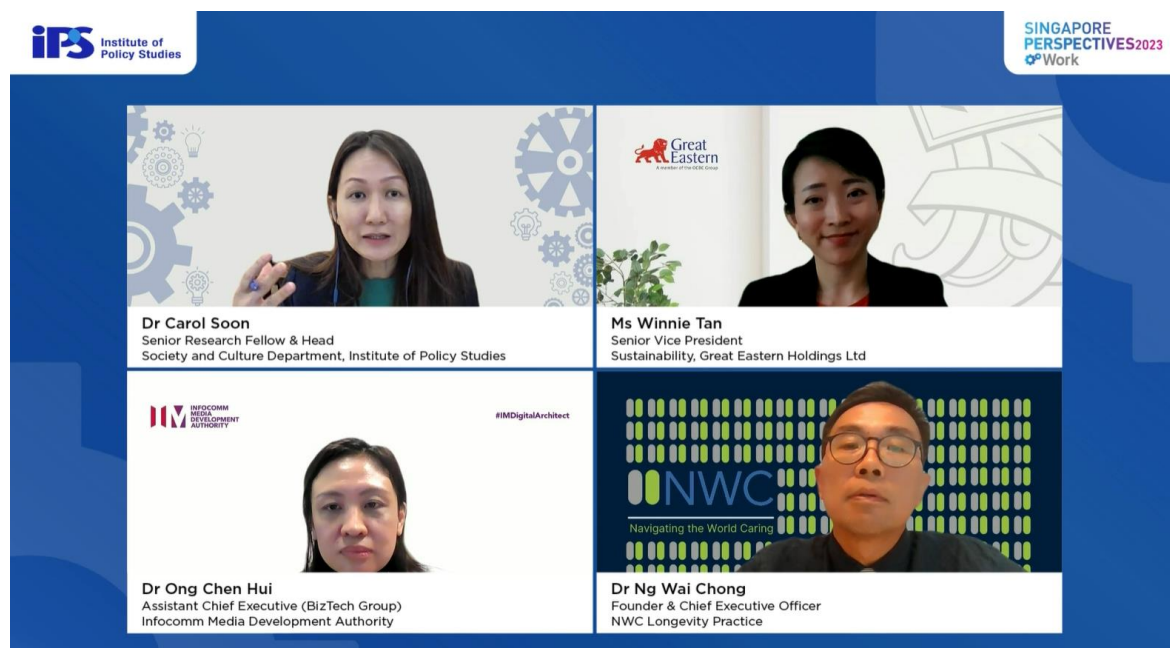


## Singapore Perspectives 2023: Work Transiting to the Digital, Green and Care Economies: How to Succeed in the Jobs Ahead

By Beverly Tan and Jenin Teo

The Institute of Policy Studies' annual flagship conference, Singapore Perspectives, seeks each year to engage thinking Singaporeans in a lively debate on the country's policy challenges. The theme of this year's conference is "Work". The conference will examine how disruptions and trends in technology, socio-economic developments and Singapore's own demographics will shape the future of work here.

This panel, titled "Transiting to the Digital, Green and Care Economies: How to Succeed in the Jobs Ahead", featured Ms Winnie Tan, Senior Vice President of Sustainability at Great Eastern Holdings Ltd; Dr Ong Chen Hui, Assistant Chief Executive (BizTech Group) at Infocomm Media Development Authority; and Dr Ng Wai Chong, Founder and Chief Executive Officer of NWC Longevity Practice. They shared insights to the transitions that the Singapore economy has been undergoing as well as the impact of these transitions on our current workforce and society. This session was facilitated and moderated by Dr Carol Soon, Senior Research Fellow & Head of Society and Culture Department, Institute of Policy Studies.



*Caption for photo: Discussion among Dr Carol Soon (top, left), Ms Winnie Tan (top, right), Dr Ong Chen Hui (bottom, left), and Dr Ng Wai Chong (bottom, right) during Panel 2 of the IPS Singapore Perspectives 2023 Conference.*

## The Concept and Potential of a Green Economy

Ms Winnie Tan, Senior Vice President of Sustainability at Great Eastern Holdings Ltd., kickstarted the panel by speaking about the green economy — the changes that it brings, the relationship of stakeholders within, and the role of its stakeholders and technological developments.

According to the UN Environment Programme, a green economy is one that improves human well-being and builds social equity while reducing environmental risks and scarcities. Hence, the green economy goes beyond the economy or the ecology, and also considers social impact and social equity — making sure that “no one gets left behind”.

The green economy focuses on how social and economic development can take place simultaneously with the protection of our environment, such as cutting carbon emissions. With this aim, Singaporeans — employers and employees alike — need to think about ways to become more resource-efficient through innovation. Meanwhile, the focus of the government should be on the implementation of policies and regulations — introduced at the right pace and right time — that will shape behaviours at a wider scale.

