Green development

Mongolian Economy

April, 2022 №01
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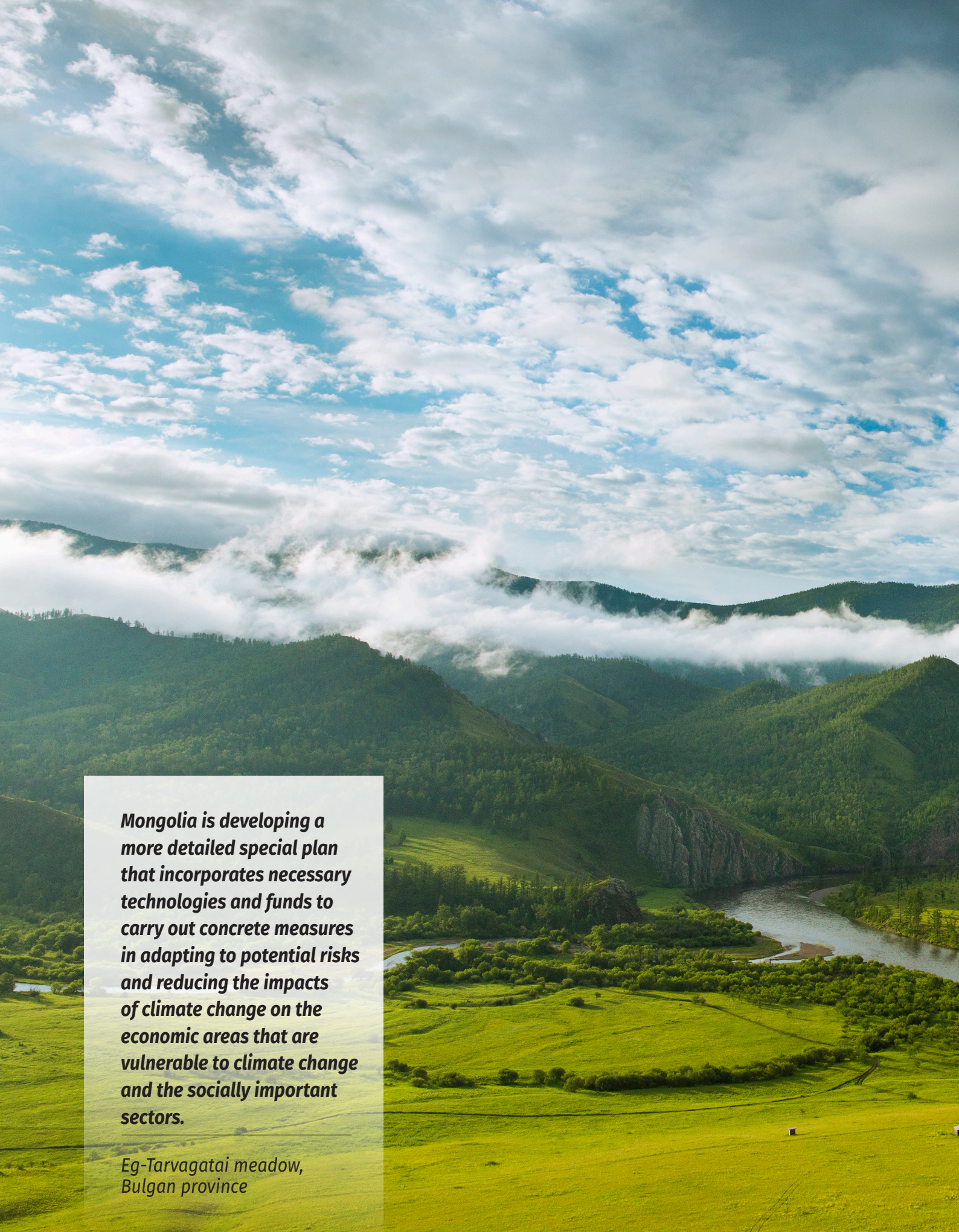
Climate change: BEFORE IT IS TOO LATE



Mongolia is developing a more detailed special plan that incorporates necessary technologies and funds to carry out concrete measures in adapting to potential risks and reducing the impacts of climate change on the economic areas that are vulnerable to climate change and the socially important sectors.

Eg-Tarvagatai meadow, Bulgan province

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Green World

The greener the richer or the richer the greener

T.AMARJARGAL

The creators of a green future

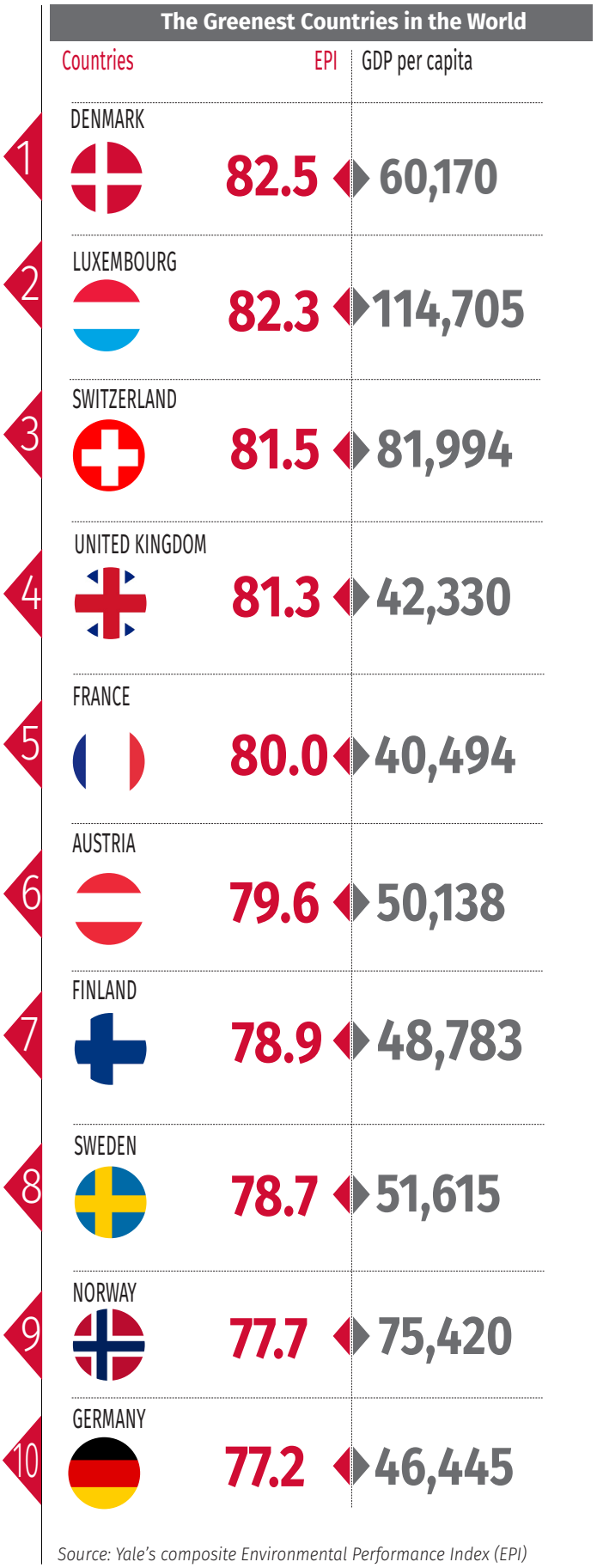
Mankind is rushing forward to a green future. Therefore, a nation that first understands the value of being "green" is living more peacefully and is building a stronger economy. The Scandinavian countries, which lead the world in GDP per capita, are a clear example of this.

Yale University and Columbia University, in collaboration with the World Economic Forum, have developed the Environmental Performance Index (EPI), and assesses how countries' environmental policies and solutions are reflected in real life. Denmark is one of those countries that show the strongest and most stable growth according to this index. This country is leading the world in reducing greenhouse gas emissions, while neighboring Sweden has a perfect experience in waste recycling. Denmark, Finland, the Netherlands and Sweden are also well-known for their excellent wastewater treatment technologies.

The goals that are protecting ecosystems, sustainable forest use, combating desertification, restoring soil degradation, and combating climate change are achieved at 35-38 percent in Mongolia.

In Asia, Singapore leads in this indicator. The country is also a leader in other indicators of a sustainable development. Malaysia is also a good example for other countries with its green and sustainable development policies and plans. The United Nations Development Program's 'Integrating Sustainable Development Goals into Development Planning: Malaysia's Case and Experience' reveals one of the 'secrets' regarding the effectiveness of the country's development program and funding. Malaysia uses a simulation method to estimate the ▶

Tarradalen valley in Badjelannda national park, Sweden



Source: Yale's composite Environmental Performance Index (EPI)

funding needed to achieve the Sustainable Development Goals. For example, they pre-estimate the impact of policies and actions that support green growth, will have on GDP growth.

The fact that countries that lead the world in development are more green raises the interesting question of whether the richer they are, the greener they are, or the greener they are, the richer they are. A country's environmental performance index can show how per capita GDP affects green, but it also shows how much a country benefits from being green. It is not easy for developing countries to reach a leading level in green development and green economies, but it is important to try and make progress from the current situation.

Sustainable Development-World Aspiration

The 2030 Agenda for Sustainable Development was first launched in 2012 at the United Nations Conference in Rio de Janeiro, Brazil. The Sustainable Development Goals are a continuation of the Millennium Development Goals, which were completed in 2015, and were officially launched worldwide on January 1, 2016, when the 70th session of the UN General Assembly approved 17 goals for sustainable development.

