CLIMATE REVIEW

TSKB Economic Research

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WATER: Scarcity, Quality, Ecosystem

Trade Regulations are Shaped by Climate Crisis

Climate Justice: A Need to Focus on In-Country Climate Inequality

The content of Climate Review was written by Onur Bülbül, PhD.
under the supervision of TSKB Economic Research

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Don't Water It Down!

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Greetings from the 10th issue of our Climate Review!

Following our tradition of the last 4 years and in keeping with the United Nation's calendar for the **World Water Day** on March 22nd, our first issue of the year is – again – about **water**.

TSKB Economic Research has been studying the theme of water since 2018. In the recent five years we have analyzed the subject from multiple angles, all addressing different development topics. Meanwhile, we have watched the popularity of this theme rise both in Turkey and around the world.

We always treat such a rise in popularity with cautious optimism. Our optimism is derived from the hope that recognition might lead to action on water security and quality. Meanwhile, our caution stems from the fact that popularity and recognition do not always mean awareness, if it is not supported by research and data. In fact, when combined with possible regulatory loopholes, such shallow popularity may even lead to malfeasance.

It appears that we are not alone in being cautious about this. A recent piece in the Financial Times warned against the same risk from an investment point of view. Oh yes, "water" is a subject of investment and a popular one in fact. Indeed, just recently 30 investors managing some USD 1.7 trillion in assets sent an "Open Letter to Governments on the Water Crisis" calling for effective policies. They also mentioned the investment opportunities in the field of green technology and green infrastructure adding that they are *"urgently seeking to benefit from the opportunities associated with the transition to a water secure economy"*.

Indeed, governments' actions to combat climate change brings new investment opportunities which include, but are not limited to water. For instance, the Inflation Reduction Act in the USA will likely boost water infrastructure investments, meaning that companies in this ecosystem will be on investors' radar… and this is where the FT piece also highlights an example as a warning. Having the word "water" in a company's name is not a guarantee that the particular company serves development with its actions in water. On the other hand, investing in such a company does not mean financing water security – a detail sometimes ignored by the weight of popularity.

Considering the urgency of the need for transformation in terms of water security and water quality and in view of the limited pool of financing available, it becomes obvious that regulations, reporting and monitoring are important. Popularity is all very well as long as it triggers actions that deliver positive results and contributes to sustainable development; otherwise, it risks watering down the issue, which would be a big mistake that may be difficult to compensate.

Upcoming Events

Smart Water Systems Conference will be held between 24 and 25 April in London, United Kingdom.

International Water Association (IWA) Water and Development Congress & Exhibition will take place between 10 and 14 December in Kigali, Rwanda.

Mind the Tap!

As the central topic of discussion on the water-climate nexus, water scarcity refers to a mismatch between the demand and the availability of fresh water, which can be quantified in physical terms. Against a background of projected global population growth, urban expansion, rising demand for food, energy, and other basic needs in an era of climate crisis, water scarcity is set to become a more pressing issue. Since freshwater supply is expected to be unpredictable and will most probably fall short of demand, it is hardly surprising that water scarcity has become the hottest topic of discussion.

The Intergovernmental Panel on Climate Change (IPCC) estimates that around half of the global population currently experiences severe water scarcity for at least some part of the year, projecting that under a scenario which sees global warming of 2°C, as many as 3 billion people will be exposed to physical water scarcity, a number which rises to 4 billion in a scenario with 4°C global warming. Water consumption in agriculture, industry, energy and urban areas not only constitutes the bulk of demand but is also expected to surge within the coming decades. Agriculture and irrigation, for instance, constitute the largest proportion of water use, accounting for almost 70% of water withdrawals. Global demand for water for domestic, industrial and agricultural purposes is projected to increase by 20-30% by 2050 from its current level at about 4,600 km^3 per year. The World Bank (WB), on the other hand, estimates that the global food system will need 40% to 50% more water, with municipal and industrial demand for water to increase by between 50% and 70%, and the energy sector's demand by 85% within the next three decades.

While the increasing duration and frequency of droughts are considered to be the main causes of diminishing water supply, it is important to note that – contrary to popular belief – floods also lead to decreasing water supply due to their negative effects on the water storage capacity of the soil, as well as on the worsening quality of surface and ground water due to the amount of chemicals and other harmful elements they carry. Also reduced freshwater availability and the increase in water consumption in sectors such as agriculture and energy is expected to reduce water availability in cities by as much as two thirds by 2050 compared to 2015 levels. The economic cost of floods, on the other hand, would be projected to increase from approximately $6 billion in 2005 to $52 billion by 2050 solely due to the forecasted socio-economic changes. When the potential impacts of climate crisis are included, this figure could even exceed $1 trillion annually.

Even though water scarcity is a major issue related to all aspects of climate crisis, limiting water supply shortages is possible by implementing policies such as increasing investments in storage infrastructure, water recycling and reuse, and desalination. Yet, supply side policies are not adequate by themselves as more supply brings increased demand. Hence, controlling demand by optimizing the use of water via water permits or pricing should go hand in hand with supply side intervention to counter the upcoming water scarcity challenges.

