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Aligning Interests or Precipitating Energy Transition

By Miguel Schloss

Abstract- *"History does not repeat but it does rhyme"*

Tyler Cowen

A lot has been debated about the effects of carbon emissions and their impact climate change. Of all the issues that need to be addressed, the one that stands out refers to the power sector, which absorbs more primary energy than any other sector, and accounts for anywhere between a third and half of carbon emissions worldwide.

At stake is the need to assure continued economic development, and assuring the associated improvements in standards of living. Over the decades, growth has been propelled by massive expansion of energy demand, powered by hydrocarbons that brought about increases in CO2 emissions.

In recent years, an increasing consensus has emerged that there is a need to reverse these emissions to prevent global average atmospheric from generating further temperature increases. To this end, 195 countries entered into an international agreement in Paris to limit temperature increase 1.5 degrees Centigrade of pre-industrial levels by mid-century – but there is still a long way to go to cap global warming at this level, and thus no basis for complacence.

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Actually, progress towards this aim remained negligible over the last 20 years, with marginal changes in CO2 emissions. This paper does not address the wide range of issues, such as what to do on research and development of new technologies, hard-to-abate sectors like mining, shipping, etc. Instead, it focuses on a simmering (and at times ideological) debate on how to respond to this lack of progress – i.e., by instituting stronger environment regulations and associated monitoring to force enterprises to set up plans and investments aimed at reducing emissions, or enhancing enabling conditions for investment environment through pricing and taxation policies to facilitate financial and human resource mobilization to deal with the issue.

This article is focused on this apparent dilemma to enhance progress and results in climate change actions. As there are few precedents in this emerging area, this article is based on benchmark analysis the author has conducted to assist several Governments in designing policies to deal with the emerging issues that climate change is posing.

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I. Introduction: Current Issues

"Eternity is a very long time, particularly towards the end",

Woody Allen

The Paris Agreement on climate change aims at limiting global warming to no more than 1.5°C of pre-industrial levels and a decarbonized economy by mid-century[1].

This implies investments of at least US$16.5 trillion, and a profound transformation in production and transportation practices, investments in renewable energy, and other actions never seen to date.

No political, social or moral achievement of this magnitude or complexity is without formidable obstacles. There are vested interests to be confronted, attitudes to be changed, resistances to be overcome. The problems are immediate, the ultimate goal frustratingly far away.

The crisis triggered in Europe by the suspension of Russian gas supply, together with decisions to curb production of hydrocarbons, illustrate the disconnect of the actions taken with geopolitical realities. These have triggered price increases to record levels, and a gap between the goals and achievements of the Paris agreements. A transition towards the agreed objectives will demand a decidedly more strategic and coherent approach[2].

This will require special attention to coal-dependent economies such as India and South Africa – which generate more than 70 and 85% of their electricity, respectively, from low cost coal, with serious social and economic repercussions that will need more nuanced approaches to transition than those applied to date.

Likewise, focused efforts will be required in countries with important generation facilities or in energy-intensive and harder-to-abate sectors that are difficult to decarbonize, such as mining and extractive industries.

Any effort of this nature will require important human and financial resources to make progress within

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[1] United Nations Framework Convention on Climate Change (FCC – Conference of the Parties – Paris, France (Dec. 2015). https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris- agreement.

[2] Mapping Carbon Neutrality in Uncharted Territory, Miguel Schloss; Generis Publishing, 2022. https://www.generis-publishing.com/book.php? title=mapping-carbon-neutrality-in-uncharted- territory-521.

the absorption capacity of each country. Forcing ambitious and distant goals, or discouraging certain technologies with arbitrary regulations will not generate progress. A more promising path is to align interests through pricing and taxation practices that adequately reflect environmental costs, and facilitate investments responsive to consumers, avoiding complicated coordination.

II. The Emerging Reality

"Quis custodiet ipsos custodes?" (Who watches the watchers?) Latin locution by Juvenal.