The 2030 Agenda for Sustainable Development is a global long-term policy document based upon three pillars of society, economy and the environment. It is not wrong to say that it is the biggest guide to prioritizing green development with sustainable development goals, as it unites countries under the goal of preserving the original image of the world and striving for social and economic development.

The Sustainable Development 2021 report, processed by the United Nations, the World Bank and international NGOs, outlines how the world is once again striving towards sustainable development. According to this report, Finland, Sweden, Denmark and Germany are at the top of the Sustainable Development Goals Index. Finland, the country topped the list with 85.9 points, while Mongolia was ranked

106th with 63.8 points. In terms of achieving the Sustainable Development Goals, countries that are close to Mongolia are Iraq, South Africa, Bangladesh and Laos.

The United States, the world's most powerful economy, is ranked 32nd with 76 points, while China is ranked 57th with 72.1 points. Kazakhstan ranks 59th and Belarus 24th out of 165 countries with 78.8 points after the collapse of the socialist system. Countries that are leading in achieving the Sustainable Development Goals are all but one member countries of the Organization for Economic Co-operation and Development (OECD), which is noteworthy observation. With the exception of Croatia, all member countries of this organization are in the top 20. However, these countries also face challenges in achieving their sustainable development goals, and at least one of them has a "red" score, according to the report.

High-income countries are not making enough progress in sustainable consumption, production and the conservation of biodiversity as well as flora and fauna. Low-income on the other hand are facing significant challenges in eradicating extreme poverty and improving their infrastructure. Our country also faces similar challenges in achieving the Sustainable Development Goals. The goal of reducing poverty and creating flexible infrastructure is at 50 percent, while the goal of creating an industrial structure is only at 15.3 percent.

The National Statistics Office also said that the goals related to the environment are well behind schedule. The goals of protecting and rehabilitating the world's ecosystems, sustainable forest use, combating desertification, restoring soil degradation, protecting biodiversity, and combating climate change are only 35-38 percent complete. However, it should not be forgotten that the half of the time to reach the deadline for achieving the Sustainable Development Goals has already past. If our country does not take decisive action, it will not be able to fulfill its obligations to the world in the remaining eight years. Therefore, it is time for Mongolia to learn from international best practices and experience and take decisive action. ■

The 2021 SDG Index scores

Countries / Rank	Rank	Score
FINLAND	1	85.9
GREAT BRITAIN	17	80
BELARUS	24	78.8
SOUTH KOREA	28	78.6
USA	32	76
RUSSIA	46	73.8
VIETNAM	51	72.8
CHINA	57	72.1
KAZAKHSTAN	59	71.6
MONGOLIA	106	63.8

Source: The 2021 SDG Index

Climate change

CHALLENGES ARISING FROM CLIMATE CHANGE TO THE WORLD AND MONGOLIA

Z. BATJARGAL
SPECIAL ENVOY OF MONGOLIA ON CLIMATE CHANGE FOR THE UN FRAMEWORK CONVENTION ON CLIMATE CHANGE

According to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), the global average temperature has increased by 1.1°C above the pre-industrial level (the global average temperature between 1850 and 1900) over the last decade. Moreover, the report has also shown that global warming is indeed accelerating based on concrete scientific evidence. The concentration of carbon dioxide (CO2), a key greenhouse gas (GHG) that drives climate change, in the atmosphere was higher than at any time in the last 2 million years. The world's firns and glaciers are retreating unprecedentedly in the last 2000 years and the Arctic sea ice area is shrinking more rapidly than at any time in at least the past 1000 years.

Since the 1940s, the time when regular meteorological observations and measurements began in Mongolia, the average temperature increased by 2.4°C and the average precipitation rate declined by 6.4 percent in the past 80 years. Especially, in the less populated Gobi region, the CO2 concentrations have increased by 16.5 percent in the last 20 years.

The following are examples of the real impacts behind those figures on the development of our country and livelihoods. Between July to August of 2021, almost all continents of the world suffered from wildfires caused by heatwaves and droughts. At that time, the smoke from Siberia wildfires reached most regions of Mongolia. Not only that, flooding occurred on four continents across 385 locations in that July and over 920 people died because of floods and landslides. Meanwhile, the speed of hurricanes and storms that swept several states in the US reached over 60 meters per second in August of 2021. Over 60 people died as a result of Hurricane Ida which hit eight states in the US. For Mongolians, who live on the open steppe and build lightweight houses like the Mongolian yurt, it's difficult to imagine such damaging and intense hurricanes. In fact, there is a chance of such hurricanes extending outwards and reaching our country.

Regarding Mongolia, the country had abundant rainfall and as a result benefited from lush pasture and hay, as well as all the conditions for a rich harvest in place in 2021. Unfortunately, several regions were flooded and the death toll almost reached 40 including eight children. The above-mentioned IPCC report, other research and data show that the current situation is expected to get even worse in the future. Humanity did detect that global warming had started at the end of the 18th century. To illustrate, climate studies have begun to be regarded as a field of science from the late 1940s and the warming effect of CO2 has become a point of discussion since 2009. It could be said that we wasted our time thinking that global warming might be a natural cycle, the earth going through cold and warm periods. But, we weren't far behind science. In fact, the very first carbon dioxide observatory was opened at the end of the 1950s. Also, the project called International Geophysical Year accelerated research on climate and laid the groundwork for satellite launch, digital signal processing, and the introduction of processing technologies in research, analysis and practical use of meteorological data.

In 1961, under Resolution No.1721 adopted by the UN General Assembly, World Meteorological Organization (WMO) established the World Weather watch with an aim to conduct comprehensive studies on the earth's atmosphere and to provide observations of the current state ▶

of the earth and its climate. Later in 1974, the Sixth Special session of the UN General Assembly called on WMO to undertake a special study on climate change. Thereby, the report of the Executive Committee Panel of Experts on Climate Change established by WMO was released in 1977 and concluded that speculation on "the global cooling" is incorrect and on the contrary confirmed the expectation of global warming.

The first World Climate Conference of 1979 laid the foundation for the World Climate Program. After the session in 1987, upon the recommendations of the World Meteorological Congress, its

Secretary-General Professor G.O.P. Obasi and the Executive Director of the United Nations Environment Programme paved the way for the establishment of the Intergovernmental Panel on Climate Change (IPCC) which was established in 1988. The IPCC takes on the high responsibility of making assessments of the global and regional climate situations, providing a scientific basis for measures necessary in mitigating the scenarios disastrous to humankind and shedding light on the adaptation measures to reduce the risks and impacts of climate change. The organization released its first climate assessment report in 1990 and its sixth report this year. Moreover, the fact that IPCC was awarded the Nobel Peace Prize in 2007 is a clear indication that the rest of the world supports the organization and values its contributions.

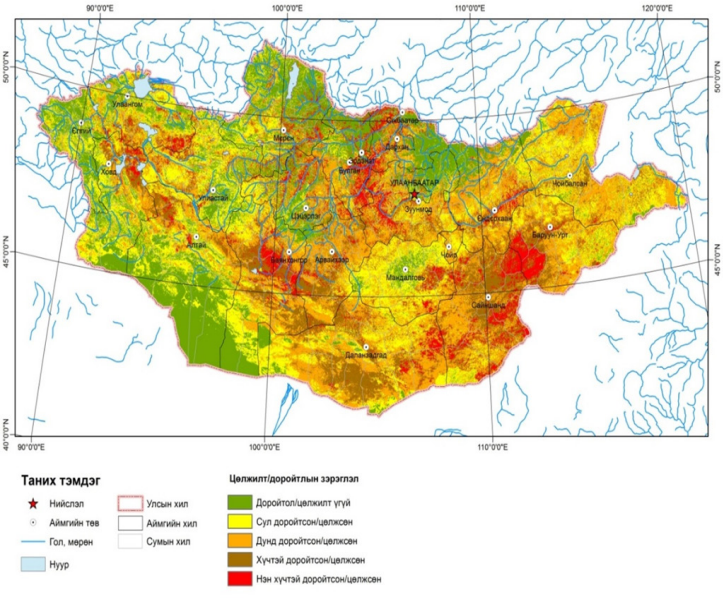
In 1990, the statement from the second World Climate Conference highlighted the importance of establishing a Global Climate Observing System (GCOS) and finalized the plan for the creation of independent observation systems Global Terrestrial Observing System and Global Ocean Observing System in 1995. Their successful operations and work are playing the main role in observing and assessing climate change.

The very first international legally binding document that allows the implementation of the United Nations Framework Convention on Climate Change (UNCCC) was the Kyoto Protocol which was signed in March 1998 and came into force after seven years on February 16, 2005. The Kyoto Protocol commits industrialized countries to reduce their GHG emissions by five percent below their 1990s level. However, due to the so-called "economic impact", countries didn't join or joined the Protocol too close to the deadline. Hence, we didn't achieve the expected results of the Protocol which led to an extension of its deadline to 2020. The Paris Agreement that followed the Kyoto Protocol didn't classify countries based on their level of development and didn't impose a strict obligation on countries, but set a goal to limit global warming well below 2°C, preferably to 1.5°C. In addition to that, the Agreement stipulates that countries must mobilize 100 billion USD to assist the least developed countries and small island countries that are vulnerable to climate change by 2020. This article is difficult to achieve but it is legally binding. Nonetheless, 196 countries that attended the UN Climate Change Conference held in Paris agreed to adopt the Paris Agreement on the last day of the conference, on February 12, 2015. What is more, the Agreement came into force within a year on November 4, 2016. The pledges to reduce GHG emissions of countries signatory to the Paris Agreement are below the targets to achieve the goal to limit global warming to not only 1.5°C but even 2°C. The delayed 26th Climate Change Conference was held in Glasgow on November 1-12, 2022 and encouraged countries to set higher National

Desertification and land degradation

76,8%

of Mongolia`s territory is under moderate and high desertification



Altai Tavan Bogd mountain. 1905. Photo by V.V.Sapojnikov

Determined Contribution (NDC) targets.