Average temperatures in Turkey were recorded

2,4°C

above seasonal averages in January while it has been

0,7°C

below seasonal averages in February

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What Can the Energy Sector Do for Water Scarcity?

The interconnected relationship between water and energy is becoming stronger day by day. As you will know, water is essential in all stages of electricity generation and primary energy production. Thus, factors such as the increasing population, economic growth, and urbanization lead to both higher energy consumption and increased water use. Due to the increase in water use in particular, difficulties in accessing water have started to threaten energy security.

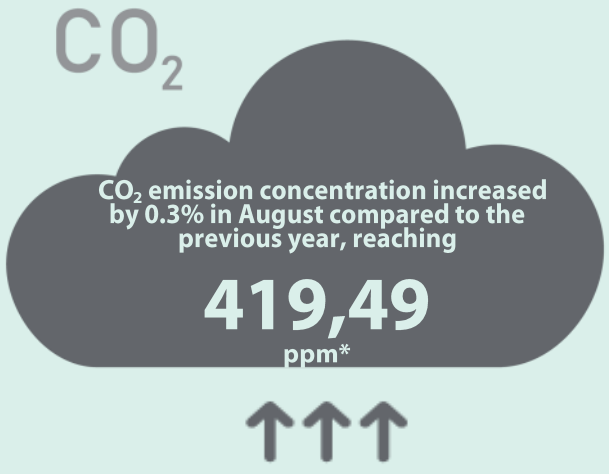
In the energy sector, where use of oil, coal, and natural gas is concentrated, high volumes of water are required in the processes of fuel extraction, processing, and transportation due to its nature. The transformation of energy, i.e. electricity generation, may also require high volumes of water. Water is vital, especially for thermal power plants and nuclear power plants, which we refer to as base load power plants. Thermal power plants cannot be considered water-friendly either, given the high requirement of water in the fuel wash, process, and cooling processes.

Concern over water scarcity has mounted in recent years. According to the United Nations International Children's Emergency Fund (UNICEF), four billion people around the world suffer from severe water shortages for at least one month every year. By 2025, it is predicted that half of the world's population will live in areas with water scarcity.

So, what can be done to reduce water use in the energy sector? In fact, many different actions can be taken. But if I were to highlight one, I would highlight the tendency towards wind and solar energy. The use of wind and solar energy sources, together with storage systems, may reduce the need for thermal and/or nuclear power plants, and thus water usage. This brings us to the conclusion that wind and solar energy sources may have a positive effect on addressing water scarcity as well as the climate crisis.

EPA Proposes Stricter Regulations for Waste Water Pollution in Coal Fired Power Plants

The US Environmental Protection Agency (EPA) proposed a new regulation that would lower the limit on the amount of pollutants released from coal-fired power plants through wastewater disposal by 584 million pounds annually. The proposal sets out stricter disposal standards for three types of wastewater released from coal fired power plants. The proposal also suggests an extension for the deadline for plants to opt-in to the 2028 early retirement provision. In his statement regarding the proposal, the Director of the EPA indicated that alignment with stricter regulations would saddle coal-fired power plants with higher costs, stop production in some plants and may encourage some plants switch to natural gas.



*Parts per million

Incentive Wars Go Green – Like Everything

Ever since the United States ratified the Inflation Reduction Act (IRA) – an odd name for a mainly green incentives scheme – the rest of the world is on its toes. The reason is simple. Providing generous incentives to green projects - be it electric vehicles, batteries, heat pumps, solar panels, carbon capture technologies, or anything else that falls into this category - attracts investments in countries providing such benefits. Yet, the flipside of the coin requires answering the question: investments from where?

Volkswagen's decision to postpone a planned 10 billion Euro battery plant investment in Eastern Europe until the EU decides if it will match US incentives on such investments is a perfect case. Afterall investment decisions are based on rationality. And as such, the EU's swift decision to allow member states to match multi-billion dollar subsidies, if similar incentives are offered outside Europe, is no shocker either. But what happened to EU's strict state aid rules that aim to avoid subsidy races among its member states and their increased cost on the public? Well, they seem to be on the back burner for the time being.

So welcome to the age of incentive wars, where no one cares about who is left behind. Can these incentives be justified as being good since they are aimed at "green" transition? What about those others whose pockets are not deep enough to "match" such incentives? It actually seems like, this age of rewriting the rules of climate based industrial policies should prioritize multilateralism and international cooperation, as well as thinking about regulations that would ease technology transfer if the world aims to deal with the climate crisis collectively.

In January and February 2023, the average precipitation in Türkiye was

25,6 mm

below seasonal normal.

