«Сейфуллин оқулары – 18(2): «XXI ғасыр ғылымы – трансформация дәуірі» халықаралық ғылыми -практикалық конференция материалдары = Материалы международной научно-практической конференции «Сейфуллинские чтения – 18(2): «Наука XXI века - эпоха трансформации» - 2022 .- Т.I, Ч.IV. – Р.103-106

NEW CLIMATE ECONOMICS FOR NET –ZERO FUTURE

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Climate Change is a result of the system failure of our economy based on High Carbon Economics<focusing on maximizing only short-term production and consumption while externalizing the long term cost of CO_2emission of cheap fossil fuel> [1]. In coping with the current climate crisis, the first thing we have to fix is a system change, as highlighted by the recent AR<Assessment Report>6 of IPCC, towards an economic system that internalizes carbon price into the market price. Current Free Market system that treats climate as Free Goods has to be transformed into a Sustainable Market that internalizes carbon price into the market price. We can no longer treat Climate as Free Goods.

New Climate Economics is an attempt to harness economic theories and knowledge to serve the goal of Net Zero future by shifting away from the current conventional free market economics.

In the conventional Free Market system, human and natural resources including ecology & climate are only treated as inputs for sustaining short-term economic growth. Such a Free market system based on short-term economic growth can go on as long as economic growth improves the quality of life and ecological sustainability. During the golden age of capitalism since the end of World War II until the 1970s, economic growth in general improved the quality of life and environmental performance.

Since the 1990s in the wake of sweeping globalization based on neo-liberalism, economic growth deepens income divide and exacerbates climate crisis. We have to shift away from the negative cycle among economic growth/quality of life/ecological sustainability towards a positive win-win cycle where investing in human and natural resources can stimulate higher economic growth and job creation while improving quality of life and ecological sustainability.

Smooth transition towards Net Zero Future will depend on the positive cycle among the 3E (Energy-Economy-Ecology). We have to set in motion a virtuous cycle based on New Climate Economy that internalizes carbon price into the market price so that it can generates win-win synergy where investing in low carbon energy could stimulate job creation and economic growth while reducing the risk of ecological crisis of climate change.

Conventional economists repeatedly came up with negative projections that mitigation of CO_2 emission will reduce economic growth. A typical neo-liberal economist argued; the Paris Climate Agreement will cost 1 to 2 trillion dollars per year on global economy. By 2030 the economic growth of Europe will be reduced by 1.6% while the US economic growth will be lower than business as usual by about 0.8% by 2030.

Even IPCC reports repeated coming up with projections that emission reduction would reduce global GDP. Because these calculations are all based on free market econometrics modelling which simply says that replacing cheap fossil energy with expensive clean energy will reduce economic growth while ignoring dynamic relationship and qualitative change that will be brought in by technological innovations and new markets to be created by the clean energy transformation.

This kind of reckless and irresponsible negative projections about the impact of investments in renewable energy is posing the most serious challenge in promoting the transition towards low carbon clean energy future. Politicians, policy makers, business and even the ordinary people are blindfolded by these negative messages. The decision by President Trump to withdraw from the Paris Climate Agreement is the typical example of the power of such reckless negative messages.

These negative projections are close to fake news. Because no econometric model is capable of predicting the dynamic impact of any economic policy after 15 years or 20 years. Most frequently used CGE models are only capable of predicting short-term static equilibrium for 2 to 3 years at best. I do not remember a single economic projection even for any particular year that was proven correct.

With an economic modeling tool that cannot predict even for a single year, it is nonsense that conventional economists keep on coming up with negative projections for 15 to 20 years using such static CGE econometric models based on so many academic assumptions that will never be proven true. It is a simple fact that there is no such economic modeling tool that can predict long-term dynamic equilibrium for Net Zero Future based on New Climate Economy.

It is common sense that, if we continue to invest 1 to 2 trillion dollars into low carbon clean energy development every year until 2030, it will stimulate new technological innovations, new market and industry which in turn in the long run will bring about dynamic and qualitative transformation of economic structure that could generate even more jobs and higher economic growth. We can call it New Climate Economics.

There are historical evidences available from the countries of Europe to prove that internalizing carbon price will stimulate higher economic growth and industrial competitiveness and enhanced ecological sustainability. Empirical evidence of European countries offers much more powerful inspiration than static CGE models used by conventional economists.