It's important to note that Mongolia has been active in approving and adopting laws, protocols and agreements necessary to carry out the goals of the above conventions on climate change; joining discussions for officializing such documents and putting all its efforts into increasing the effectiveness of implementation measures. Mongolia is fulfilling its obligations as a member of the international community. Furthermore, Mongolia's involvement opens a possibility of finding the right and most optimal solutions for challenges faced by our country which is considered as one of the vulnerable nations to climate change due to the fact our lifestyle and tradition is fully dependent on nature and weather.

In terms of challenges, most of them are directly correlated to human-induced factors and some are indirectly or not at all correlated to human activity. According to the assessment of experts, in the last 20 years, low precipitation years continued in the Mongolian soil, warming temperatures enhanced evaporation and the climate has been getting drier. Simultaneously, Mongolia is highly likely to keep experiencing lower rainfall rates in the summer and higher snowfall rates in the winter which might put pressure on Mongolia's main source of food and income, animal husbandry and agriculture.

Potanin and Alexandra glaciers gradually decreasing in size

550 meter retreat in 1945-1989,
185 meter retreat in 1989-2001,
45 meter retreat in 2002-2014

In general, scientists explain that as well as warming temperatures and droughts, the frequency and intensity of extreme weather such as sudden cold weather, heavy snowfall and rainfall, periodic strong winds, storms and wildfires caused by heat waves, are all attributed to climate change.

Mongolia has updated its Nationally Determined Contribution (NDC), a contribution to fulfilling the obligations under the Paris Agreement. The updated NDC includes revised goals of NDC that were submitted to UNFCCC before the Paris Agreement went into effect in 2015; higher ambition to reduce greenhouse gas emissions, actions to limit climate-related impacts and risks, and detailed measures to adapt to the impacts of climate change and new implementation roadmap. The Ministry of Environment and Tourism of Mongolia is at the stage of carrying out its plan to implement the above NDC measures. To meet the goals of NDC and efficiently implement various measures for reducing GHG emissions and adapting to climate change, the Government of Mongolia is utilizing all levers of international cooperation by cooperating with

international development organizations, international financial institutions, intergovernmental and non-governemntal organizations, neighboring countries and other partnering countries.

It was estimated that Mongolia could reduce its GHG emissions by 22.7 percent or by 16.9 million tons of CO2 equivalent by 2030 by implementing measures to reduce the GHG emissions in major emitting sectors. The energy, agriculture, manufacturing and waste sectors represent 66.7, 31.3, 1.4 and 0.6 percent of total GHG emissions correspondingly. Within the framework of current and future development

Altai Tavan Bogd mountain. 2015-09-01

Between 1940-2014, size of Mongolia`s glaciers have reduced by

29.9 *percent*

models, Mongolia is projected to reduce its GHG emissions by 7.2 percent by 2020, 12.3 percent by 2025 and 22.7 percent by 2030, but at this moment, we're not making consistent progress because of certain reasons.

Mongolia is developing a more detailed special plan that incorporates necessary technologies and funds to carry out concrete measures in adapting to potential risks and reducing the impacts of climate change on the economic areas that are vulnerable to climate change and the socially important sectors. The new sources of energy like green hydrogen, reduction of air pollution as well as GHG and movement to plant trees have many benefits including restoring vascular plants which could slow down water evaporation and desertification caused by climate change.

Conclusion: Regardless of the level of development, climate change is affecting the livelihood of citizens all over the world, economies, and social development. On top of that, the current COVID-19 pandemic has become a global threat to humankind that cannot be prevented by vaccines. Having said that, the world can overcome the above challenges if all countries can come to an agreement to turn those challenges into opportunities without turning them into argument points like ideology, political debate or economic dispute. ■

Heavy rain affected 1-8, 12-19 khoroos of Bayanzurkh district, July 2016

Severe flooding in Umnugobi province resulted in death of 37 people, including 8 children, July 2021

Green policy

PRESIDENT OF MONGOLIA U.KHURELSUKH: I BELIEVE GREEN GROWTH FINANCING WILL INCREASE

Under the auspices of the President of Mongolia, a 'Green Finance Regional Forum' was held at Government palace on 29-30, March. We are delivering an abridged version of the opening remarks made by the President of Mongolia.

Dear distinguished guests,

Climate change has become an existential threat to humanity and scientists, researchers, world leaders and the international community are paying a lot of attention to this problem.

Though each and every country has been making an effort to fulfill their goals and climate change pledges, the negative impact due to climate change is still intensifying.

Humanity is facing a pandemic crisis and COVID-19 made us aware that we must take bold and decisive steps to benefit the world and change our attitude towards nature. Today, the world is facing major health, social and economic challenges, but we must not rest on our laurels in our fight against climate change.

Over the past 170 years, global surface temperatures have risen by 1.09 percent, and many biological species have become extinct or are seriously endangered. Despite emitting only 0.1 percent of the world's greenhouse gas emissions, Mongolia is one of the countries that is most affected by climate change. Specifically, climate change has intensified over the past 80 years in Mongolia, with the average air temperature increasing by 2.25 degrees, which is twice the global average.

In Mongolia, almost 77 percent or 120 million hectares of our total territory is affected by desertification, and half of the total area is classified as severely affected. Compared to 1990, the number of climate change-related natural disasters has tripled in Mongolia in the last decade. 66 countries in the world have pledged to reduce their greenhouse gas emissions to zero by 2050. In a document dated 2016, Mongolia set a goal to reduce its greenhouse gas emissions by 22.7 percent by 2030. During the UN Climate Change Conference 2021 held in Glasgow, UK, Mongolia announced that it is possible to increase the target level to 27.2 percent by introducing advanced technology and innovation and increasing green financing.

With the aims of increasing renewable energy and further improving the energy supply in Northeast Asia, Mongolia supports the Asia Super Grid Initiative and is cooperating with countries in the region using abundant solar and wind resources. Mongolia has also launched a national movement to plant and protect One billion trees by 2030 and will focus on increasing greenhouse gas absorption, reducing deforestation and land degradation, promoting rehabilitation activities, and preventing water scarcity.

We, Mongolians say “Water is a source of life, and trees are a source of water”.

Experts consider that the One Billion Trees movement will have a significant impact on reducing dust storms that are causing ecological and health threats not only in Asia but also in the Americas. The movement will have multiple socio-economic benefits such as creation of jobs, reduction of poverty, improvement in food supply, increased production of seedlings, fertilizers and pesticides as well as others. It will also play an important role for the protection and reproduction of rare and endangered medicinal plants, animals and keep the ecosystem in balance.

The involvement, leadership and cooperation of international investors and the domestic financial sectors is critical to green growth financing. Scientists, researchers and industry experts advise that the government should establish financial mechanisms such as a Green Investment Corporation, a Green Fund against Climate Change, and a Green Loan Guarantee Fund to support green growth. At a time when international organizations, investors and donors are paying special attention to environmental issues and prioritizing green growth, Mongolia needs to increase its green financing and improve its structure.

We, regional countries, international organizations, governments, the private sector and citizens should all look in one direction and implement coherent policies and decisions in order to combat climate change, desertification and dust storms, protect mother nature and pass on a green future to future generations.

I would like to emphasize that mutual understanding and cooperation between the countries of the region are of paramount importance in achieving this goal. ■

In Mongolia, almost 77 percent or 120 million hectares of our total territory is affected by desertification, and half of the total area is classified as severely affected. Compared to 1990, the number of climate change-related natural disasters has tripled in Mongolia in the last decade. 66 countries in the world have pledged to reduce their greenhouse gas emissions to zero by 2050.

Green policy

L.OYUN-ERDENE: WE WILL SUPPORT INCREASING THE FLOW OF GREEN DEVELOPMENT FINANCING

We are bringing you a summary of the speech delivered by The Prime Minister of Mongolia, L.Oyun-Erdene, Chairman of the National Committee for Climate Change and Desertification Reduction, given at the 'Green Finance-Regional Forum'.

Dear Mr.President, honored guests and delegates,

We, Mongolians, must build a progressive model of green growth in line with global trends without any delay, based on our traditional culture of living in harmony with mother earth.

Due to climate change, the Arctic Ocean is melting, sea levels are rising sharply, and urban areas are experiencing flooding.

It is true that climate change is a limiting factor not only for development but also for life.

That's why the Green Development Revival is a component of the 'New Revival Policy' of Mongolia, which aims to lay the foundation for a successful implementation of the 'Vision-2050' long-term development policy, remove the barriers to development, and expand the economy.

When the 'New Revival Policy' was approved by parliament, I said, "Governments around the world and international banks and financial institutions have announced plans to reduce greenhouse gas emissions and move to a green economy. It is a difficult challenge for our country which generates its state budget from coal, but it allows us to move to an advanced green growth policy without delay".

The main principle for implementing the 'New Revival Policy' is to create a new economic structure based on the active participation of citizens, businesses and international investors.

The world is shifting towards a trend where indicators of how countries and businesses are doing green growth are one of the key conditions for attracting foreign investment to the country.

There is no doubt that in line with international trends, we will be able to define a mother earth friendly model of green growth in line with the 'Sustainable Development Goals' and the Climate Change Cooperation, adopted by the United Nations General Assembly.

At today's forum, the 'Billion Tree National Movement Support Fund' was introduced, and the initial capital of the fund is being raised by the banking sector, led by Mongol bank and it is the first big start of green financing.