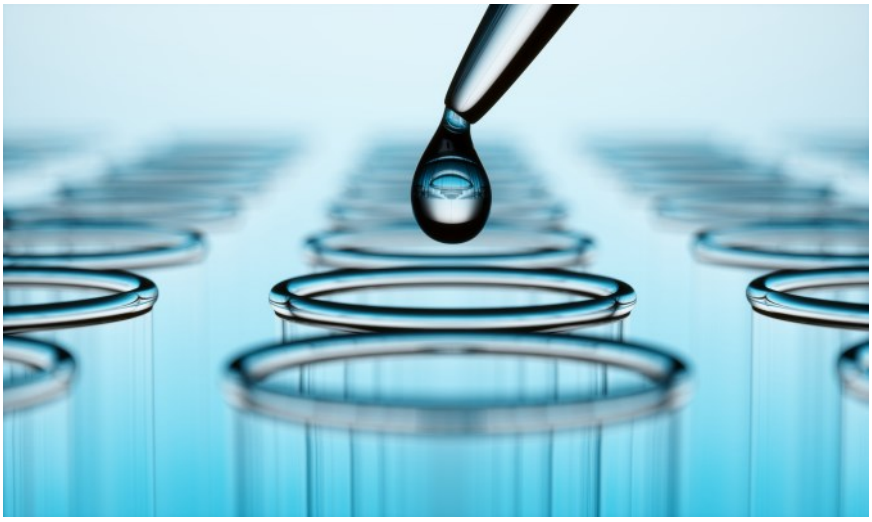
Climate Regulations as a Component of Competitive Power

Policies implemented to tackle the climate crisis are also being drafted to generate positive economic results for countries. As summarized in the words of President Joe Biden, "good climate policy is good economic policy", while climate policies become concrete in the form of incentives, protectionism and/or building secure supply chains. The US Inflation Reduction Act (IRA) is expected to transform the country into a clean energy technology superpower. The European Commission's negotiations with the US to enable European companies to benefit from the incentives outlined in the IRA have yielded some partially positive results. Still, the issue is expected to drag on as the EU aims to avoid any adverse impact from the IRA tax reductions and production incentives on European companies by introducing the European Sovereignty Fund by the middle of this year. To increase the competitiveness of its net zero industries, the European Commission announced its Green Deal Industrial Plan in January. The Plan is built on four pillars: predictable and simplified legislation, accelerating access to finance, adapting to the skills needed, and being open to trade to ensure resilient supply chains. Another important issue included in the Plan is the establishment of a Critical Raw Materials Club. The Plan aims to provide the necessary supply-chain security for green transformation through this Club, which brings together raw material consumers and resource-rich countries. Accordingly, the EU is adding a new item to its regulatory framework, which deals with the impacts of climate policy on industry.

Since green transformation competition is not a zero-sum game, while attempts to implement climate policies in a unified manner between different countries are gaining momentum on one hand, the risk of incentive competition is also eminent. The main principles of the Climate Club, proposed in June 2022, were published last month, which foresees the inclusion of representatives from high emitting developing countries in the Club as well. The Club is expected to be launched during the COP 28. Meanwhile, 50 countries, including the EU and the UK, established the Climate Coalition of Ministers of Commerce. Considering the interaction between climate, trade, and Sustainable Development Goals, the Coalition states that international trade can contribute to greenhouse gas reductions as well as a just transition to a durable, climate neutral, and sustainable structure. The Coalition's main priority is to promote trade policies that support climate action within the WTO and similar multilateral players.

Such developments, in which the fight against the climate crisis becomes both joint and competitive in the axis of trade and industrial policies, point out that regulations can have a significant impact on competitiveness in the green transformation race.

Don't Muddy the Clean Waters



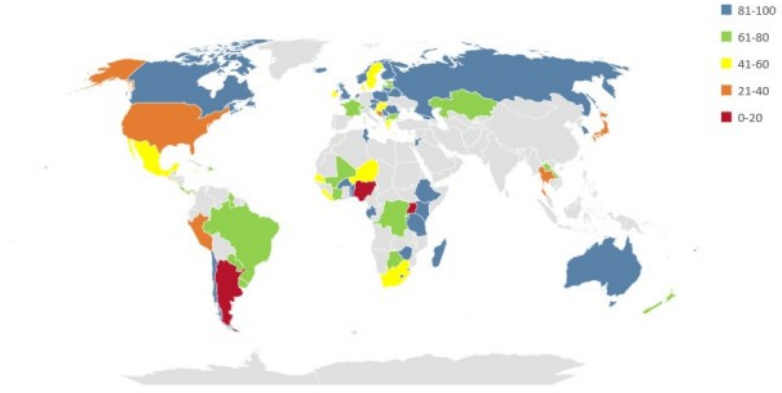
Water lies at the core of the climate crisis as it is related to almost all challenges from floods to food security, hygiene and sanitation, health, poverty, ecosystems and biodiversity to name but a few. While the volume of water may stand out as a key area of focus in tackling issues such as water scarcity and the related risks it carries such as food insecurity, forced migration and associated health problems, the quality of the water is a frequently overlooked concept – despite its direct relevance to the quantity of water.

