNOVATION ECONOMY

Reconciling the paradox between growth and sustainability

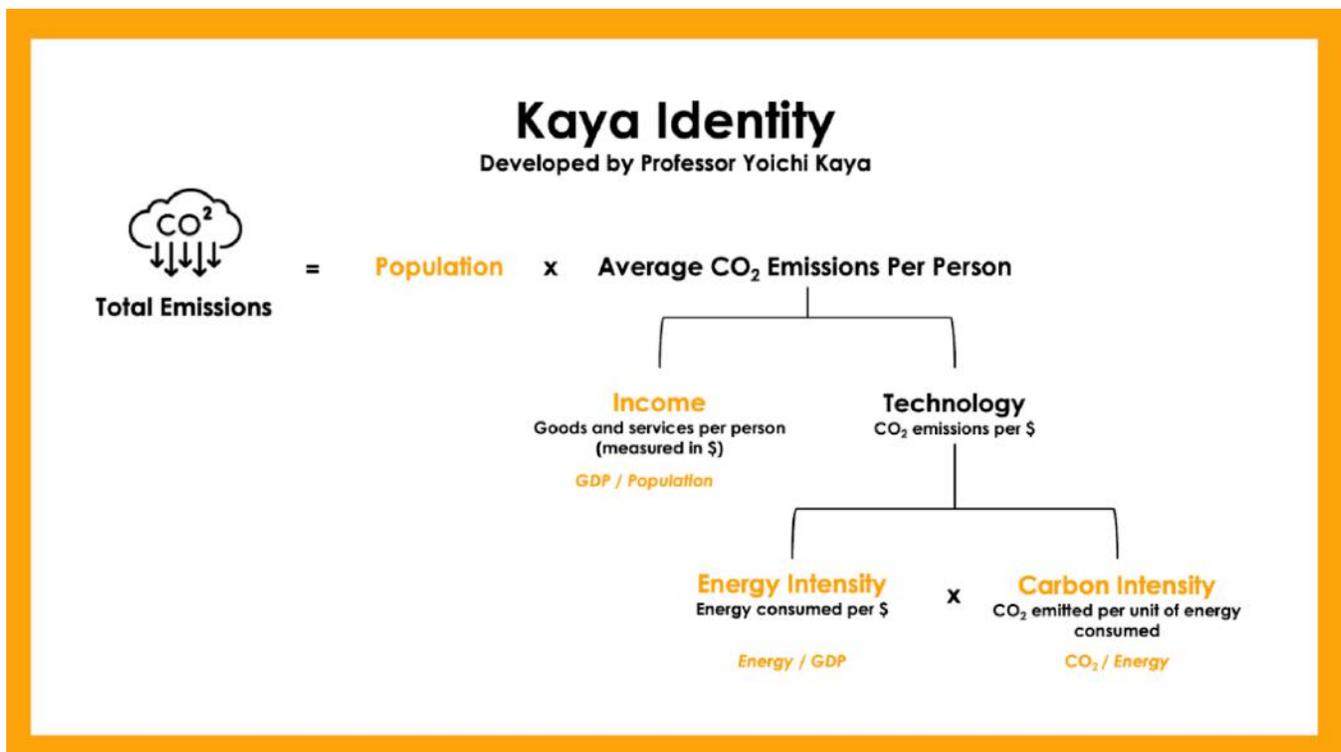
For most of the 20th century, the notion of continued growth in parallel with sustainability was often reflected as a faceoff between business communities advocating the growth imperative, and environmentalists championing the climate imperative.

Historically, it does seem like the more affluent we become, the more CO₂ we generate. The economic growth of countries has been the result of shifts from agriculture to industrial manufacturing and construction – activities that require large inputs of energy that have traditionally been reliant on fossil fuels. Even today, blockchain technology creates new business models and improves existing processes, but is extremely energy intensive, accounting for 0.58%¹ of global electricity consumption.

That said, there is a growing body of evidence confirming that global climate challenges can be addressed while preserving economic growth and prosperity. Between 2002 and 2014, 35 countries were successful in reducing their emissions while increasing their real GDP². In fact, Singapore had the largest emissions reduction in percent assurance at 46%, while doubling real GDP.

TOPIC OF FOCUS: THE INNOVATION ECONOMY

Reconciling the paradox between growth and sustainability



The Kaya Identity³, developed by Japanese energy economist Professor Yoichi Kaya, gives insight to how this was possible. Assuming the global population continues growing, and we want to continue increasing incomes and living standards, the leverage has to come from technology and innovation as expressed in Energy Intensity – the amount of energy consumed per unit of GDP, and Carbon Intensity – the amount of CO₂ emitted per unit of energy consumed.