I promoted a new paradigm of Green Growth; an idea that investing in Green/Clean Energy can drive Economic Growth in 2005 as director of the UN ESCAP, regional commission in Asia and the Pacific. Thanks to the financial crisis in 2008, “Green Growth” was lucky to be brought onto the center stage of global economic recovery. G20 picked up Green Growth as an official agenda and came up with an idea of Green New Deal, which means to expand investments in climate change to revive the global economy. Even Kazakhstan pioneered Green Bridge Initiative. World Bank and the OECD are embracing Green Growth paradigm and operates Green Growth Knowledge Platform. An international organization for Green Growth, GGGI <Global Green Growth Institute> is being set up in Seoul, Korea. Korea and Denmark signed an alliance for green growth.

Green Growth was the first attempt to initiate and operationalize New Climate Economics approach. However, the interests on Green Growth and Green New Deal petered out as the impact of financial crisis faded away. A golden opportunity was lost to get out of the Carbon Economics that treats climate as Free Goods and reconstruct our economic system based on New Climate Economics for Net Zero future that synergizes economy/ ecology and energy.

There are positive attempts at the global level to set in motion New Climate Economics. Global Commission on the Economy and Climate was found in 2013 and New Climate Economy reports are published annually. Cambridge Econometrics center developed positive 3E<Energy-Ecology-Economy> dynamic model based on New Climate Economics such as E3MG modelling that projected global economy could grow even higher with carbon tax.

New positive projections are coming up. The OECD Report <Investing in Climate, Investing in Growth> [2] came up with a projection that G-20 countries can attain 5% additional economic growth by pursuing Net Zero 2050 targets. IRENA<International Renewable Energy Agency> [3] also came up with a projection that 70% reduction of GHG emission by 2050 will stimulate 2.5% higher economic growth.

These new positive projections show that momentum for New Climate Economics is growing around the world. However, much more efforts are needed to push forward New Climate Economics policies such as ETR<ecological tax reform for reducing income tax while increasing carbon tax>, shadow price of carbon, systematic and gradual introduction of carbon pricing has to be further explored by replicating best practices and success stories from the countries around the world if Kazakhstan is to maintain its future industrial competitiveness and pioneer the blue ocean of Net Zero Future.

Many countries are adopting national strategies based on the belief that Net Zero can be an opportunity for future industrial competitiveness and rush to be the first mover of New Climate Economy by promoting positive synergy between low carbon & clean energy R&D and long term economic growth and job creation while reducing climate risk.

New Climate Economics and positive 3E dynamics has to be operationalized not just to save us from devastating climate change but to provide more jobs and economic prosperity for our young generation.

However, the transformation towards New Climate Economics cannot happen automatically by the Market. It has to be led by leading academic institutions of Kazakhstan with the support of the Government. I have already published a Report titled <Low Carbon Green Growth Roadmap> [4] in 2012 as a manual for policy makers to lead the transformation towards Low Carbon Economy Future. This Report compiles list of policy tools, best practices and success stories. An on-line training tool kit is developed and available from the UN ESCAP.

In an attempt to identify policy options for developing countries, I led the first economic modelling exercise on Ecological tax reform (shifting tax base from income to emission) for developing countries of Asia such as China. Such a modelling exercise can be done for Kazakhstan.

Kazakhstan is at a critical crossroad to make a choice whether to step forward towards low carbon future or stay with the traditional high carbon system. Moving towards a Net Zero 2050 future will require a clear roadmap for transformation based on New Climate Economics for low carbon economy.

Kazakhstan, a country at the threshold of its sustainable development in the face of climate crisis, has to urgently identify a strategy that could turn carbon neutrality as an opportunity for future economic growth and industrial competitiveness based on New Climate Economy.

Staying with the conventional high carbon system is not an option for Kazakhstan. Many Middle East countries such as Saudi Arabia and UAE are rushing towards the blue ocean of low carbon future.

I am confident that Kazakhstan is fully capable and forward looking to jump start towards low carbon economy transformation.

Now is the time to grasp the first mover’s advantage in a rush towards the blue ocean Net Zero and New Climate Economy offers for economic growth and job creation.

References

1 Osobajo O.A., Otitoju A., Otitoju M.A., Oke A. *The impact of energy consumption and economic growth on carbon dioxide emissions*. Sustainability. 2020 Sep 25;12(19):7965.

2 OECD. *Investing in Climate, Investing in Growth*. 2017.

3 IRENA. *Global energy transformation: A roadmap to 2050*. 2019.

4 Escap UN. *Low carbon green growth roadmap for Asia and the Pacific: Turning resource constraints and the climate crisis into economic growth opportunities*. 2012.