Water quality refers to the level of sediment loading, chemical composition, total organic carbon content, as well as microbial and mineral composition of the water, which are directly related to life on Earth. It also has economic aspects; an estimated $260 billion is lost each year due to a lack of basic water and sanitation globally. The World Bank, for instance, calculates that water pollution could reduce gross domestic product (GDP) growth by up to a third. With an effort to solve the water crisis, Sustainable Development Goal (SDG) 6 broadly aims at ensuring universal and equitable access to safe and affordable drinking water for all by 2030. It includes indicator 6.3.2, seeking to increase the proportion of bodies of water with good ambient water quality towards the overarching target. Accordingly, United Nations (UN) Ambient Water Quality 2021 Update indicates that 60% of water bodies assessed in 2020 have good water quality while agriculture and untreated wastewater continue to pose two of the greatest threats to water quality. The UN also indicates that 3 billion people live in areas with water risk with the quality of water in these areas being unknown due to a lack of reporting, adding that the proportion of world population covered by reporting in the last five years should rapidly increase from its level of 35% in 2020.

Hence, efforts to improve water quality require a focus on enhancing farming practices, increasing wastewater treatment, reducing pollution and increasing water-use efficiency, among other measures. In agriculture, for instance, saline water leads to a loss of food which could feed 170 million people annually, and is responsible for up to 20% of infant mortality in Bangladesh. Overuse of fertilizers, on the other hand, compromises underground water quality. Efforts to increase water quality in industry, as another major consumer, should first and foremost include wastewater management practices such as water treatment and reuse which supports work on water resource recovery. Examples of good practices in this area include a 33% cut in costs at Mexico's San Luis Potosi power plant achieved by switching from the use of groundwater to treated wastewater generating $3 million in annual savings, and $230,000 in annual savings in transporting biosolids generated by a wastewater treatment plant in Cusco, Peru.

Overall, quality of water is a central issue affecting the quantity of water available for terrestrial life as well as economic development. Even though some good practices are present in terms of preserving the quality of water, it is clear that efforts to protect and recover this indispensable resource should be ramped up.

Proportion of Bodies of Water With Good Ambient Water Quality (%)



Source: United Nations SDG Database, TSKB Economic Research

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Climate Change Forms the Backdrop for Disasters

Over the last two decades, there has been a proliferation of scientific literature on the link between human activity and extreme climate events. While increasingly frequent disasters such as hurricanes in the United States and the wildfires in Australia have drawn public attention to the subject, policy makers around the globe are recognizing the need for disaster risk reduction plans.

Rising global temperatures are increasing the atmosphere's capacity to hold moisture, resulting in more storms and heavy rains, but accelerating water evaporation from land and water bodies. This shift in water cycle provokes two types of disasters: droughts and floods.

According to The International Disasters Database (EM-DAT), in the 20-year period covering the years 2000-2019, a total of 3,254 flood and 338 drought events were recorded. These two types of disasters represented 49% of total events, marking a 117% increase in the number of such events compared to the previous 20-year period. Of all those affected by disasters, 76% were affected by droughts and floods. The figures make painful reading; for example, in the last decade alone droughts and floods affected more than 700 million people in India and China, while the 2010 drought in Somalia claimed 20,000 lives, in what was one of the deadliest disasters of all time.

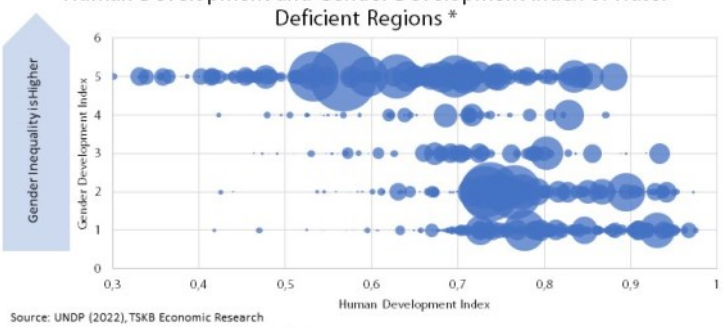
Developing countries are not only more vulnerable to the adverse impacts of climate change than high income countries, but also have a narrower set of instruments to deal with the effects. Thus, the widening gap between projected emissions and the goal of 1.5°C warming poses a greater threat for vulnerable communities in the world. While efforts to decarbonize are intensifying, it is clear that disaster coping mechanisms should be prioritized and strengthened across the globe, particularly in developing countries.

Effects of Water Risk is Not Gender Neutral

The Purple Leverage report, prepared by the Turkish Industrial Development Bank's (TSKB) Economic Research Department, focuses on the importance of women's role in tackling the climate crisis and emphasizes that the impacts of the crisis are not gender neutral. Climate change not only has the potential to widen current inequalities but also brings uneven impacts in access to water. According to a study conducted by the United Nations (UN), areas with a lack of water also suffer from higher gender inequality and have a lower human development index.

The uneven impacts of climate change are also apparent in health. A study conducted by the World Health Organization (WHO) indicates that when access to drinking water is hampered following a drought, women are disproportionately impacted, facing inadequate nutrition and hindered access to economic resources and education due to the reduced time they can allocate for these activities. This is because women bear a heavier social burden following drought or floods than men.