¹ Baker, J. (2021). Blockchain And Sustainability: Oxymoron Or Panacea?. Forbes. Retrieved 2 August 2022, from <https://www.forbes.com/sites/jessibaker/2021/05/25/blockchain-and-sustainability-oxymoron-or-panacea/?sh=11ba21839af9>.

² Yeo, S., & Evans, S. (2016). The 35 countries cutting the link between economic growth and emissions - Carbon Brief. Carbon Brief. Retrieved 3 August 2022, from <https://www.carbonbrief.org/the-35-countries-cutting-the-link-between-economic-growth-and-emissions/>.

³ Ritchie, H., Roser, M., & Rosado, P. (2020). CO₂ and Greenhouse Gas Emissions. Our World in Data. Retrieved 3 August 2022, from <https://ourworldindata.org/emissions-drivers>.

A Quick Summary of the Session Discussions

Why championing sustainability efforts is easier said than done

- There are no definitive frameworks, clear solutions, or tested roadmaps to adopt when approaching sustainability goals and efforts.
- Due to the ambiguity, some corporations have only acted on sustainability efforts that affect short-term KPIs, and not those which are most beneficial for the company in the long run.
- More data-backed case studies are needed to help drive the right mindsets and changes within organisations, and across them.
- Scorecards should be simplified, standardised and embedded, and reporting standards designed for the long-term.
- The pressure around revenue, margins, and talent brought about by the pandemic has taken attention, priority, and investment away from sustainability.
- Cost of sustainability initiatives is a huge stumbling block for many corporations who do not have the expertise nor foresight to weigh out the cost benefits over time.

A Quick Summary of the Session Discussions

Reconciling the paradox between growth and sustainability

- Corporations can approach the reconciliation of growth and sustainability from both a short-term and long-term perspective, by leveraging ideas, people, and technology.
- Educating and upskilling employees on ESG can help ensure a consistent baseline understanding of sustainability as a first step toward embedding sustainable development goals throughout the organisation – an area that senior leaders should take the lead in championing.
- Tying ESG scorecards to executive compensation is one way for corporations to demonstrate their commitment to the sustainability goals they set out.
- Corporations can consider restructuring their KPIs to include metrics that measure ESG performance.
- Data, technology, and AI can be used to mitigate sustainability issues, such as the use of solar and alternative energy sources which concurrently save costs and allow for organisations to invest more in other areas of growth.
- While there is a lot of hype around new sustainable technologies, there is an awareness that not all of them are scalable at this point in time. Discerning which are the ones that truly make a difference become critical.
- Governments still play a key role in setting the tone for the industry, and regulatory requirements can be a conduit to steer commercial decisions in favour of sustainability.
- The younger generation is seen as one the change agents for current behaviours due to their decision making filter which is more focused on ESG rather than profit-taking. This presents an opportunity for corporations to engage the youths in this regard and receive reverse education from them that could guide and inform those plans.

A Quick Summary of the Session Discussions

Taking the first steps in the right direction

- Corporate commitment to sustainability is required, even in the face of forfeiting profits and making unpopular decisions in the short-term, in order to reap long-term benefits.
- Some senior leaders suggested taking an approach to model going from compliance, to conviction, to culture.
- Be it by starting with compliance, exploring new models of working, or challenging conventions, it is a step in the right direction towards reconciling the paradox between growth and sustainability.

1. WHY CHAMPIONING SUSTAINABILITY EFFORTS IS EASIER SAID THAN DONE

1.1 The blind leading the blind?

Sustainability has become a buzzword in the business community, but no one seems to have all the answers around how to navigate the space. When polled during the session, almost 2 out of every 5 ESG experts and senior leaders could not distinguish legitimate ESG acronyms from made up ones.

The consensus is that **there are no definitive frameworks, clear solutions, or tested roadmaps to adopt** when approaching sustainability goals and efforts. Quality case studies and convincing examples are hard to come by because the science-based benefits are currently unclear, and the expertise to calculate the long-term value of initiatives is in short supply.

This has led to corporate leaders finding it hard to convince the board of its worth, and those that manage to do so face the subsequent challenge of being able to achieve those promised net-zero targets.