Within the New Revival Policy, the government will provide all-round support for the increase of capital flows for sustainable and green development and the successful introduction of financing instruments in Mongolia such as Green Financing, Green Sustainable Loans, Green Sustainable Bonds, Green Insurance, and Green Fintech.

As the Prime Minister of Mongolia and Chairman of the National Committee for Climate Change and Desertification, I would like to express my commitment to fully implement the Green Development Revival goals of the New Revival Policy and make a real contribution to the great deeds of mankind and prolong life on mother earth and for humanity. ■

Minister

B.BAT-ERDENE: SUPPORT FROM THE PRESIDENT, THE PRIME MINISTER AND THE SPEAKER ARE A GREAT BOOST FOR THE MINISTRY

"Green Development" magazine invited B.Bat-Erdene, the Minister of Nature and Environment for its very first issue on the green environment and talked about how the newly appointed minister sees the environment and green growth in Mongolia.

-You were appointed as the Minister of Environment and Tourism three months ago, yet in this short period, many seminars and policy discussions were organized. We all know that Green development policy is included in the New Revival Policy. A green finance regional forum was also held. How do you see the sector's policies and activities?

-The results and efforts of the Ministry (MET), in charge of environmental policy, are reflected in the current reality. Climate change and global warming have become a serious issue. In Mongolia, land degradation has reached almost 77 percent. The number of rivers and streams that are drying up and disappearing is twice the number of rivers that are being restored.

We have forgotten to take care of the environment while putting too much emphasis on the economy for the past 32 years. We know that China, Japan and Korea have been raising issues related to dust storms. We are losing a lot of rich soil and land due to these yellow dust storms every year.

The President of Mongolia, U. Khurelsukh initiated the "Billion Tree" national campaign and said he would spend more than 50 percent of his time being the president on environmental issues. Prime Minister L.Oyun-Erdene is bringing the revival of the Green Growth Policy to the table by integrating it into the New Revival Policy.

The tourism sector is included in the Industrial Revival Policy. The government is paying considerable attention to the environment. The

United Nations, international organizations and countries in the region have taken notice that Mongolia is beginning to pay more attention to its environment at a state level.

Parliament is going to make the necessary changes and amendments to the related laws and policies. For example, the Speaker of Parliament, G.Zandanshatar demands clarification on the amendments to the Law on Forest, Law on Water, and Law on the Environment from the ministry. Such support from the President, the Prime Minister and the Speaker are a great boost for the MET. Now we need to work out results that should be achieved in the near future. By 2030, a great future is anticipated for us. By implementing the Billion Tree project, many problems associated with water, forests, biodiversity, medicinal herbs and wildlife of Mongolia could be solved.

In general, I should say many problems in the environmental sector are expected to be figured out by that time.

-The Green finance regional forum, whose main agenda was green development, was held on 29-30 March. On the agenda, the main topic was green financing. Could you give us some more detailed information regarding green financing?

- The private sector in cooperation with banking and financial institutions have established a “Green Fund”. Many organizations, such as commercial banks, non-banking financial organizations, the Bank of Mongolia, and insurance companies also support this fund.

The Green Fund is a financial mechanism that supports business entities that work in the area of tree planting and growing seedlings.

These businesses and individuals don`t want any grants or free support from us. They only want soft loans, equipment, technology and innovation. In this case, the government will provide an opportunity for them to purchase the necessary technologies with a soft loan. This seems to be the perfect example of a public-private partnership.

When we talk about public-private partnerships, we sometimes forget the public. We need to consider participation of the public and professional organizations in this field. The point is, the state will set a clear policy, create a mechanism for private businesses to interact with each other and give policy support to the public.

The Prime Minister emphasized that the New Revival Policy is all about the revival of business entities and business people. Only such revival will guarantee the revival of the economy of Mongolia.

-You visited 17 aimags and received firsthand information related to environmental issues. What is the current situation?

-Land degradation has reached more than 97 of its territories in some aimags and around 76 percent in a few aimags. This is a very serious problem. Land degradation, soil pollution, desertification and water scarcity are all above the average level in our country. Desertification has reached almost 77 percent of Mongolia's land area.

The “Billion Tree" national campaign has become a wake-up call for the sector, its professionals and work force. It also raised awareness among the public that we must protect the environment and our biodiversity. We have become accustomed to seeing our development only through the lens of progress in the economy. Environmental issues have been neglected for 32 years. Developed countries allocate a certain amount of their state budget to environmental issues. They don`t want to live in an environment

where there are no green zones and the air is polluted.

Global warming is affecting Mongolia more and more. According to the World Health Organization, global warming should not exceed 1.5 degrees from pre-industrial times. If it is higher than this by a single digit, we will see catastrophic events. However, our country has warmed by 2.2 degrees which is 0.7-1.0 degrees higher than many other countries.

-You mean the red light is on?

-It is even more serious than that.

-Though we didn't pay much attention to this excessive warming at all.

-We need to look forward rather than dwelling on the past. By 2030, certain results must be achieved. The next eight years are a vital period and we cannot afford to just think that everything is business as usual

Now, we need to talk about water. Without water, trees will not grow. There is a significant amount of soil degradation due to overgrazing. With regard to this, it can be said that there was a lack of coherent government policies. In the past, government policy leaned toward the idea that if you have more livestock, you will be richer. This result was achieved. Though, on the other hand, this policy has caused serious damage to the environment. Now, more and more herders are looking for hay and fodder for their livestock. There are many herders who are constantly on the move in the search for better pastures due to overgrazing.

First of all, we are working on a strategic plan to restore forests and water resources. In the past, many international projects and programs have been wasted due to a lack of counting the economic costs. If they were successfully implemented, the environment would not be in such a bad state. Hence, trust in Mongolia by international organizations has declined. A lot of money has been spent without any benefit. As a result, soft loans, funding and investment from donors for Mongolia have come to a halt.

We live in one world. That is why Russia, China, Japan, Korea and other European countries are just as concerned about our environmental issues.

-What is the public participation in green development? Too many people seem to be indifferent and they do not really care about it.

-Not only Mongolians, the whole world is not giving sufficient attention to this issue. In our opinion, economic incentives must always consider environmental issues to achieve the desired results. For example, we need an evaluation system. This will be an incentive for citizens to plant trees. Let's give a bonus for each tree planted and grown by our citizens. The e government should encourage it. Let's direct some taxpayers 'money to this initiative.

While traveling through the countryside, I found out that a tree was planted for every newborn baby. There was also a movement in Bayankhongor aimag where trees are planted in honor of the deceased. These are some simple examples of how we need to think creatively about the economic incentives.

-You are in charge of the ministry which has received so much blame lately. How do you feel about that?

-Putting personal impressions aside, I should say three young managers were appointed at the same time at the leadership of the Ministry of Environment and Tourism. That's an advantage. One of the positive things I saw when I came to the sector was that there were a lot of international projects and programs, namely projects to combat global warming and climate change.

We have a limitless opportunity to communicate with the world on the green earth and environmental protection. When I meet with ambassadors from more than 20 countries, everyone agrees on the fact that considering environmental issues is vital. For example, if Mongolia's water supply is in trouble, then the water supply of our neighbors will also be in danger, and if Mongolia does not solve its yellow soil problem, desertification will spread throughout the region.

As for tourism, people travel to gain knowledge and have a unique experience. In Mongolia, we have the advantage of showing our beautiful nature to the world.

Rangers are people who really work hard. Their monthly salary is around 500,000 MNT and they spend around 9 or 10 months of the year in nature. Still, they almost never complain about their salary. This is such an advantage.

All we have to do now is to take advantage of these big goals and work for a Green Revival Policy. ■

Global warming is affecting Mongolia more and more. According to the World Health Organization, global warming should not exceed 1.5 degrees from pre-industrial times. If it is higher than this by a single digit, we will see catastrophic events.

Rare animals

KHOMYN TALYN TAKHI

B.SHURENCHIMEG

Wildlife numbers are on a rapid decline due to changes to the ecosystem related to a number of issues such as global warming and climate change, mining activity, infrastructure development, agriculture, animal husbandry and poaching. A clear example of this is the Przewalski horse (in Mongolian known as 'takhi'), the world's only wild horse that once roamed the Mongolian Gobi, and their numbers have declined sharply since the middle of the last century and by the 1960s it was no found in the wild, only a small number of takhi were left in foreign zoos. Scientists, individuals and organizations who love nature worked together to save this unique species of wild horse from extinction and successfully managed to reintroduce it to its native country of Mongolia.

The fact that takhi could survive the harsh climate of Mongolia, while they had been away from the wild for almost a century, was a question many scientists struggled with. However, as a result of the hard work and the struggle of non-governmental organizations, scientists and researchers working to reintroduce and protect the takhi, those doubts soon disappeared, and the wind, soil and grass of the area were perfectly adapted to takhi, proving it to be a native animal of Mongolia. The successful reintroduction of takhi is a major contribution of Mongolians to the protection and reintroduction of large mammals.

This year marks the 30th anniversary of the reintroduction of Przewalski horses. Currently, there are about 850 Przewalski horses in Mongolia in three separate regions. One of those regions, Khomyn tal, was selected as the reintroduction site for horses and preparations began back in 1999. Consequently, in 2004 the French Association for Przewalski horses and the World Wide Fund for Nature launched a reintroduction and conservation project to bring the first 12 takhi horses to Khomyn tal. In 2014, the 'Khomyn talyn takhi' ▶

NGO was established and it successfully assumed the honorable role of protecting the Przewalski horses. Today, the reintroduced Przewalski horse population has grown to more than 120. This is the result of the multi-parties' collaboration that initiated, supported and implemented this project.