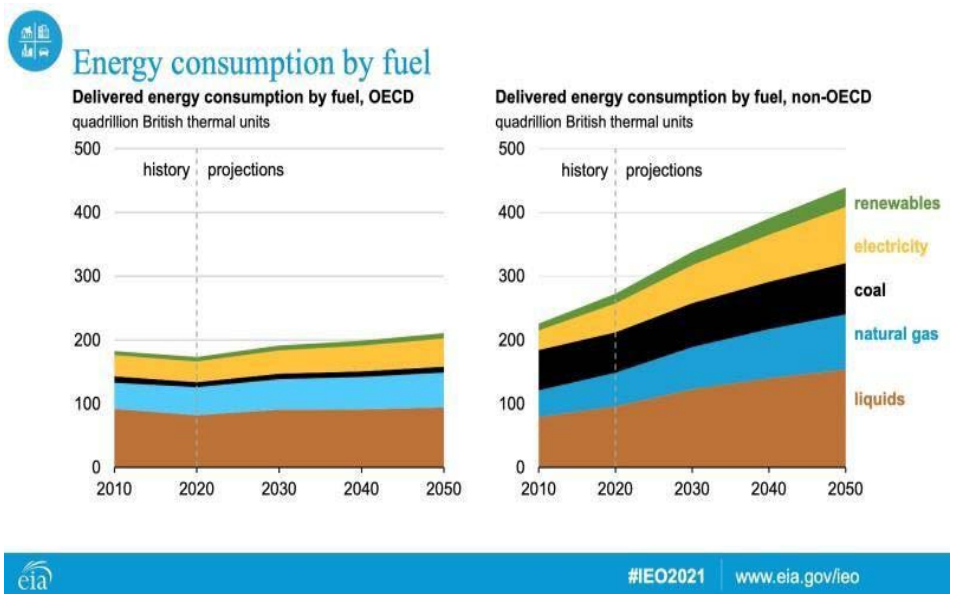
The lack of foresight, the low energy security implied by the energy matrix and the consequent crisis triggered by the conflict in Ukraine have prompted the 51 largest economies to double support for fossil fuels to almost US$700 billion in 2021, and even larger amounts in 2022 - there by mitigating energy price increases for consumers, while generating incentives for increased fossil fuels supply to achieve a quick response to overcome the energy crisis. This is undermining the elimination of inefficient and distorting subsidies, flagrantly contradicting the declared ecology friendly policies and pledges[3].

This practice was not only limited to major economies where fossil fuels consumption is the greatest, but spread to emerging countries, such as Chile, which had instituted countercyclical practices of subsidies (when prices increased) and taxes when fossil fuel prices declined, in such a way that on average, there was no subsidy. This provided for a proper level-playing field for renewables, and enabled major investments in renewables (see Attachment). However, with current global subsidy practices, the fiscal cost associated with financing fuels of almost US$3 billion was written off, involving a reduction equivalent to 74,000 social housing or 3.7 times the annual subsidy to the Trans-Santiago public transport system, which illustrates the social cost of such action.

More broadly, regulatory interventions have generated counter- productive results through institutions with crossed, and often conflicting responsibilities, where technical factors and political factors are mixed. Oftentimes, this has generated disincentives of costly delays, resulting in projects taking longer to process for approval than to execute.

Clearly, environmental institutions are generating costly inefficiencies, undue room for discretion and arbitrariness, and associated risks of corruption. A central objective of institutional redesign should reduce these spaces and offer higher levels of certainty and objectivity, and economic grounded criteria, to generate energy supply that is affordable, reliable and cleaner. In this way, environmental decisions would be more integrated to economic development imperatives and market demands[4].

Moreover, as early phases of development tend to be more energy intensive as new machinery needs are introduced, the growing energy demands that will take place mainly in emerging economies (as can be seen in the graph below)[5].



[3] IEA analysis OECD Inventory of Support Measures for Fossil Fuels. https://www.oecd-ilibrary.org/agriculture-and-food/data/fossil-fuelsupport_d86aea00-en.

[4] Cambiando la conversación sobre transición energética. Miguel Schloss, Diario Financiero Dec.. 26, 2022 https://www.df.cl/opinion/columnistas/cambiando-la-conversacion-sobre-transicion-energetica.

[5] Global Journal of Management and Business Research, 2022; Miguel Schloss—Changing the Conversation on energy Transition. https://drive.google.com/file/d/13diV_LtnNa0iq_3KBZvbR6afW7L_Le/view.

This will facilitate the introduction of more advanced technologies in new plants, which are less cumbersome than conversion or decomissioning of existing ones, improving the impact on the global energy matrix.

However, the obsession with restricting hydrocarbons and consequent insufficient investment in conventional energy (to overcome limitations of renewable energies that depend on climatic factors requiring support from traditional sources), has damaged energy security and a transition that responds to the greater demand[6].

Decarbonizing the energy sector and simultaneously meeting rapidly expanding energy demand is perhaps the most important challenge facing global development. As new technologies develop and become more competitive, a greater share of increased power demand will be supplied by renewables, together with proper backups from traditional energy sources, thereby providing a more resilient and balanced energy matrix:

III. Conclusion: the Way Forward

"If we don't change our direction, we're likely to end up where we're headed" Chinese proverb.

So much of the climate change debate is deeply emotional and inflammatory, rather than open-minded and probing. The point of this paper isn't to take sides in what often are quite often are complex disputes. The lack of progress should in itself be a warning that we are on a trajectory that is far from decisively correct.

Looking towards the future, all indications are that in the 21st century the world will face twin energy-related threats: that of not having adequate and secure energy supplies at affordable prices and that of environmental harm caused by consuming too much energy in inappropriate ways.

Responding to either of these threats could be relatively straightforward; however, a solution to both simultaneously is one of the great challenges facing this century, and will require particular attention to the following:

First: With global energy demand increases, calling for a cut in consumption is not a viable option, as it would undermine much needed economic development, particularly in emerging economies. Inevitably, fossil fuels have an important role to play as back-ups of renewables, to cover for shortfalls resulting from their reliance on natural conditions (e.g., solar during evenings or poor weather conditions, or eolian when wind conditions are insufficient).