Human Development and Gender Development Index of Water Deficient Regions *



Source: UNDP (2022), TSKB Economic Research
*Balloon sizes indicate population experiencing water stress

Water and Ecosystems: The Tale of a Symbiotic Relationship

The relationship between water and ecosystems is symbiotic. While water plays a critical role in the ecosystem in areas such as supporting biodiversity, forestation, and overall life on earth, ecosystems purify fresh water, regulate flows, supply habitats with nutrients, drive water cycles and provide economic gains in agriculture, energy, and industry.

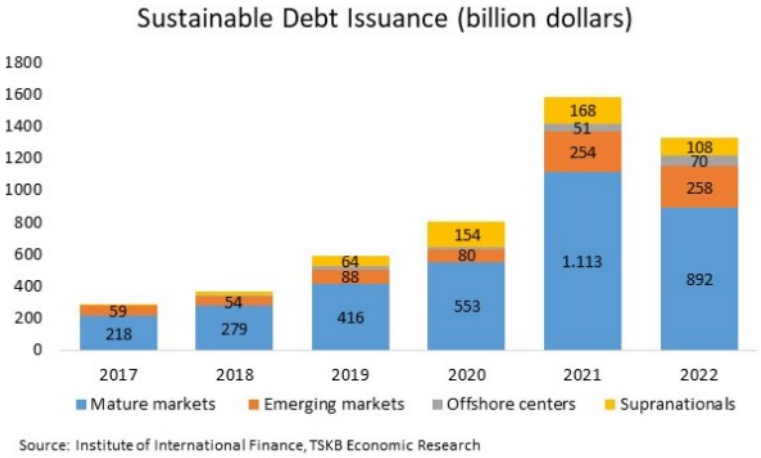
Since ecosystems provided by healthy watersheds and coastal regions constitute "natural infrastructure" in tackling the climate crisis, monitoring the conditions of water related ecosystems such as in mountains, forests, wetlands, rivers, aquifers and lakes turns out to be a key element in protecting this resource. United Nations (UN) data on freshwater ecosystems finds that that one in five river basins recorded a significant change in surface water availability between 2016 and 2021, while more than 80% of wetlands globally have been lost since the pre-industrial era, with only an estimated 10-12 million square kilometers of wetlands remaining. SDG indicator 6.6.1, which monitors changes in water-related ecosystems cited that 21% of the world's water basins are experiencing rapid changes in the area covered by surface water. These changes include both rapid increases in surface water quantity, mainly due to flooding and reservoir growth, and rapid declines due to drought. In Türkiye, the area of permanent water loss since 2000 has been calculated as 387.26 square kilometers (km^2) indicating a decline of 5.24%. On the other hand, areas of seasonal water cover, defined as where water is present for less than 12 months per year, has increased by 26.27% in the same period to 649.17 km^2. Overall, 40% of water basins in Türkiye were observed to experience wide variations in surface water cover as of 2020.

The United Nations Environment Program (UNEP) states that 90% of major disasters since the start of the millennium have been water-related, indicating extensive damage to healthy freshwater ecosystems which serve as natural sponges and buffers to flooding and storm surges. The economic toll of damage to freshwater ecosystems is becoming ever costlier. The Pakistan floods in 2022, for instance, are estimated to have resulted in over $30 billion of losses. The IPCC, on the other hand, warns that due to combined effects of temperature and precipitation could precipitate total falls of 32% in agricultural yields by 2100. Hence, preserving and possibly recovering freshwater ecosystems bring tremendous potential benefits, not only in terms of vitality for life on Earth but also contributing to economic development.

Climate Finance

Sustainable Debt Issuances on Course to Recover

Global sustainable debt issuances remained weak in 2022, declining by 16.2% year-on-year to $1.33 trillion against a backdrop of high interest rates. This was the first decline since 2015 according to figures published by the International Institute of Finance (IIF), and also 25% lower than baseline scenario published by the Institution in early 2022. Sustainable bond issuances, which constituted 65.9% of total issuances last year, declined by 25.2% compared to the previous year and currently stand at $874.9 billion.



Source: Institute of International Finance, TSKB Economic Research

Issuances within emerging market economies (EME) demonstrated a limited increase of 1.5% in 2022 compared to previous year, and reached $257.8 billion. Although issuances in most EMEs decreased in parallel with global market conditions, the share of EMEs increased from 16% to 19.4% thanks to China's strong performance. Issuances in Türkiye also increased by 20.4% compared to 2021, to reach $14.1 billion. This figure placed Türkiye at the top spot among emerging European economies, followed by Hungary and Poland.

The IIF expects a more positive outlook for global sustainable debt issuances in 2023. While the Institution's base scenario forecasts a record $1.7 trillion in new issuances, the optimistic scenario even suggests a $2 trillion level is within reach.