Khomyn Talyn Takhi NGO operates to study reintroduced Przewalski's horses, protect their habitats, implement the land management of the newly established Khomyn Tal National Park, establish independent and sustainable conservation funding, and develop cooperation. This non-governmental organization is a real example of a good partnership in which the protection of state special protected areas is performed by management contracts, reducing the workload of the state and contributing to the country's economy.

The reintroduction of the takhi did not end with the transportation and release of them into the wild. Therefore, the Khomyn Tal Takhi NGO conducts observations and research on the behavior, appearance and health of the reintroduced Przewalski horses and protects their habitats. In addition, internal relations of the herd, behavioral monitoring, and the creation of a database, ensuring the integrity of the fence where the Przewalski horses were reintroduced, patrols and keeping livestock out are all part of their daily activities.

With the implementation of the Przewalski horses' reintroduction program, local people have joined the network of active rangers, volunteered to participate in conservation activities such as patrolling, protecting forest resources and exchanging information. They consider the takhi as being valuable and having an appeal like one's own. In order to protect the future habitat of the growing takhi herd, the Mongolian Parliament took 411,000 hectares around Khomyn tal under state protection as part of a National Park in May, 2020.

In addition to protecting nature and wildlife, the Khomyn Talyn Takhi NGO is also actively involved in the future development of the area and improving the livelihoods of the local people.

For example, they developed and implemented Durvuljin soum's sustainable development plan, established herder partnerships to improve the livelihoods of local people and generate additional income for herders, as well as supporting the export of their felt products to France. Moreover, in order to protect and use wild sea buckthorn resources, a small number of sea buckthorn processing factories have been established, and a certain percentage of the proceeds from the production of pure sea buckthorn oil and concentrated juice for domestic and foreign markets is being spent on environmental protection.

Furthermore, summer training for children of Durvuljin soum has been organized on a regular basis since 2010 in order to prepare the next generation that is friendly to nature and fauna. A child who participated in the first summer training has become a veterinarian and is working side by side with the Khomyn Talyn Takhi NGO team. This is the proud result of the summer training program.

With the reintroduction of the takhi in Khomyn tal, rare wild animals have been protected not only in Mongolia, but also in the world. A new census was undertaken to estimate the number of Mongolian Saigas and Dalmatian Pelicans, and about 150 saigas, 800 Mongolian antelopes, 40-50 black-tailed antelopes and about 70-80 ibexes were counted, which is a small increase in comparison to previous years.

Reintroduction of takhi by regions and their population

Although the reintroduction of the Przewalski horses has been successful, there are some challenges regarding conservation around Khomyn tal National Park. For example, some people underestimate the value and the importance of protected areas and the overuse of pasture and water resources to raise livestock for personal gain without following the proper rules, is putting a lot of pressure on wildlife habitat. Besides, there are many people who have financial interests in mining and natural resources, and the law regulating them is relatively weak. It is also important to note that when reintroduced Przewalski horses' numbers are relatively small and at a vulnerable level, there are some risks such as cross breeding with domestic horses and exposure to natural infectious diseases transmitted by livestock. ■

Consequently, in 2004 the French Association for Przewalski horses and the World Wide Fund for Nature launched a reintroduction and conservation project to bring the first 12 takhi horses to Khomyn tal. In 2014, the 'Khomyn tal takhi' NGO was established and it successfully assumed the honorable role of protecting the Przewalski horses.

Today, the reintroduced Przewalski horse population has grown to more than 120.

Green business

TSETSII WIND FARM IN GOBI

B.SHURENCHIMEG

According to the International Renewable Energy Agency (IRENA), countries around the world produced 2,179 GW of renewable energy, which is more than coal-fired power stations generated. Central Asia's renewable energy production has doubled in the last five years, reaching 918 GW in 2017.

In 2017, a year of rapid growth in renewable energy around the world, Mongolia increased its renewable energy capacity by 50 MW for the first time by generating electricity using winds from the Gobi and supplying it to the Central Region's integrated power grid.

This major development was carried out ▶

by 'Clean energy Asia' LLC and its shareholder 'Newcom' LLC, a subsidiary of the 'Softbank' Corporation of Japan, 'SB energy', European Bank for Reconstruction and Development, and the Japan International Cooperation Agency (JICA).

In 2008, a detailed study of wind resources was undertaken in Tsogttsetsii soum, Umnugobi province. A six-year study found that at an altitude of 80 meters, the average wind speed is 8.4 meters per second, which has great potential to generate renewable energy. With this amount of wind resources, it is possible to build wind farms with a capacity of up to 250 MW.

Clean Energy Asia LLC would like to invest a total of 128 million USD in a 50 MW wind farm project in the South Gobi, and in September 2016, it signed a financing agreement with the investor parties: European Bank for Reconstruction and Development and the Japan International Cooperation Agency (JICA) to begin the construction.

The company completed the 'Tsetsii' wind farm three months ahead of schedule. About 500 people were employed during the construction, 95 percent of whom were Mongolians. The international average time to build a wind farm is 1-1.5 years, while the 'Tsetsii' wind farm was built in an even shorter period of time. In particular, construction began in November 2016 and was completed by August of the following

Supply of electricity to main power grid

Unit: thousand kWh

year, and in September more than 32 km of overhead transmission lines, substations, and wind turbines were commissioned and connected to the central regional power grid.

With his development, Clean Energy Asia LLC has demonstrated that Mongolia's renewable energy sector has limitless potential, including sufficient wind resources in the Gobi Desert for the international community. It has also demonstrated the importance of the role of the private sector in the development of the energy sector.

The Tsetsii wind farm has a capacity to produce 218.4 million KW of electricity annually. In other words, it is possible to supply electricity to about 100,000 households. From 2017 to today, the Tsetsii wind farm has been supplying 2-3% of the total consumption of the Central Region's integrated energy network. It should be emphasized that the amount of energy imported from Russia declined by that amount.

Newcom group, the company's investor, first built the 50 MW Salkhit wind farm in Sergelen soum, Tuv province, and is the largest private "green" power producer, having commissioned the Tsetsii 50 MW wind farm in Tsogttsetsii in late 2017.

Since the commissioning of the Tsetsii wind farm, a total of 600,000 tons of greenhouse gases have been reduced, saving 1 million tons of coal and 5 million liters of water. If a coal-fired power plant with the same capacity was built, it would emit 600,000 tons of greenhouse gases, burn 1 million tons of coal and use 5 million tons of water in 2 years and 3 months to generate the same electricity and heat.

As part of its social responsibility, Clean Energy Asia LLC implements a number of environmentally friendly projects and programs in partnership with Umnugovi province's Environmental Protection Agency.

For example, five students from low-income families in Siirst Bag, Tsogttsetsii soum, are awarded annual scholarships, and regular campaigns are conducted to provide fodder for the winter and to promote public health.

At a time when the use of renewable energy is setting a new global trend, Clean Energy Asia LLC's team is optimistic about the future. Therefore, in recent years, they have turned their attention to major international ambitions and long-term goals, such as joining the Asian super grid and exporting energy. The purpose of the Asian super grid is to connect the power systems of Asian countries and share the vast resources of renewable energy. In our country, the starting point of this is the Tsetsii wind farm.

During the winter peak load in the energy sector, the Tsetsii wind farm supplied a total of 661.6 million KWh of electricity to the central region's grid, supplying about 73,500 households annually for 4 years and 3 months.

Electricity consumption increased significantly in 2021 due to the government's decision to reduce electricity bills. At the peak of the evening of December 17, 2021 (1,387 MW), wind farms generated 90 MW or 6.5 percent of total consumption.

Another advantage of this wind farm is that it can be expanded to 250 MW based on the growth of electricity demand. In case it is extended to this extent, it will generate 1,092 million KWh of electricity and provide 400,000 households with "green" energy from inexhaustible natural resources. ■

RESULTS OF TSETSII WIND FARM SINCE ITS OPERATION

600 thousand tons
OF GREENHOUSE WERE REDUCED

1 MILLION tons
OF COAL WAS SAVED

5 MILLION tons
OF WATER WAS SAVED

Sustainable Development Goals

TAPAN MISHRA: TO ACHIEVE THE SDGS BY 2030, MONGOLIA SHOULD TRANSFORM ITS ECONOMY

United Nations Resident Coordinator Tapan Mishra was the very first guest of "Green Development" magazine.

-Dear Tapan Mishra, thank you for accepting the invitation to our magazine for an interview.

-Thank you very much for your invitation. I am delighted to be the guest on the first edition of the Green Development by the Mongolian Economy. The birth of this magazine was at a very crucial time as Mongolia set out an ambitious goal to recover better with its New Revival Policy. One thing that I have been emphasizing over the years is that Mongolia has a huge potential for green development and to accelerate the implementation of Sustainable Development in Mongolia.

-Mongolia is trying to move from a brown economy to a sustainable green economy. How do you evaluate this transition? What are the biggest challenges facing this transition?

-With the bounty of 230-260 days of “нарны гэрэл” or bright sunlight in this land of open blue skies during the year and windy steppe and desert-steppe regions, Mongolia has a vast potential to move to a greener economy based ▶

on sustainable energy sources, such as wind and solar energy. Its strategic location between the two major economies and along major regional economic corridors connecting to Central Asia and beyond that creates large market opportunities for renewable energy and the country's green development. However, Mongolia's development path is still characterized by its heavy reliance on the mining sector, including fossil fuels. Although Mongolia contributes only 0.09 percent of the global greenhouse gas (GHG) emissions, levels are still high in terms of emissions per capita and emissions intensity per GDP. In fact, Mongolia ranks 8th with its contribution several times higher than the global average per capita. 60 percent of all emissions in Mongolia come from burning coal which emits more than twice as much carbon dioxide as natural gas to generate the same amount of energy.