This widespread ambiguity around how to navigate sustainability has also led some companies down the wrong path – **only acting on efforts that are officially measured and affect KPIs, as opposed to what is most beneficial for the company in the long run.**

There truly is a need for **more case studies to surface, so that there is enough data to drive the right mindset** across the organisation. **Scorecards should also be simplified, standardised and embedded**, and reporting standards can be designed with a more long-term view in mind.

1. WHY CHAMPIONING SUSTAINABILITY EFFORTS IS EASIER SAID THAN DONE

1.2 High costs associated with new sustainability solutions

Cost is almost always the initial stumbling block to championing sustainability, especially in Asia where the bottom line is of paramount importance. Additionally, the pandemic's disruption of industries in the past two years has also placed a lot of pressure around revenue, margins, and even talent. This has **taken attention, priority, and by extension investment away from sustainability.**

Some organisations have considered implementing sustainability efforts, only to shelve those ideas away due to cost. An attraction in Singapore, for example, shared that making their best selling product – bottled water – more 'green' by switching the packaging to sustainable TetraPak, made production more expensive by SGD \$0.60 (USD \$0.43) per unit.

It may be that most corporations at present **lack foresight or the expertise to calculate and weigh out the cost benefits of sustainability investments over time,** but if resolved, it could be the needed bridge connecting sustainability efforts to positive bottom line results.

FOOD FOR THOUGHT

Consider the scenario of airfreighting our chicken supply from Brazil to Singapore amidst the recent Malaysian chicken ban; If sustainable aviation fuel was used, it can generate up to 80% less emissions, which sounds wonderful until the reality of biofuel prices costing eight times more than regular fuel hits. Would you pay 8 times more just to enjoy a plate of sustainable Chicken Rice? How can these incremental costs be taken care of in a mutually beneficial way for all parties – the corporates, consumers, and governments?

2. RECONCILING THE PARADOX BETWEEN GROWTH AND SUSTAINABILITY

2.1 Get everyone on the same page

Leaders can champion the **alignment of vocabulary used, ensure a consistent baseline understanding of sustainability**, and embed sustainable development goals throughout the organisation. Having senior executives and Directors equipped with relevant skills and knowledge through programmes like the management strategy course on Sustainability by the National University of Singapore Business School, and the course on Environmental Social and Governance Essentials by the Singapore Institute of Directors, can be a good starting point.

By developing programs to drive behavioural change, and collaborating with educational institutions and government agencies, these organisations are playing an important role in imparting Green skills to the workforce, and eventually getting everyone on the same page.

FOOD FOR THOUGHT

If a candidate was to ask about your organisation's ESG policy in a job interview for an entry role in operations today, will the hiring manager be able to respond, or would they have to defer to someone from HR or the Sustainability team? How can organisations equip and empower their employees across the entire organisation with the necessary information and knowledge to respond to such questions without having to defer to a specialised department?

2. RECONCILING THE PARADOX BETWEEN GROWTH AND SUSTAINABILITY

2.2 Tie ESG scorecards to compensation

Tying ESG scorecards to executive compensation can be uncomfortable, but is a way for corporations to demonstrate a commitment to their sustainability goals. For instance, Shell announced in December 2018 that it would tie executive compensation to short-term carbon emissions targets starting in 2020⁴. And Apple announced in Jan 2021 that annual bonus payments for executives will be increased or decreased by up to 10%⁵ depending on KPIs relating to Apple's ESG programme.

Following suit, corporations can consider restructuring their KPIs to include metrics that measure ESG performance. The ESG KPIs not being met could have an impact on the executive's performance and/or compensation. Is it possible that a concept of internal carbon cost be applied in the context of executive compensation where corporations determine the internal cost of CO₂, and use that to determine its effect on executive compensation.

⁴ Executive remuneration - Shell Sustainability Report 2019. Reports.shell.com. (2019). Retrieved 3 August 2022, from <https://reports.shell.com/sustainability-report/2019/introduction/our-approach-to-sustainability/executive-remuneration.html>.

⁵ Rosenbaum, E. (2021). Apple's new executive bonus formula is designed for the fast-changing world we live in. CNBC. Retrieved 3 August 2022, from <https://www.cnbc.com/2021/01/16/apple-ceo-tim-cook-cash-bonus-not-tied-to-sales-profits.html>.