The transition to a green economy requires the cooperation of the ecosystem of actors, from the board of directors to the workers on the ground. The dynamic among these actors determines the difficulty of the transition. Moreover, the starting line will be different for everyone.

## The Changes a Green Economy Brings

The increasing severity and frequency of climate change has an unequal impact around the world. Some countries, such as those in the Global North, will cope better, akin to some segments of the industry that can transit more naturally than others. Carbon-intensive sectors, namely, maritime, transportation and aviation sectors need to evolve to meet the changing regulations, policies and demand from investors through innovation and resilience.

Green industries that are springing up will create new jobs but also take away some existing ones. The current and future workforce needs to be innovative, nimble, resilient and ready to learn in order to cope with this transition. Cooperation and coordinated efforts across countries and stakeholders are key for the successful transition to the green economy.

## Dynamics Among the Various Stakeholders in a Green Economy

Within the automobile industry, players like Tesla have innovated extensively and produced electric vehicles (EVs) that are more environmentally friendly. This shift has resulted in traditional carmakers looking into the production of similar vehicles to remain competitive and earn profits. The shift towards EVs can be further supported by governments around the world through incentives, subsidies or even infrastructure bills. One example would be the EU that is planning to impose a ban on the sale of ICE (internal compression engine) cars in 2035, which inadvertently pushes EVs into mass adoption.

New tasks and responsibilities require new skills, and knowledge will arise within existing jobs. Existing workers will need to acquire skills and knowledge related to calculating carbon emissions and carbon tax. This presents retraining opportunities for certain groups of workers. More broadly, this transition underscores the importance of identifying skills adjacencies that can ease the bridging of existing workers to their new roles.

The supporting policies need to be well-timed and well-paced, such that the transition can help to create a level playing field in society alongside the rapid developments.

### **The Role of Individual Stakeholders in a Green Economy**

Ms Tan suggested that businesses can look at diversification, like how several automobile companies package themselves also as renewable energy solutions providers. Technology has allowed for such expansion across industries.

Professionals working in such spaces need to think about areas they can improve on and where they can further strengthen their skillsets. Beyond hard skills, one's attitude to want to learn and excel is also helpful in adapting to the green economy.

It is imperative to consider the purpose and dignity of work across all jobs, and not just for white collared workers, so that workers can continue to find meaning in the work they do in a space where the nature of their jobs are rapidly changing.

The participation of companies and businesses combined with good work attitudes and resiliency of the individual workers will allow the transition to be successful.

### **The Role of Technology and Data in a Green Economy**

Technology enables both the transition into the green economy and the green economy itself by helping with the management and standardisation of data and harnessing the power of blockchain technology, which will guide users to make right financing and procurement decisions.

There will be opportunities for people with technology and data expertise to enter the job market and for the existing workforce to develop and acquire new and adjacent skills.

### **Technology Brings About Unimaginable Convenience**

The second panellist, Dr Ong Cheng Hui, Assistant Chief Executive (BizTech Group) at Infocomm Media Development Authority, further elaborated on the need to embrace change in age of rapid technological developments and areas of opportunity in current job markets.

Artificial intelligence (AI) has undeniably permeated our society today, cutting across different industries and through various mediums. The rapid developments in AI have given us facial recognition technology on our smart devices, helped employers with the sorting and filtering of the resumes of job applicants, and even created important tools for doctors to use to detect diseases.

OpenAI's ChatGPT and Dall-e are some of the AI systems that can mimic human-to-human interaction and create an art piece based on natural language. Meta recently launched an AI system that can facilitate Hokkien-to-English translation in real time. Such developments challenge the assumptions of what was previously thought to be impossible.

With the possibilities of blockchain technology, decentralised autonomous organisations (DAOs) can easily do fundraising and engage in activism. By selling non-fungible tokens (NFTs), a Ukrainian DAO raised US\$7 million over five days for non-profit organisations within Ukraine. Apart from that, evidence collection in war zones is also made easier through the work of DAOs.

### **Areas of Opportunities in the Industry**

Digitalisation has given rise to various concerns related to the safety, privacy and well-being of individuals. As such, there will be a demand for people who work at the intersection of law, ethics and technology.

New challenges such as the violation of privacy laws or the potential systemic discrimination come with the digitalisation of the world. Recently, Fortnite was fined for its alleged violation of a children's privacy law. Besides legal and privacy issues, certain AI facial recognition software are more accurate for certain races or ethnicities over others, which potentially leads to a form of systemic discrimination when such a software is utilised for policing.

Hence, key roles in the digital economy will include scientists who can conduct research to test the governance of technology; professionals who can audit AI systems; and governance specialists who can interpret such frameworks successfully to businesses and organisations.

