

Essay for U-turn Cahier

UCSIA

### **Transformative shifts in paradigms needed.**

**Dr V. Vandeweerd, August 2020**

Humanity is at a crossroad. Rapid socio-economic and geo-political developments, fueled by digital and technological innovations, have brought unprecedented wealth and nearly unlimited opportunities for personal development and increased well-being to many parts of the world over the last decades. Waves of technological innovations engulf the world and are coming ever faster at us. Technology is changing people's lives, no matter where they live. In particular, technology is transforming the day-to-day reality of many young people.

But this expansion has come at a cost to the planet and the people. The natural resource base on which all development depends, is getting depleted, overused, and polluted. Disparities in wealth have increased dramatically and inequalities in education, health, opportunities and other dimensions of development within and across countries keep growing. In an increasingly connected world, billions yearn for progress and have the legitimate aspirations of having the same opportunities as the well-off members of the global society. This hope is embodied in Agenda 2030 and the Sustainable Development Goals (SDGs) – a global sustainability agenda with 17 ambitious goals, agreed in 2015 by 193 countries with the United Nations framework, to guide the world towards a better future for all, leaving no one behind.

Achieving the SDGs by 2030 is just not possible with the current development model. The resource base that fuels human development poses a natural limit to the growth potential of our economic systems under business-as-usual conditions. Paradigm shifts are needed, not only regarding our current development patterns, but also how we envisage and plan for the future. We need a new narrative, a story line that considers the natural boundaries of the planet we all share, while at the same time embracing the opportunities new technologies offer us.

The SDGs are first and foremost about leaving no one behind. They are about eradicating poverty, eliminating hunger, providing energy services to all, working towards a more equitable and sustainable world where it is good for all to live in a healthy and thriving environment. The SDGs however will not be achieved without deep changes – transformations – in the way we live, produce and consume and invest. Technological innovations offer a great opportunity to do so but only if we deliberately choose for innovations that move the world onto a more sustainable development path. We need to ensure that science and technology innovations are sustainable, from social, environmental, and economic perspectives and that they are directed to bringing about the kind of changes we desire, especially for those who have been left behind. This will, in turn require not only innovative policies and business models, but also innovative forms of cooperation across national borders and among a variety of actors – governments, business, academia and civil society. We need integrated, holistic solutions that work across disciplines and sectors and that help resolve the myriad of challenges the global community faces. We need to break down institutional barriers, revisit established concepts, change laws, regulations and habits, and rethink local, national, and global policy making. This requires political,

industrial and citizen vision, leadership and courage, and action by all, to jointly make the changes that are good for people, planet and prosperity.

### **The long march starts with a first step.**

Drastic change does not happen overnight. It is context specific and requires deliberate, mindful, and directed choices. Changes must be socially acceptable, economically feasible and affordable, environmentally sound, and render societies more resilient against outside shocks such as pandemics and environmental calamities. Despite that no shoe fits all - what works in one country or region might not work in another country or region -, systemic change leading to transformative impact needs to be pursued everywhere in the world, led by those economies that have the resources to test out disruptive change and take the risks. This requires the identification of integrated, disruptive solutions that can have a systemic transformative impact, the identification of the gaps, hurdles, barriers and opportunities associated with bringing new solutions to the market at scale, and the identification of the broader conditions and requirements that can facilitate sustainable transformation while leaving no one behind in the transition to more sustainable, resilient and equitable societies and economies.

Playing in the margins will not work and perturbations around business as usual are like a drop on hot plate. Incremental improvements of existing technologies will just not do the job. Small improvements in existing technologies will only deliver marginal efficiency benefits. We need systemic change rather than single-technology, single-point innovations. Drastically new ways of producing and consuming are required; deep innovations across sectors, addressing several sustainable development challenges simultaneously. This means that the transition process towards more sustainable development patterns needs to be carefully planned and strictly governed, informed by public debate, and led by the public sector with the full engagement of the private sector. Progress towards change needs to be accelerated, alternative roadmaps developed and tested, risks taken.

Alternative technological roadmaps should assess how to phase out obsolete technologies as well the distributional consequences of such phase-outs - who profits and who will suffer from them? For something in the market to grow, mostly something has to die. Building technological roadmaps, assessing alternative technological solutions, is an indispensable step in the transition process. These technological roadmaps need to involve all relevant stakeholders, from those impacted by the technology to those investing in its market penetration, studying synergies and trade-offs between various options, as well as the co-benefits of achieving several development goals, akin the SDGs, at the same time. Technological transitions need to be channeled in the right direction, working for the benefit of all citizens and not just for the happy few and for the big corporations. The importance of multi-stakeholder approaches and changes in the education system, including digital skill development and life-long learning, cannot be overemphasized. Redistribution of the benefits of the technological revolution is crucial. Trade rules and regulations must be reviewed and impacts on labor markets and competitiveness assessed to create fair and inclusive level playing fields and safeguards to ensure that technological transformations do not increase inequalities (such as digital divides, gender divides, income divides) but rather benefit all.

Addressing the lack of traditional financing for alternative investments requires the development of new asset classes, new financial vehicles and different ways of assessing return on investments, accounting for the social and environmental dimension of technology diffusion. The role of capital and money needs to be reevaluated and directed from being the sole end goal of economic processes towards being a

driver for positive change. Lock-in effects and stranded assets need to be identified and their consequences addressed.