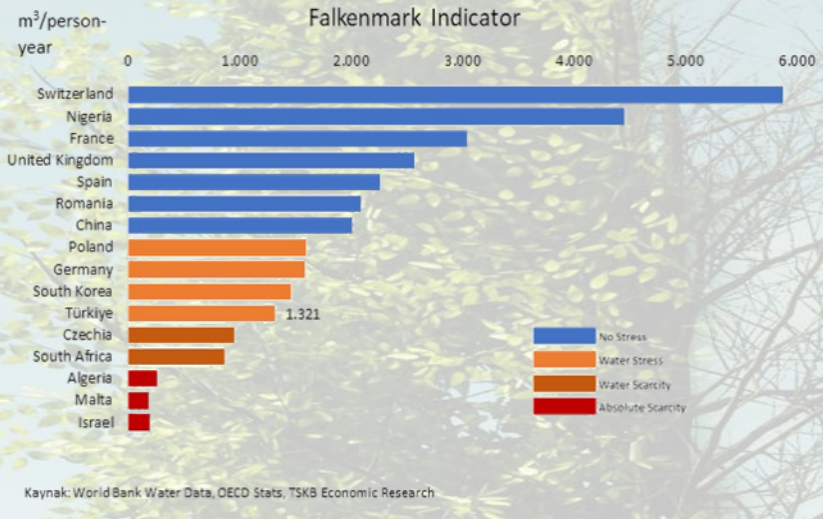
China Could Be the Flagbearer of Green Bond Issuances in 2023

Global green bond issuances are expected to gain momentum again in 2023 and expectations are that last year's postponed issuances will be implemented this year. China, the largest green bond issuer last year, is likely to be the driving force of this recovery. As China's updated Green Bond Principles that were published in July 2022 bring the country's standards more in alignment with international practices, the revision is expected to enhance the country's investor base. Data compiled by the Climate Bonds Initiative (CBI) indicate that around 43% of China's total green bond issuances in 2022 failed to meet international standards.

Brazil's First Ever Green Bond

Brazil announced plans to issue its first-ever green bonds in 2023 to be linked to projects such as sustainable agriculture and energy transition. This follows a failed attempt by the country to issue an Environmental, Social, and Governance (ESG) sovereign bond in 2021. Brazil's new government has pledged to grant new protected status to around 500,000 km^2 of Amazon rainforest, to scale back deforestation, focus on sustainable farming, and align the country's tax code with an aim of shifting to a greener economy. Brazil's last foreign debt issuance raised $2.25 billion in July 2021.

Türkiye is Among Countries Facing Water Stress



Kaynak: World Bank Water Data, OECD Stats, TSKB Economic Research

The Falkenmark Index is one of the most widely used indicators in gauging the availability of water in a region. It is based on the measurement of the availability of renewable water per person. Countries with more than 1,700 m^3 of renewable freshwater per person per year are classified as having no stress according to the index, whereas the index is classified with levels below that threshold at different values. The lower the Falkenmark Index, the higher the water stress.

An observation of fresh water resource potentials of countries demonstrates wide gaps in the distribution of such resources. While countries with high water potential such as Russia, Brazil, Canada and the United States are considered to be water rich, Türkiye is among countries facing water stress with renewable freshwater of 1,321 m^3 per person per year based on 2021 population data. Countries with a lower Falkenmark Index value than Türkiye, such as Czech Republic, South Africa, Algeria, Malta and Israel, on the other hand are among the countries facing water scarcity or absolute scarcity. Water stress is a serious concern in many countries over the world and continues to increase. Even though the Falkenmark Index indicates that some countries do not face water stress, there are important divergences on the basis of region and basin. The United States, for instance, presents a good case for this. While Southern and Southwestern states such as California, Texas, and Arizona face water scarcity, the amount of renewable water available per person is 7,466 m^3/year countrywide.

Climate 101

Turbidity: Turbidity refers to the degree of cloudiness in water which can be caused by silt, sand, mud, bacteria, and other gems as well as chemical precipitates.

Eutrophication: Eutrophication is defined as excess of nutrient in bodies of water mainly coming from land, leading to excessive plant growth, and damaging animal life due to a resulting lack of oxygen.

Insetting: Insetting refers to investments in projects aimed at carbon reduction or carbon removal on companies' own land or the land of their suppliers, instead of buying carbon credits from unrelated third parties (offsetting).

Heat Pump: A heat pump is an electrical alternative to heaters operating with traditional fossil fuels, with units that heat and cool buildings by pumping heat from inside the building to outdoors in warm weather, and from the outdoors during cold weather by compressing it along the way.