Although the share of green loans is still very small (1.2% as of the end of 2021, BoM), Mongolia made a significant step in promoting green finance by approving the Mongolia Green Taxonomy in 2019.

At the same time, phaseouts from coal and brown growth often take decades. For example, it took the United Kingdom 46 years to reduce coal consumption by 90 percent from its peak in the 1970s. There are a few biggest challenges to steering away from coal. First, coal-based thermal power plants are long-lived assets with a minimum design lifespan of 30 to 40 years. Once built, it is extremely difficult to get rid of them unless there are dramatic changes in the costs of renewables or policy interventions. In September 2021, the UN Secretary-General António Guterres in "Our Common Agenda" asked the Member States to shelve plans for any new coal-fired power plants after 2021. Second, the industrial use of coal is hard to replace with other energy sources because of weak incentives and insufficient carbon pricing. Lastly, moving away from coal typically means losses for the domestic mining industry and its workers. For instance, in the United States, the rapid transition from coal to natural gas led to a decline in coal mine employment and a record number of bankruptcies among coal mining companies. Therefore, the Government of Mongolia would have to make tough decisions when shifting toward a green economy, including stricter environmental policies, carbon taxes, and affordable energy substitutes.

-Citizens and the private sector will play an important role in green growth. In what areas do we need to focus to increase their participation in the growth?

-Mongolia has a very vibrant civil society and private sector, which have been already actively engaged in promoting green growth and climate action in the country. Businesses and investors could play a greater role to advance green supply chains and leading innovation in clean technologies and resource efficiency, thereby contributing to fulfilling the country's nationally determined contributions. However, a lack of access to finance might hinder their efforts to invest in environmental solutions. On the other hand, the private sector might be also reluctant to invest, in part, due to a lack of proven and readily available business models in the areas of green growth and climate action. Therefore, it is important to raise awareness and demonstrate the business case in order to stimulate demand for clean technologies. It is also critical to increase capital availability and adequacy for private sector projects dealing with green growth and climate action, such as small-scale adaptation-related projects, innovative green growth projects, through direct financing, de-risking, and risk-sharing mechanisms which improve the risk-return profile of investments, provision of medium to long-term finance to cover the longer payback of relatively new green technologies, etc. I am pleased that these issues and solutions have been discussed at the Green Finance Regional Forum hosted by H.E. Khurelsukh, the President of Mongolia, on 29-30 March 2022, where the government adopted and signed the National Sustainable Finance Roadmap.

At the same time, I would like to note that businesses and citizens can also be drivers of negative environmental outcomes through their impacts on pollution and land degradation, especially when national environmental policies and governance need to be strengthened. In this regard, I would like to particularly highlight the importance of the implementation of SDG 12 to ensure responsible consumption and production. There are many aspects of consumption that with simple changes can have a big impact on Mongolian society. For example, reducing food loss and waste can contribute to environmental sustainability by lowering production costs and

increasing the efficiency of the national food systems. Additionally, businesses need to better understand the environmental and social impacts of products and services. Here, I would like to particularly highlight the UN Global Compact, the world's largest corporate sustainability initiative, that can also help Mongolian businesses to align their strategies and operations with universal principles of human rights, labor, environment, and anti-corruption, to contribute toward the SDGs implementation.

-On the other hand, the government's green growth policy and direction must be clear. However, civil society organizations have criticized the policy documents for being too general. What should we do to have clear and appropriate policies? Do international organizations consider Mongolia's green development policy satisfactory?

-Indeed, Mongolia has a progressive regulatory and policy framework for green development and the protection of natural resources. There are over 40 laws and regulations regarding the green economy and natural resources in the country. In 2014, the government adopted its pillar document on green development - the National Green Development Policy, which sets ambitious targets up to 2030 for water resource and land management, using renewable energy, solid waste management, reducing CO2 emissions, etc., which were further integrated into the first phase of Vision-2050. In addition, the new government development action plans and programs, including a New Revival Policy, all include policy measures aimed at helping the country to recover greener and better from the current COVID-19 crisis. At the same time, the success of the implementation of the national green development priorities will depend on further government commitment to increase institutional capacity to deliver on the adopted laws and policies; ensure adequate budget allocations and increase public investments in green recovery and sustainable development. Without this, there is a risk that the national development policy documents remain declarative. In addition, enabling policy and the legislative environment with the policy continuation and consistency is instrumental for attracting private investment. Green investment is expensive, and it requires stability and safeguards.

-Mongolia does not offer enough green loans and financing to its private sector. What are the opportunities to increase green financing in the future?

-Although the share of green loans is still very small (1.2% as of the end of 2021, BoM), Mongolia made a significant step in promoting green finance by approving the Mongolia Green Taxonomy in 2019. Since 2020, the Bank of Mongolia has successfully collected green loan statistics and applied environmental and social risk management for banks. However, the banking sector alone will not be able to cover all green financing needs. Therefore, it is important to expand the green finance initiatives to the non-banking financial sector and develop green capital markets. The National Sustainable Finance Roadmap adopted at the Green Finance Forum envisages concrete measures to kick-start the green bond market in Mongolia. In addition to this, the Government of Mongolia can also implement stronger fiscal, monetary, and administrative incentives for green finance and discourage continued investment in carbon assets. The UN agencies, particularly UNDP, work closely with the Ministry of Finance of Mongolia to finalize the Integrated National Financing Strategy that envisages such measures as introducing a carbon tax and other environmental taxes. Also, UNEP partners with the Mongolian Energy Economics Institute to understand the magnitude of energy subsidies in the country, their economic, social, and environmental implications, and suggest to the government possible options for energy subsidy reform.

Based on the Sustainable Development Report, the overall SDG Index score for Mongolia was 63.8 in 2021, ranked 106th out of 165 countries.

-Environmental issues play an important role in sustainable development. However, air pollution and desertification remain significant problems in our country. What further measures should Mongolia take to make progress in these areas?

-The Government of Mongolia has been already implementing measures to reduce air and environmental pollution such as banning the use of raw coal other than in thermal power plants; encouraging the supply of improved fuel to ger areas; subsidizing electricity in the ger districts to encourage electric heating; replacing coal-fired heat only boilers at schools with gas- or electricity based heating, preferably with

renewable energy; reestablishing an anti-air pollution fund; collecting air pollution fees; and expanding air quality monitoring and conducting air pollution monitoring in ger districts. These policies resulted in a relative decrease in the average concentration of PM2.5 levels in Ulaanbaatar in 2020. At the same time, the role of economic instruments in creating effective incentives for changes in polluters' behavior has remained modest. While the magnitude of energy subsidies in Mongolia is to be determined, it appears that local coal consumption is being heavily subsidized with energy tariffs that are well below the cost-recovery level. The air pollution tax rate is too low, and the excise duty on motor fuels has not been used as an instrument for more rational use of petrol and diesel. At present, Mongolia imports 95 percent of all fuel, and the current Sulphur content is one of the highest in the region.

Transition to green growth in Mongolia will require significant investment in low-carbon, climate-resilient infrastructure.

As for the desertification, the situation is even more alarming. 76.8 percent of the country's total territory is affected by some degree of desertification and degradation, of which 22.9 percent is affected severely and very severely degraded. The livestock population tripled since the nineties when Mongolia embarked on a market economy, vastly exceeds the carrying land capacity, and has resulted in severe overgrazing and land degradation. In 2020, Mongolia re-introduced the Law on Livestock Tax for improving livestock and pasture management, however, its implementation should be re-enforced. At the same time, the enforcement of the tax collection mechanism should be aligned with the pastureland management activities at the herder community level, since the tax revenue should be spent for sustainable pastureland management and reduction of risks associated with drought and dzud. I also would like to commend the President's Billion Tree initiative and the establishment of the Billion Tree Fund to support the implementation of the program, which will help combat diversification and contribute to land restoration.

-The Sustainable Development 2030 Program is in its seventh year. In other words, it's almost halfway through. Will Mongolia be able to achieve its sustainable development goals and objectives in the remaining time? In your opinion, what are the most difficult goals to implement?

-Two years into the global pandemic, unprecedented human and economic toll, and uneven and inequitable recovery insufficiently geared towards achieving sustainable development, threaten decades of development gains across the world. These will further delay the urgent transition to a greener, more inclusive economy, and throw progress on the SDGs even further off track. The current year, in my view, will be decisive as to whether or not the world can make the transformations needed to deliver on the promise to achieve the SDGs by 2030. This includes Mongolia. Unfortunately, we now face additional challenges such as conflict situations in other countries, which may have an adverse impact on the Mongolian economy and further constrain a fiscal space for investment in sustainable development.

Based on the Sustainable Development Report, the overall SDG Index score for Mongolia was 63.8 in 2021, ranked 106th out of 165 countries. This is 1.9 percent below the regional average. While there was good progress with regard to health, education, and social protection indicators, the 'planet' related goals and targets had a significant data gap to assess the progress. This particularly relates to consumption and production patterns, climate change, and land management. Available data shows relative progress in improving water and sanitation and access to affordable and clean energy, and regression in reducing land degradation targets. Under the 'prosperity' targets, Mongolia struggles to ensure inclusive economic growth and tackle inequality. This particularly relates to increased levels of unemployment and informal employment, labor productivity, and raising population perceptions of inequality and discrimination. There are also increasing challenges related to access to infrastructure, particularly to public transport in Ulaanbaatar. If Mongolia is to achieve the SDGs by the deadline of 2030, it should transform its economy, which is much broader than structural change. Economic transformation under the 2030 Agenda goes beyond productivity growth looking at a wider range of issues and processes, including urbanization, demographic transition, changes in institutions, etc., which is already envisaged in Mongolia Vision 2050 and is integrated with social development and protection of the environment.