Crime has also invaded the digital space over the last few years. ChatGPT is now enabling the creation of functioning malware, while ransomware cases reported in Singapore grew by more than 50 per cent from 2020 to 2021. Cybersecurity, risk management and privacy protection professionals will be in high demand as their expertise are needed to fight against such threats.

While there are jobs created, certain industries or jobs might become obsolete with the rapid developments of AI.

### **Partnership Between Employment and Education**

Dr Ong spoke about the need to remove the artificial boundary between earning and learning. Instead, there should be a focus on how earning and learning complement each other.

Education is a long-term endeavour and a necessity to develop confident individuals, a cohesive society and a competitive country. Individuals should remain versatile and hone the ability of learning and unlearning.

Currently, there are technological skills uplifting schemes and programmes available in Singapore, such as the TeSA (TechSkills Accelerator) programme that has trained 180,000 professionals in emerging areas such as cybersecurity, artificial intelligence and data analytics.

Apart from learning the skills, being strategic and deliberate in building differentiated skillsets is also important. With AI so widespread and in the hands of everyone, anyone can fully leverage the powers of AI to unlock their creative potential, even if one does not know anything about technology.

We can stay relevant by staying abreast of how technology is being used. One important example is ATS, which helps to filter resumes. It is essential to learn these skills in the digital economy and knowing such systems work will provide an edge.

### **The Reality of Ageing**

The final speaker, Dr Ng Wai Chong, Founder and Chief Executive Officer of NWC Longevity Practice, spoke about the realities of getting older, the needs of the aged, caring for the aged, skillsets needed to provide care, and key areas of research and innovation in caring for the aged.

According to 2017 data from the United Nations, one in four individuals in Asia will be aged above 60 by the year 2050. In Singapore, by 2030 one in four individuals will be aged above 65. As the population increases in age, the interaction people have with the aged also increases.

In Singapore, the period that people spend in their later years at suboptimal levels of health is still approximately 10 years, despite the increase in overall life expectancy. Despite innovation in healthcare that has occurred in the last few years, the median duration of severe disability for those eligible for ElderShield or CareShield Life funding remains at four years.

Shrinking family sizes and longer life expectancies point to the possibility of a period of time when the aged will have to live with relative disability and frailty without family to care for them. This could result in such elderly individuals having an increased risk of social isolation and mental health issues, in addition to the already present chronic illnesses due to old age.

### **Needs of an Ageing Population**

According to the World Health Organization (WHO) and the International Longevity Centre Brazil, there are four pillars to an active ageing life: health, security, participation and life-long learning. On top of these four pillars, resilience, which refers to an individual's ability to manage stress and having a robust worldview, is also vital for active ageing.

Collaboration among the whole society, which is not limited to healthcare professionals and workers, is vital to support the ageing society and to maintain a good quality of life. Such a collaboration will include a vibrant economy; innovative and accessible health and social services; well-designed physical environments and interfaces; access to age-friendly technology; a conducive society culture that recognises and respects seniors; and lastly, empowered individuals who demonstrate conducive behaviours towards their own health, wealth, relationship and life-long learning.

### **Caring for the Aged**

Inner resilience and external help are of utmost importance to the aged. In terms of external help, caregiving is especially important when the aged individual can no longer handle the basic activities of their daily living. Caregiving traditionally involves family; however, shrinking family sizes of recent times have resulted in the popularisation of contracting help, such as domestic helpers.

There will likely be stiff competition and an increased difficulty in hiring quality external help. While Singapore remains an attractive place for migrant workers, contracting help may not always be an option for Singapore as neighbouring countries in the region will also need younger workers for themselves.

### **Skillsets Needed to Provide Care**

Caregiving is not limited to changing diapers. Learning how to manage care is equally important. This includes navigating the healthcare system, getting the best deals, health monitoring and palliative care, among other things.

The skills required to provide care include being able to support the basic activities of daily living of the aged, health monitoring, nursing, therapy exercises and more. However, being able to organise social resources in a way that the social determinants of health can be better managed can help to optimise social connectedness.

### **Key Areas of Research and Innovation in Care**

Currently, research in life sciences range from the reduction of chronic ageing-related illnesses such as Alzheimer's and cancer, to eventually extending human life span. Implementation science is also a key area for research, as there is a need to standardise data to derive the appropriate costs and prices of various services, the amount of care required and to subsequently translate such knowledge into policy.

### **Question-and-Answer Session**

**Q:** How do you think we can encourage Singaporeans to have the mindset of lifelong learning so that they can thrive in new jobs or even yet to be created ones? What are your thoughts on how we can nurture and encourage a mindset for lifelong learning, especially for time-starved Singaporeans?