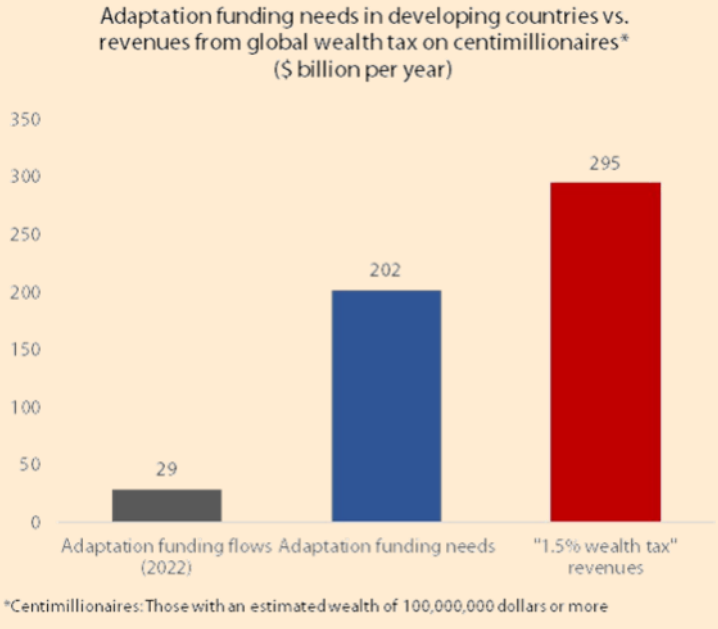
Climate Justice

A Need to Focus on In-Country Climate Inequality

While discussions on climate justice in international negotiations mainly revolve around inequalities between developing and developed countries, the World Inequality Lab warns that carbon inequality within countries accounts for about two thirds of global emissions inequality - indicating an almost complete reversal in comparison to 1990.

Climate Inequality Report (CIR) 2023 demonstrates massive discrepancies among the bottom 50%, middle 40%, and top 10% of global carbon emitters' relative losses, emissions contributions, and capacity to finance global climate action. As the relative losses from the bottom 50% of global emitters comprise 75% of total global losses, their emissions constitute only around 12% of total emissions; whereas top 10% of emitters contribute 48% to total emissions with a relative loss share of 3%. Focusing on their capacity to finance (wealth ownership) global climate action as well, the report finds that the top 10% of global emitters own 76% of global wealth, which can be mobilized to finance climate initiatives.

As the top 10% are responsible for almost half of global carbon emissions, the CIR 2023 report recommended the introduction of progressive capital income taxes, higher rates of inheritance tax, or progressive wealth taxes could generate significant revenues to support vulnerable groups. Within this framework, the report also indicates that the emissions generated as a result of efforts to eradicate poverty are in fact negligible when cast alongside the current emissions of the 1% biggest global emitters. More precisely, the CIR 2023 report found that while lifting the income of one third of global population over $1.9 per day would increase global emissions by around 1%, this figure rises to 5% in $3.2 per day scenario, whereas the top 1% emitters would account for a 15% share of global emissions.



Source: World Inequality Lab, TSKB Economic Research

Hence, the report finds that introducing a 1.5% wealth tax (1.5% for 1.5°C) on global centimillionaires would go a long way in covering the climate adaptation funding needs in developing countries. This would have created revenue of $295 billion in 2020 and would meet the annual adaptation funding needs of $202 billion for the same year - while a mere $29 billion in actual adaptation funding flows were directed to developing countries in the same year. Within this framework, the CIR 2023 also stated that as projected revenues set as a result of ongoing OECD multinational taxation negotiations were mainly directed to high-income (hence least vulnerable) countries, an alternative revenue allocation model with specific reference to climate risk inequality could be more effective in climate action.

Company Highlights

The Corporate world is avidly working on finding solutions to the most pressing environmental risks of our age, including water treatment, waste management, energy efficiency and carbon neutrality. Veolia Group sets an example for these endeavors as it is engaged in several areas related to sustainability with an aim to become the benchmark company for ecological transformation. The company groups its activities under three general headings: water, waste, and energy.

The company's water solutions provided drinking water to 79 million people in 2021. In the same year, the Veolia Group managed 2,750 wastewater treatment plants, 3,367 drinking water production plants and connected 61 million people to wastewater systems. Veolia's water solutions include desalination, advanced wastewater system management, and optimizing the water cycle for industry among many others.

Veolia's desalination activities promote access to drinking water for hundreds of millions of people by combating water stress in arid coastal areas such as the Middle East. Whereas fresh water produced from seawater desalination meets only 1% of global requirements, around 300 million people depend on it. Veolia has a total daily treatment capacity of around 13 million m^3 of water in 108 countries. In its Az Zour North plant in Kuwait, for instance, Veolia has a capacity to produce 136,000 m^3 of water through desalination processes.

When it comes to wastewater management, Veolia Group provides solutions for refining, bacterial disinfection and micropollutant elimination. In Sydney, for instance, the company has met 68% of the Commonwealth Bank building's water needs for air conditioning and garden watering by collecting rainwater and recycling wastewater in a closed circuit. Water used in industrial production, such as for cooling, heating, polishing, cleaning/washing and diluting accounts for about 40% of total water use. Veolia offers a multitude of solutions for industrial water use including a zero-water dairy production for Nestle in Mexico.

Employing nearly 220,000 people worldwide, the Veolia Group generated EUR 28.5bn in revenue in 2021, an increase of 10% compared to the previous year. Given the favorable underlying trends in its businesses, the company expects its solid organic revenue growth to continue for the foreseeable future. Veolia Environment has been included in the France's main stock index CAC 40 since August 2001, and commanded a market capitalization of EUR 20bn as of February 2023.