Second: The path cannot be limited to renewable energies per se, but the reduction of carbon emissions with a variety of technologies, the widespread deployment of carbon capture, use and storage, and the alignment of interests through pricing and taxation policies that facilitate the mobilization resources to investments required by the transition[7].

Third: An integrated approach will be inevitable, as investments must respond to environmental goals, as much as affordability and reliability, under volatile supply, demand and financial markets conditions. This will require a balanced approach that responds to tradeoffs among sources of energy supply, and ensures a flexible supply chain response with resilient cost efficiency.

Fourth: This, requires, however, defraying the incremental costs of tackling climate change in the order of 1-2 % of GDP, which makes the entire issue politically charged, particularly which countries and segments of the population need to defray such costs, and how the inevitable risks are going to be managed. As both the scale and manner of mobilizing resources have failed to respond in a manner to generate tangible progress, the time has come to reset the role that multilaterals (particularly the World Bank and the IMF), to ensure that resources are mobilized in magnitudes and with proper policy frameworks to fund incremental investments and ensure their long- term sustainability.

All said, the critical question is not to try and pick which technology or top-down approach, which all too often have proven to be ineffective. Given the uncertainties, technological developments that still need to take place, and an unstable and unpredictable future, the outcomes will hinge on how we put in place systems to ensure that the creativity of the market develops and allocates resources to those technologies and approaches that move the energy mix in the right direction at the lowest cost.

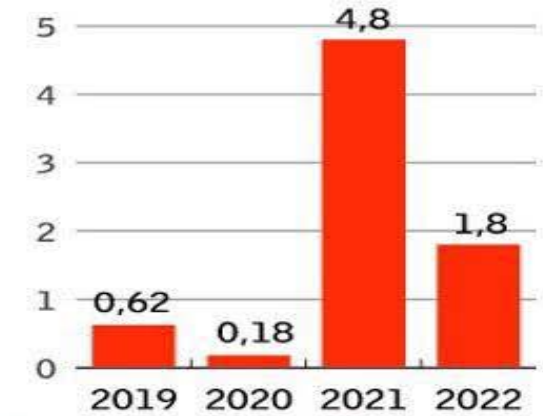
Any regulatory process should be as supportive as possible, and be within the institutional capacities of the country concerned. In doing so, every effort should be made to generate incentives towards managing sustainability, rather than mere compliance, or even worse "greenwashing", gaming the system, and consequent missed opportunities for innovation, efficiencies, and social benefits.

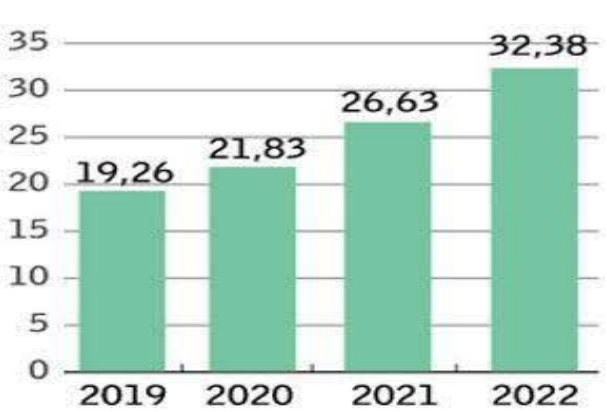
[6] Investment in traditional energy for transition, HE Suhail Mohamed Al Mzrouei, The Banker, Oct. 22,2022 https://www.thebanker.Com/content/search/(offset)/180?SearchText=October+2022&sortBy=published&SearchType=articles.

[7] International Energy Agency; Energy Outlook 2023 https://www.eiu.com/n/campaigns/energy-in2023/?utm_source=google&utm_medium=ppc&utm_campaign=industries-in2023&gclid=EAIaIQobChMI8qayjZvU_AIVChvUAR3pCweoEAAYAiAAEgJr7_D_BwE.

Annex

Outcome of Energy Transition Policies in Chile





Generación por fuente total (en TWh)

	2022	2021	Var. %
Eólica	8,8	7,2	**22,4**
Geotérmica	0,5	0,3	**43,8**
Hidráulica	20,1	16,3	**23,2**
Solar	14,1	10,5	**33,4**
Térmica	38,9	46,5	**-16,3**

Generación renovable no convencional (en TWh)

	2022	2021	Var. %
Biomasa	1,51	1,63	**-7,4**
Eólica	8,75	7,15	**22,4**
Pasada (minihidro)	2,23	2,05	**8,8**
Solar	14,03	10,53	**33,2**

Generación térmica (en TWh)

	2022	2021	Var. %
Biomasa	1,65	1,86	**-11,3**
Carbón	19,03	27,47	**-30,7**
Diésel	1,48	1,81	**-18,2**
Gas Natural	15,84	14,48	**9,4**

*Cifras al 28 de diciembre de 2022

Fuente Coordinador Eléctrico Nacional

EL MERCURI