**A:** Ms Tan said that having the luxury of doing a job that you want to do is a powerful driver for learning, but a job that provides financial security can also motivate individuals. Factors like autonomy, fair pay, and protection of workers' rights are also important in encouraging learning. Dr Ng believes that people who are curious and have their basic needs met tend to want to learn more, and creating an awareness of the need to learn is crucial. Dr Ong advised individuals to have a growth mindset and to adapt to changes by identifying adjacent skillsets and areas of interest. Learning is also about applying skills in practice, so it is important to be proactive in seeking opportunities to do so. The capacity for learning comes when basic needs are met, and individuals should learn at their own pace.

**Q:** How can the government and the private sector work together to use disruptive technology in helping the average Singaporean find a job or identify new areas for learning?

**A:** Dr Ong suggested that Singaporean students can be exposed to disruptive technology in their school curriculum, while the working population can be upskilled through collaboration between the government, trade associations and chambers. Dr Ng emphasised the importance of staying engaged in the community and work for continuous learning. Ms Tan stressed on the importance of collaboration between businesses and the government to identify future skills and jobs and to develop policies that address the needs of emerging industries like the gig economy.

**Q:** What more can be done in the last-mile delivery or communication for some of these programmes and initiatives?

**A:** Dr Ong mentioned that outreach programmes have been using the transformation maps from trade associations and chambers to reach a certain segment of the population. The focus now is to reach a broader segment of society and involve more companies to prepare them for the future changes. Dr Ong said she believes in co-opting companies to have a look ahead of the transformations and its impacts on their businesses. This way, businesses can also involve their employees in learning and development.

**Q:** Despite the knowledge that people might have of the skills to acquire, there could be this sense of being overwhelmed by the sheer rapid changes mentioned. It takes a lot more for workers to upskill or re-skill, so how can we help workers overcome the time lag and the feeling that they are forever playing catch-up?

**A:** Dr Ng said that there is a need for coaches and mentors to guide individuals through life transitions and help them stay curious and confident when facing changes. This is not just about acquiring hard skills, but also developing personal character. Dr Ng believes that coaching and mentoring should not be limited to PMETs, but should be available to everyone, including the older generation who may need guidance on ageing.

**Q:** In your view, do we properly price goods and services in the care economy? If not, how will we make a successful transition to a super aged society? What do you recommend we do?

**A:** Dr Ng said that Singapore's elderly care is relatively cheap compared to countries like Thailand and Japan due to the employment of migrant workers from the Philippines, Myanmar and India. However, there is a shortage of such workers, leading to competition among private hospitals for their services. Dr Ng raised concerns about the sustainability of paying such workers at a low rate, and pointed out the difficulties in calculating the exact cost of caregiving due to various factors like cultural dimensions and informal caregiving. Thus, there is a need to standardise data and assessment, especially for long-term care, to better understand the real cost of care for different individuals.

**Q:** Given that Singapore does not play a large part in total global carbon emissions, how do you think we can widen our impact such as by collaborating with regional partners?

**A:** Ms Tan highlighted that Singapore, despite its small size, has a significant impact through its export-oriented and import-dependent economy, especially in the petrol and chemical sector, which relies heavily on fossil fuels. To contribute to sustainable solutions, Singapore aims to double its commitments to achieve net-zero emissions by 2050. In addition to being an open economy and financial hub, Singapore can leverage its intellectual property and assets to drive change and channel investments and new technologies to support electrification of energy and other sustainable practices. Ms Tan also emphasised the need to consider the impact of potential carbon taxes from regional partners and to continue exploring ways to support developing economies.

**Q:** Disruptive technology seems to be worsening inequalities. Do you agree with this assessment, and how can different stakeholders work together to mitigate this impact?

**A:** Dr Ong suggested that policymakers should consider sustainability, fairness, safety, and transparency when building better technologies, instead of only prioritising speed and performance. She believes that procurement practices need to change, and buyers should incorporate these requirements to ensure that the technology they buy and use is fair. Standardisation of data and common standards are also necessary for ease of comparison. Additionally, corporate governance practices should include decisions such as what gets built and what is important for the companies. Regulations and innovation should be balanced to shape the direction of these changes.

**Q:** What can employers do to help workers thrive in the new economies?

**A:** Dr Ng spoke about three principles: Inclusiveness, sustainability and equip-ability. Ms Tan said employers should think about their long-term strategy. It is something that will defend their own sustainable development. Dr Ong added that employers should look at how their strategy allows them to be nimble and embrace the changes to come. They should also create opportunities for their employees to come along with them to learn together with the business.

*[Beverly Tan](#) and [Jenin Teo](#) are Research Assistants at the Institute of Policy Studies' Society and Culture Department and Policy Lab, respectively.*

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