In Short

A Landmark High-Seas Treaty

The United Nations (UN) Intergovernmental Conference on Marine Biodiversity of Areas Beyond National Jurisdiction (BBNJ), reached an agreement on a legal framework to invest more into marine conservation, and regulate access to and use of marine genetic resources. Better known as the "High Seas Treaty", the agreement marks a huge step towards the 30 by 30 pledge made in Montreal in December 2022 to protect 30% of the planet's lands and inland waters, as well as of marine and coastal areas by 2030. However, critics argue that while creating a legal mechanism for the future designation of marine protected areas is applaudable, exclusion of deep-sea mining from environmental impact assessment measures presents a setback. The agreement needs to be ratified by the parties before coming into effect.

Copper Producers Plan to Become Net-Zero

The International Copper Association (ICA) released a roadmap setting a target for its members to cut direct and indirect emissions by 30% to 40% by 2030, by 70% to 80% by 2040, and reaching zero by 2050. Global copper demand is forecasted to double to 50 million tons by 2050, compared to its level in 2020. The plan also aims for ICA members to gradually reduce their scope 3 emissions by 60% to 70% by 2050 via working with customers. Copper industry is responsible for 0.2% of global greenhouse gas emissions. The decision is aimed at attracting green investments into the sector. The world's largest producer of refined copper, China, on the other hand, has no members in ICA.

Cleaner Textile Production in Türkiye

Ministry of Environment, Urbanization and Climate Change issued a circular on "Clean Production Practices in the Textile Industry". The circular, shared with the governorships of 81 provinces, aims to reduce the oil vapor released from the chimneys of the textile factories to reduce energy consumption and air emissions originating from these facilities. The circular also mandates the reuse of wastewater after treatment, where possible, to save water and energy. It also obligates the collection and reuse of cooling water and wastewater with low pollutant load separately.

BRSA Study on the Impacts of CBAM on NPL Ratio

Banking Regulation and Supervision Agency (BRSA) of Türkiye released a study on the impacts of Carbon Border Adjustment Mechanism (CBAM) on non-performing loans (NPL) ratio, based on data from around 19,000 companies in close communication with the banks, based on the contacts established with these companies. The findings of the report indicate that the NPL ratio of sectors within the scope of CBAM may increase by 0.94 pp , while the NPL ratio of the banking sector may increase by 0.09 pp . The sectors with higher NPL increase potential are aluminum (up 4.48 pp to 6.65%) and iron and steel (up 2.92 pp to 5.05%).

Mass Production of Clean Energy Tech May Explode

The global market size in mass production of clean energy technologies is expected to reach $650 billion annually by 2030 according to the "Energy Technology Perspectives 2023" report published by the International Energy Agency (IEA). The report states that this threshold, which is more than triple the current market size, is conditional on the countries to fully implement their climate and energy commitments. The report predicts that the current employment of 6 million in the production of clean energy technologies may also increase to 14 million in 2030.

FED Study on Large Banks' Climate Risk-Management Practices

United States Federal Reserve (FED) published a study about large banking organizations' climate risk management practices and challenges. The study includes two separate modules: physical risk, as the harm to people and property due to climate-related events, and transition risk, as stresses that may result from the transition to lower carbon economy. A striking estimate in the study is that 30 of the world's major banks, committed an annual $1.2 trillion on average in new green financing, will hit $33.6 trillion in new financing by 2050, which is only about a quarter of what is estimated as needed to reach net-zero emissions.

Companies' Emissions Reporting Are Incomplete

US investment research company Morningstar's Sustainalytics department indicates that most companies do not disclose emissions data despite some improvements in the number and quality of reporting. The company states that for the year 2021, 40% of companies in the company's global ESG database reported scope 1 and 2 data, indicating a 7% increase from 33% in 2020, whereas scope 3 reporting -covering emissions across a company's value chain – has been disclosed by only 24% of companies (up from 19% in 2020). This figure indicates that 60% of companies do not disclose scope 1 and 2 emissions. This figure stands at around 75% for scope 3 emissions.

The EU and the US Aim to Negotiate Trade Agreement on Critical Minerals

The EU's concerns that the US Inflation Reduction Act (IRA) discriminates against European automotive producers resulted in the establishment of a joint task force between the two Parties aiming to align IRA and EU Green Deal Industrial Plan to strengthen and secure supply chains, manufacturing, and innovation on both sides of the Atlantic. During Von der Leyen's visit to Washington D.C. on March 25th, the Parties expressed their intention to negotiate a "targeted critical minerals agreement" to enable specific critical minerals (lithium, nickel, and cobalt) that are extracted or processed in the EU to count toward requirements for clean vehicles covered by the IRA. White House statement on the joint task force also states the necessity of cooperation "to reduce unwanted strategic dependencies in these supply chains, and to ensure that they are diversified and developed with trusted partners."

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