2. RECONCILING THE PARADOX BETWEEN GROWTH AND SUSTAINABILITY

2.3 Adopt sustainable technologies

The United Nations recognises technology as one of the main enablers⁶ in achieving the 2030 Agenda for Sustainable Development. One of the sustainable technologies that organisations are increasingly adopting is the **use of solar energy and alternative energy sources**. SAFRA, a social and recreational club, for example, had built its first eco-friendly club house using green technologies such as energy-efficient LED lighting, solar power, water-saving taps, natural ventilation and lighting designs. In the long run, this initiative would save the organisation S\$30,000⁷ in utilities costs each month, which can be invested in other areas of growth. We are also seeing that the use of data, tech and AI can aid in improving the energy efficiency of the built environment. Google, for example, is cooling their data centres more efficiently through the use of machine learning and AI. By relying on evaporative cooling which evaporates water to cool air around the processing units stacked inside data centres, instead of adopting more common and energy-intensive systems, they have reduced energy consumed for cooling by 40%⁸.

The technology of augmented realities like Microsoft Mesh also enables a workforce that is geographically apart to still interact and engage in shared experiences just like in a physical workspace. This opens up possibilities for corporations to reconsider the need for one, thereby reducing energy consumption by extension, and the carbon emissions on roads as the need for workers to travel is reduced or removed altogether.

⁶ Transforming our world: the 2030 Agenda for Sustainable Development | Department of Economic and Social Affairs. Sdgs.un.org. Retrieved 3 August 2022, from <https://sdgs.un.org/2030agenda>.

⁷ Lee, C. (2016). Eco-friendly clubhouse for NSmen in Punggol. TODAY. Retrieved 3 August 2022, from <https://www.todayonline.com/singapore/eco-friendly-clubhouse>.

⁸ Evans, R., & Gao, J. (2016). DeepMind AI Reduces Google Data Centre Cooling Bill by 40%. Deepmind.com. Retrieved 3 August 2022, from <https://www.deepmind.com/blog/deepmind-ai-reduces-google-data-centre-cooling-bill-by-40>.

2. RECONCILING THE PARADOX BETWEEN GROWTH AND SUSTAINABILITY

While there is a lot of **hype around these new technologies**, there is an awareness that **not all of them are scalable** at this point in time. Discerning which are the ones that truly make a difference become critical. For example, there is a lot of hype around direct air capture technology that extracts CO2 directly from the atmosphere. However, with the fraction of CO2 in the atmosphere being extremely small, there would have been a greater impact if it was instead deployed in more concentrated settings such as coal power plants where CO2 might be about 35% of what is emitted.

FOOD FOR THOUGHT

Suppose you could report to a virtual office, where collaboration and interactions are almost no different from being physically present, and knowing that it also counts towards saving the earth, would you? Such technologies already exist, and it is for organisations to consider – Would adopting such virtual ways of working compromise or aid in the effectiveness and productivity of its employees?

2. RECONCILING THE PARADOX BETWEEN GROWTH AND SUSTAINABILITY

2.4 Government as a galvanising authority

Governments play a key role in setting the tone for the industry, and **regulatory requirements can be a conduit to steer commercial decisions in favour of sustainability**. The carbon tax in Singapore is one example. Implemented in January 2019, it is applied uniformly to all sectors to reduce emissions, create green growth opportunities, and support Singapore's transition to an energy-efficient low-carbon economy. By providing a broad-based price signal, it encourages companies to reduce emissions, while providing flexibility for them to take action where it makes the most economic sense. However, its actual impact is not yet known, but is a step in driving the right corporate behaviour.

The government can also play a role in championing an innovation fund for startups that explore and invent new sustainable technologies. This could in turn support how companies in the Financial Services sector are attempting to use innovation to become more green.

2.5 Empowering our change agents – the next generation

The younger generation are looking to be the agents of change with **sustainability and social causes ranking high as values they esteem**. As the average age in boards gets younger, it is likely a matter of time that these more socially and environmentally responsible attitudes and mindsets permeate the boardroom and influence corporate decisions.

Until then, corporations have an opportunity to partner this next generation through receiving reverse education from the youths on these matters. It will be a long-term effort requiring decades of tolerance, but there must be trust that the process will lead to fruition.

3. TAKING THE FIRST STEPS IN THE RIGHT DIRECTION

3.1 Pave forward despite lack of clarity

If the secret to getting ahead is to simply get started, there is a huge upside despite the possibility of failure, and short-term impact on profits because of the long-term gains that lie ahead. Taking a *kaizen*⁹ approach also allows for adjustments along the way.