There is also a need to close the financing gap between political ambition set in the national development programs and development financing by creating the right incentives for private sector investment and increasing the efficiency of public spending.

-Mongolia has the worst record of supporting innovation and developing infrastructure according to the National statistics office of Mongolia. But these are the main drivers of development. Where do we need to focus to make progress in this area?

-Transition to green growth in Mongolia will require significant investment in low-carbon, climate-resilient infrastructure. The private sector, including investors from capital markets and firms, could help bridge part of the financing gap for sustainable infrastructure. While institutional investors, such as sovereign wealth funds and other investment funds, are at the early development stage, they may play a critical role in financing sustainable infrastructure in Mongolia. I know that there are ongoing discussions about the establishment of the national sovereign wealth fund, which the United Nations fully supports and integrated into the Integrated National Financing Strategy. At the same time, I would like to emphasize the importance of a well-designed governance structure for sovereign wealth funds with appropriate checks and balances to ensure the efficiency of infrastructure investment. As regards innovation, Mongolia has a large and underutilized potential to leverage disruptive technologies for green development. In this regard, I would like to highlight the investment in Digitalization, with e-Mongolia and Digital Nation Strategy that can meaningfully contribute towards a paperless green economy and enable access to efficient and effective service to citizens, even in distant and remote parts of the country, leaving no one behind. Given that private sector actors are widely recognized as leaders in innovation in clean technologies and resource efficiency, there is a need for the government to create incentives for research and innovation in the private sector and a favorable business environment to attract know-how and advanced technologies.

-What countries have made the most progress in achieving their sustainable development goals and objectives so far? Can you share their lessons and experiences with our readers?

-According to the Sustainable Development Report published by Prof. Jeffrey Sachs and his team, the Nordic countries - Finland, Sweden, and Denmark – were the top three ranking countries with the highest SDG Index scores. This comes as no surprise, as the Nordic countries are often used as role models for good governance, inequality, education, sustainability, and economic policy, regularly topping quality-of-life rankings. The Nordic model has developed over the centuries with the evolution of Nordic culture. The citizens have a high degree of trust in their government and a history of working together to reach compromises and address societal challenges through democratic processes. The Nordic model is paid for by some of the highest tax rates in the world. However, high tax rates are not the most revealing feature - in the US, for example, the personal income tax rate is higher than in the Nordic countries. The key feature is that the Nordic countries levy top personal income tax rates on upper-middle-class earners, not just high-income taxpayers. Such income tax systems help ensure greater income equality and the availability of sufficient budget resources to invest in the welfare state. However, the key to effective, inclusive, and sustainable development is good governance that needs to be institutionalized. ■

Green practice

CATHERINE IVKOFF: WE WILL BE FOCUSING ON THE GREEN ECONOMY

T.AMARJARGAL

"Green Development" magazine spoke with Ambassador of Canada to Mongolia Catherine Ivkoff on green growth and finance.

-Thank you, Ms. Ambassador, for accepting our invitation. To begin our interview, please share with us the main goals and objectives of the green growth policies of Canada, and what have been the biggest results since Canada started pursuing green development?

-First I would like to thank you for the opportunity to discuss these important issues with you. The main green growth policy of Canada is called the "Pan-Canadian Framework on Clean Growth and Climate Change". The main goals and objectives of this plan, and the goals and objectives of all of Canada's green growth policies, are for Canada to meet our emissions reduction targets, grow the economy, and build resilience to a changing climate. The Government of Canada developed the Pan-Canadian Framework in 2016, in consultation with Indigenous peoples and provinces and territories, and taking into account the views of Canadians across Canada.

The Framework outlines over 50 concrete measures to reduce carbon pollution that are projected to reduce emissions by 227 million tonnes in 2030, which would be the greatest drop in emissions in Canada's history. The Pan-Canadian Framework has resulted in the creation of new jobs across Canada in fields including energy efficiency, electric vehicle charging infrastructure, public transit, and the development of new technologies.

Since 2015, the Government of Canada has put in place transformative policies and invested $100 billion in climate action and clean growth. By focusing on green development and fostering innovation and green jobs, and by working with like-minded countries, Canada is building a more resilient, sustainable, and competitive economy.

-Another important topic we should consider is green finance which lately has become the main agenda at the international level. How is Canada managing its green funding portfolio?

-Canada's increased commitment to climate finance recognizes that urgent action is needed to address the interconnected crises of climate change and biodiversity loss, which disproportionately affect the poorest and most vulnerable. Funding will

support developing countries in cutting pollution and building climate resilience.

At the G7 Leaders' Summit in 2021, Canada doubled its previous commitment to international climate finance, pledging $5.3 billion over five years. This commitment will be carried out between 2021 and 2026 and includes increased funds for adaptation and biodiversity co-benefits.

Canada is the eighth largest donor to the Green Climate Fund (GCF), an operating entity of the financial mechanism of the United Nations Framework Convention on Climate Change (UNFCCC) and one of the principal mechanisms for developed countries to deliver on international donors' Paris Agreement commitments to support mitigation and adaptation efforts in developing countries. Canada has contributed $600 million CAD since 2015 to the GCF, including for programming focused on addressing Mongolia's climate and clean energy goals. By supporting the GCF, Canada is helping to promote the paradigm shift towards low-emission and climate-resilient development pathways.

In addition, in Asia, Canada's $200 million contributions to the second phase of the Canadian Climate Fund for the Private Sector in Asia support efforts to pursue a low-carbon and climate-resilient development path for the region. This includes gender-responsive activities related to water supply and management, agriculture and forestry, land use management, natural resource management, resilient infrastructure, coastal protection, disaster risk management, clean and renewable energy, sustainable transport, and waste management. Over the life of the Fund, Canada's contribution is expected to leverage up to two times its amount in private sector investment and support up to 100,000 beneficiaries in adapting to the effects of climate change. The Fund is also expected to reduce or avoid greenhouse gas emissions of up to 18 megatons, which is the equivalent of removing about 3.5 million cars from the road for one year.

-What government regulations and policies are being implemented to foster nature while actively supporting the businesses?

-In Canada, fostering nature and environmental protection go hand in hand with economic development. We recognize that in order to keep Canada's economy strong and resilient, we must preserve our natural environment—there is a direct connection here.

Canada's efforts in combating climate change and fostering nature at home are guided by our strengthened climate plan. "A Healthy Environment and a Healthy Economy", is the federal plan to ensure that Canada meets and exceeds its current greenhouse gas reduction target for 2030 under the Paris Agreement.

This plan dates from 2020 and builds on the Pan-Canadian Framework on Clean Growth and Climate Change. It contains 64 strengthened and new federal policies, programs, and investments to cut pollution and build a stronger, cleaner, more resilient, and inclusive economy. "A Healthy Environment and a Healthy Economy" is the cornerstone of the Government of Canada's objective in creating jobs, and restoring employment to pre-pandemic levels, while at the same time focussing on climate action and clean growth.

This plan has five key components. The first is cutting energy waste. This means supporting green building solutions and energy efficiency solutions for homes. This will cut pollution, create green jobs, and make life more affordable. This will also make the places in which Canadians live and gather more comfortable, and we will pay less to provide power to these buildings.

The second key component is making clean, affordable transportation and power available in all communities. To do this, we will expand the supply of clean electricity by investing in renewable clean energy and technology. We will also promote the use of cleaner modes of transportation, such as zero-emission vehicles and transit. This will ultimately make our cities healthier and less congested.

Third, we will continue to put a price on pollution. Canada's approach to carbon pollution pricing has proven that it is realistic to meet the country's economic needs and environmental goals at the same time. The price of carbon pollution will gradually rise through 2030 while providing direct subsidies to households.

Since 2015, the Government of Canada has put in place transformative policies and invested $100 billion in climate action and clean growth.

The fourth action area is building Canada's clean industrial advantage. To ensure that Canadians will have well-paying jobs for the long term, we must support Canadian companies in their innovation and their development of low-carbon products, services, technologies, and solutions that the world needs. Through policies, incentives, and investments, Canada will accelerate the work being done by companies and innovators to cut pollution and move to a cleaner economy, preserving and creating sustainable new jobs.

The fifth key component of our plan is embracing the power of nature. The government of Canada plans to plant two billion trees and better manage, conserve, and restore our natural spaces. This will cut pollution, make communities more resilient to extreme weather events, and create thousands of jobs for biologists, urban planners, nursery growers, tree planters and technicians. This is a priority we share in common with Mongolia and President Khurelsukh's initiative to plant one billion trees in Mongolia.

In addition, the Government of Canada also tabled legislation enshrining a net-zero emissions target for 2050. Canada is taking strong action to fight climate change by making investments to accelerate our path to a 100% net-zero electricity future. Reaching net-zero emissions is what science says the world must achieve—and so that is our objective.

Canada has contributed $600 million CAD since 2015 to the GCF, including for programming focused on addressing Mongolia's climate and clean energy goals.

-Canada has very nice green cities and national parks. What do Canadians do in order to preserve beautiful nature and green spaces?

-Canada is home to 25% of the Earth's wetlands and boreal forests and 20% of its freshwater. Canada has the longest coastline in the world, taking into account our coasts on the Atlantic, Pacific, and Arctic Oceans. Canada is also home to precious habitats for birds, fish, and mammals. In this regard, Canada has a special responsibility to preserve these precious natural resources.