### **Change is possible if we want it – a message of hope**

Recent geopolitical developments seem to move the global society back towards a narrower and more inward-looking focus, away from global cooperation and in effect hampering the quest for a better future for all.

On the other hand, the resolve and ingenuity of those in academia, research, NGOs, and the private and public sector communities to move jointly to a more sustainable world is also growing. Major, market ready, technological innovations exist that combined with policy, behavioral, financing, social empowerment, institutional changes, and innovative business models can lead to positive transformative change. It is not that we are groping in the dark and that solutions still need to be discovered. To the contrary, many solutions already exist from providing clean energy to all, to dealing with the climate change crisis. It is a question of collective will and action, laying bare and addressing vested interests, removing stranded assets, developing new visions for the future we want and how we will get there. Perhaps the most critical condition for successful transitions is a change in mindset of policy and decision makers as well as citizens. There is an urgent need for an overall recognition, by all sectors of society, that deep transitions are needed, transitions that need to be sustained over time, receive consistent policy attention, finance allocation, and governance action to ensure they happen at scale. New macro-economic development models need to see the light of the day. Moving the economy onto a circular economy and monetizing sustainability gains and impacts, such as putting a price on carbon and making it a trade-able commodity, are good areas to start.

A couple of industrial and societal sectors could be selected to start the process where the economic and social benefits of change are easily demonstrable. Deep transformations successfully implemented in one area will make change in other areas easier.

### **Start by bringing the education system into the digital age.**

Education is one such a sector. We need to provide our students with the skills and knowledge to lead a productive and fulfilling life in a rapidly changing and increasingly digital world. Education systems devised 150 years ago are no longer fit for purpose. The tools, technologies and knowledge are available to adapt learning to the individual skills, needs and capacity of every individual student. The tools, technologies and knowledge are available to re skill our labor force and provide lifelong learning. Institutional inertia and aversion to change are often some of the biggest hurdles to overcome.

### **Do not be mistaken – action needs to be taken now**

There is an urgent need to sensitize citizens and decision makers at all levels, both in the private and public sector, that, if we are serious about achieving the SDGs and climate goals, we urgently need to implement business unusual integrated solutions that cut across societal and industrial sectors. Rather than making incremental changes we need radical changes in the socio-economic fabric of our countries. Not that welfare has to go down or that we need to sacrifice wealth and health -we just need to live differently, as good as before but more sustainable, taking the natural boundaries of the planet we all share into consideration and distributing wealth and opportunities in a more equitable manner.

New solutions are context specific and burdened with real-life complexities, vested market forces, feedback loops, and unintended consequences and impacts.

This requires that we develop new conceptual models for economic development, with Agenda 2030, negotiated and agreed by all nations of the world, providing an overarching perspective and starting point. Again we do not need to start from scratch – a lot has been researched, a lot has been discussed and a general framework on how to move forward has been approved. Now we need concrete, feasible and doable roadmaps to implement the general directions and develop solutions that are

- Transformative and sustainable from social, environmental, and economic perspectives
- Substantially contribute to the SDGs
- Take the short-term, mid-term and long term social and environmental impacts into consideration as well as the ethical implications
- Identify major knowledge gaps and research needs
- Are sensitive to gender and other under-represented populations.

Ethical and moral compasses are needed to guide societies through transitions and deliberate governance processes to manage change. Performance indicators are needed to enable the assessment of new integrated solutions, and a set of practical tools and new investment vehicles to help direct major flows of financing towards more sustainable investments, with the goal to bring real change in the infrastructure and the industrial fabric that underpin our economies and societies. Ex ante and ex post indicators to evaluate the social and environmental impacts of new solutions and technologies, that are continuously updated to incorporate real life experiences, are needed guide us on our way and make timely correction - continuous Beta testing in a transparent, participatory and verifiable manner, a possible new function for universities and international organisations alike.

Leapfrogging is possible but it does not come automatically. It requires hard work, appropriate policy measures and skill development, lifelong learning and inclusive and deliberate change processes. Coherence of policies and regulations across different sectors is vital, as well as an active engagement of the private sector and citizens.

We need to broaden the perspectives of decision makers at all levels, helping them to realize that alternative ways of constructing the economic and social fabric of life is needed, technologically possible and economically feasible. There is no time to lose, the wedge of opportunity is rapidly closing but we still can turn the tide and move to a more sustainable world where it is good to life for all. We have the ingenuity, we have the problem-solving capacities, we have the knowledge, we have the technologies, we have the financing – we just need to do it!

#### Disclaimer

This essay is based on the author's experience at the United Nations and beyond and is free interpretation of the co-hosts statements of G-STIC 2017, 2018 and 2019 and the chair summary of G-STIC 2019. The author was the drafter of these documents that also benefited from the inputs from Prof Ambuj Sagar, (IITD, India); Mr Dirk Fransaer, VITO, Belgium; Mr Kennedy Orwa and Prof Tom Ogada, ACTS Kenya; Mr Surendra Shrestha, AIT, Thailand; Mr Ajay Mathur, TERI, India; Mr Paulo Gadelha, Fiocruz Brazil; Mr Longlong Ma, GIEC, China; and Mr Okechukwu, Nacetem, Nigeria; and from the editing of G-

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