There is a consensus that the **corporate commitment to sustainability should be a responsibility that is taken seriously**, even in the face of forfeiting profits and unpopular decisions. An attractions operator shared that their sustainability commitments and journey began about eight years ago, and some of the tough calls made were in direct opposition to consumer preferences. For example, choosing to serve only sustainably-certified food in the multiple restaurants across the parks they operate meant that *Nasi Lemak*¹⁰ had to be served with no anchovies, and local favourites like the chilli crab could not be served due to the challenge in finding sustainability-certified seafood of these categories.

Perhaps corporations need to move away from viewing sustainability just as a compliance checklist to meet, to become a goal that is pursued out of conviction, which finally permeates company corporate culture. The power and ideal outcome then is the confluence of the organisation's business strategy and ESG strategy, where the two are one and the same thing. Where help is needed, consultants can be brought in to help define the start of a corporation's transformation, which is what one supply chain management and logistics company did.

⁹ Daniel, D. What is Kaizen (Continuous Improvement)? SearchERP. Retrieved 3 August 2022, from <https://www.techtarget.com/searcherp/definition/kaizen-or-continuous-improvement#:~:text=Kaizen%20is%20an%20approach%20to,down%20changes%20to%20achieve%20transformation>.

¹⁰ Nasi Lemak is a dish originating in Malay cuisine that consists of fragrant rice cooked in coconut milk and pandan leaf, and served with condiments such as anchovies, peanuts, and fried chicken.

3. TAKING THE FIRST STEPS IN THE RIGHT DIRECTION

3.2 Innovation as the integrator of growth and sustainability

Innovation seems to be a step in the right direction towards reconciling the paradox between growth and sustainability. After all, it is madness to do the same things and expect new results.

Corporations can take the first step to explore new models of working. Patagonia's strong corporate belief in the Right to Repair - the idea that our planet benefits when clothing is kept in use longer, drives them to run the largest garment repair facility in North America, handling more than 40,000 individual repairs a year. They make available free repair guides for their products online for free, and provide simple repair services in stores.

The sharing ecosystems are another such example, where traditional models of ownership are replaced with the subscription of services anchored by communal trust. Thrifting for fashion is currently very popular, and so is carpooling as a means of transportation – trends aligned with the sustainability agenda.

FOOD FOR THOUGHT

Are brand new air conditioning units for a home really necessary, if there was an alternative to pay a subscription guaranteeing you an air-conditioned home without any additional servicing fees? In a move to sustainability, how can we make the sharing economy a widely accepted and normalised way of life, both in business and our personal lives?



3. TAKING THE FIRST STEPS IN THE RIGHT DIRECTION

Perhaps the first step will be to challenge conventions – Twenty airline companies have committed to use new technologies such as electric, hydrogen, and hybrid aircraft to reduce aviation's footprint. The signatory airlines operate more than 800 aircraft and carry more than 177 million passengers a year and hope to use this influence to create market demand for new types of aircraft.

Wildlife Reserves Singapore has challenged conventional approaches and explored alternative solutions from nature – in the form of black soldier fly larvae – as an eco-friendly solution to deal with tonnes of animal faeces as opposed to the traditional means of incineration. What are some conventions in our respective domains and areas of work that need to be challenged?

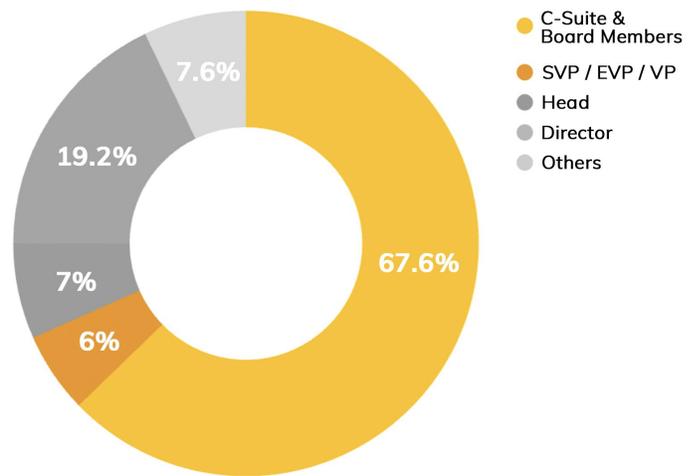
END OF POST-SESSION NOTES



APPENDIX

Attendee Profile

All 182 attendees of this QED Changemaker Forum across online and onsite sessions were senior leaders and key decision makers in their organisation, with 67.6% at the C-Suite and Board level.



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