More than 2 million square kilometers of Canada's lands and oceans are already protected or conserved, but we are not stopping there. The Government of Canada is committed to conserving a quarter of Canada's lands and freshwater (totaling almost 2.5 million square kilometers) and a quarter of Canada's oceans (1.44 million square kilometers) by 2025, and to working toward conserving 30% of each by 2030. In total, that would be almost 4 million square kilometers of protected lands, lakes, and oceans in Canada – an area 2.5 times the size of the whole country of Mongolia.

Parks Canada plays a key role in our conservation efforts. Parks Canada is the oldest national parks service in the world. We recognize that the parks and protected areas in Canada are an important, nature-based component of the solution to climate change because they foster healthy ecosystems. Parks Canada works with Indigenous communities across Canada as key partners in conserving nature. For more than 110 years, Parks Canada has administered a system of national parks, historic sites, and marine conservation areas which now comprises 171 national historic sites, 47 national parks, and five national marine conservation areas.

Now, Parks Canada will also be the steward of a new national urban parks program. There is a growing recognition of the importance of urban parks as essential places for conservation, recreation, learning, and mental and physical well-being. This is particularly important given that over 70% of Canadians live in urban centers. The Government of Canada is investing $130 million, through the National Urban Parks Program, to work with partners to create a network of national urban parks that will expand access, while protecting nature, in our urban centers. Parks Canada will work with a wide variety of stakeholders including municipalities, provinces, Indigenous partners, and conservation organizations, to identify opportunities to create or enlarge national urban parks in urban and near-urban environments across Canada. Expanding access to and protection of nature in urban centers brings significant results. Nature acts as a buffer against extreme weather events, nature absorbs and traps carbon dioxide, protects against flooding, and can prevent the loss of biodiversity.

-Canada is a world leader in green growth. How does Canada share its green growth experience with other countries?

-Canada has a long history of working internationally to tackle global challenges. Through Canada's leadership in the G7/G20, the United Nations, multilateral development banks, and other fora, Canada has consistently pushed for increased global ambition in addressing climate change and environmental issues. We have shared our green growth experience with other countries in many ways. Here, I will give specific examples in three areas: some highlights of Canada's multilateral work, our international development assistance work in climate-smart agriculture (CSA), and our expertise in clean technologies.

Canada's multilateral work has led to inclusive free trade agreements that ensure that high environmental standards are maintained as trade is liberalized, and that support the trade of climate-friendly goods and services. Examples of such trade agreements include Canada-European Union Comprehensive Economic and Trade Agreement (CETA), Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), and Cana-

At the Golden Eagle Festival in Bayan-Ulgii province. 2020

da-United States-Mexico Agreement (CUSMA).

In 2017, Canada co-founded the Powering Past Coal Alliance (PPCA) with the United Kingdom. Three years after its launch, the PPCA has positioned itself as a driving force behind the global phase-out of coal-fired electricity and the United Nations Secretary General's call for no new coal after 2020. It has grown to over 110 members, including both national and sub-national jurisdictions and an increasing number of private sector actors, as well as strategic partnerships with leading philanthropic organizations. The PPCA is driving the global market shift towards clean and sustainable energy.

Agriculture is one of the most vulnerable sectors to climate change but is also a major source of global greenhouse gas (GHG) emissions. Climate-smart agriculture (CSA) is an agricultural model that addresses the interlinked challenges of agricultural growth, food security, and climate change through a triple-win synergy of sustainable production, climate change adaptation, and climate change mitigation.

Since its inception at the 2010 Hague Conference on Agriculture, Food Security, and Climate Change, CSA has become the principal model of agriculture for working at the nexus of climate change, economic growth, and agriculture. It is a model of agriculture that seeks to optimize the following three objectives simultaneously: sustainably increasing agricultural productivity and incomes; adapting and building resilience to climate change, and reducing and/or removing greenhouse gases emissions.

Canada's international development assistance supports poor and vulnerable farmers, especially women farmers, to adopt CSA tools and technologies to improve natural resource management, agricultural production, and market access.

COVID-19 has propelled a green recovery, with economic recovery programs across the world highlighting new ambitious climate targets and the need to stimulate economic growth through investments, regulatory frameworks, and policies supporting clean technologies and their adoption. Canada has numerous strengths in the cleantech sector. Canada's leading clean technologies include solutions in renewable energy, water and wastewater, energy storage, energy efficiency, smart grid, hydrogen, carbon capture, utilization and storage (CCUS), climate-smart agriculture, and waste-to-value. These sub-sectors are important areas for building collaboration with partner countries. In that regard, many of the initiatives being organized by the Embassy of Canada in Mongolia will be focusing on the green economy.

-Thank you so much for giving this interview. All the best to you.

-Thank you for this opportunity. I hope that this discussion about Canada's actions and initiatives related to green development will be of interest to your readers. ■

Green business

XAC BANK, THE FIRST GREEN BANK IN MONGOLIA

Говьсүмбэр аймгийн Сүмбэр сумын 10МВт-ын хүчин чадалтай нарны цахилгаан станц барих төслийг НҮБ-ын Уур амьсгалын ногоон сангийн эх үүсвэрээр ХасБанк санхүүжүүлж, 2019 онд ашиглалтад оруулав.

XacBank is the first bank that can be described as a green bank in Mongolia. The bank has established the first green financing mechanism linked to reduce air pollution, reduce greenhouse gas emissions and develop renewable energy.

"People, Planet, Prosperity"

These are the three pillars that define Xac Bank's vision and mission. It can be said that the bank has been aware of its ethics and responsibilities in conducting its policies and activities within the framework of these principles. For example, in accordance with the pillar principle of "Planet", it is the first bank in Mongolia to create financial products that support green businesses and environmentally friendly development, and to establish an Eco Banking department within its corporate structure. The EcoBank department was the first of its kind in Asia. This was in 2009.

XacBank also announced back in 2007 that it would join the UN Global Compact to implement the principles of environmentally friendly and healthy social development, while demonstrating its commitment to not-financing environmentally harmful businesses through eco-banking.

The bank's first green financing project was aimed at reducing air pollution. Immediately after the establishment of the Eco Banking Department, the "Eco Product Sales Program" was initiated and implemented. Within this framework, energy-efficient stoves and Ger insulation were distributed to Ger area households in Ulaanbaatar. The program has affected 80 percent of Ulaanbaatar's households, and since 2009 143,000 energy-efficient stoves and about 20,000 were sold to households in Ger area with a discounted price and as of its result the coal consumption decreased twofold.

To implement this program, to trade in ▶

greenhouse gas emissions reductions, the bank has worked with Micro Energy Credits and Impact Carbon. As a result, in the fall of 2009, Xac Bank became the first Mongolian bank to receive compensation for greenhouse gas emissions reductions according to G.Tuul, Director of Xac Bank's Eco Banking Department. This was the beginning of productive work that has made a significant contribution to reduce air pollution and greenhouse gas emissions through establishing an eco-product department and providing green loans.

In December 2012, Xac Bank received a $ 20 million loan from the Global Climate Partnership Fund S.A. This was the foundation's first investment in Asia.

Since 2013, it has been offering relatively low-interest financing to small and medium-sized businesses, large corporations and project implementers that are energy efficient and reduce greenhouse gas emissions.

Within this program, many activities such as training, brochure handouts, and providing management advice are regularly implemented in order to introduce the basics of green finance to citizens and businesses, and furthermore install a new culture for every citizen and business entities to combat and prevent from air pollution, environmental and soil degeneration.

The bank's most sold service is the eco-car loan implemented between 2014 and 2018. At the time, the loan not only helped to upgrade old cars and replace them with more eco-friendly cars, but was also a major solution to reduce urban air pollution. In particular, it has reduced greenhouse gas emissions by 8,000 tons per year, saving one household MNT 1.4 million per year in fuel costs.

XacBank has been a leader in contributing to global issues that are climate change and greenhouse gas emissions, and has taken the lead in leaving a green future for coming generations. For example, in October 2016, XacBank was selected as a national implementing agency accredited by the United Nations Green Climate Fund (GSF). The Fund finances global greenhouse gas reduction and climate change adaptation through its accredited institutions. And Xac Bank became the first accredited private commercial bank not only in Mongolia but also in the world.

The bank also received an initial $ 20 million financing from the United Nations Climate Green Fund to support the production and consumption of renewable energy and energy-efficient products.

XacBank became the first commercial bank to finance the construction of a renewable energy power plant. The project, to build a 10 MW solar power plant in Sumber soum, Govisumber aimag, was funded by sources from the United Nations Framework Convention on Climate Change and commissioned in 2019. With a total investment of $ 17.6 million, the solar power plant supplies 15,395 MW of electricity annually to the grid. As a result, greenhouse gas emissions have been reduced by 12,270 tons, saving 171 million liters of water annually.

XacBank is now planning to expand its program for private housing loan programs to a new level emphasized by G.Tuul, Director of Xac Bank's Eco Banking Division. A feasibility study has been approved for the construction of an energy-efficient private town away from Ulaanbaatar to keep it free of traffic congestion and air pollution.

It is the first green bank in Mongolia to proudly declare itself a “Green Bank” in the domestic and international financial markets as a result of these environmentally friendly green projects and programs aimed at reducing air and soil pollution. ■

Firsts of XacBank

1	2	3	4	5	6
First Green Bank of Mongolia	*Mongolia`s first Eco banking department was established in 2009*	*First Mongolian bank to receive compensation for greenhouse emissions reductions*	*Received first investment in Asia from Global Climate Partnership Fund S.A*	*Accredited by the UN Green Climate Fund as a first national implementing agency*	*First Mongolian commercial bank to finance the construction of a renewable energy power plant*