

NATIONAL HUMAN DEVELOPMENT PAPER 2024



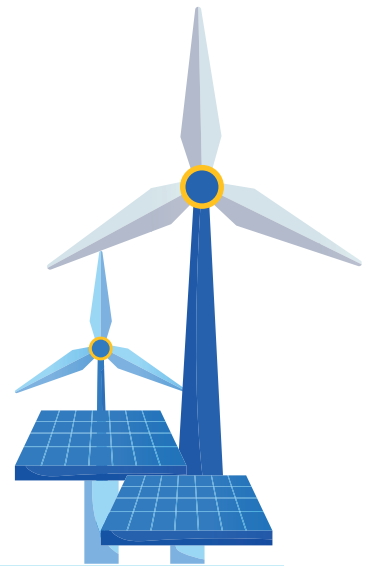
A Just Energy Transition for Human Development in Mongolia

OVERVIEW





A JUST ENERGY TRANSITION FOR HUMAN DEVELOPMENT IN MONGOLIA



Mongolia has made steady progress in human development – with industrial advances driven largely by the production and export of coal and copper. But in recent years progress has faltered, and the intensive burning of fossil fuels has damaged health and added to emissions of greenhouse gases. The dependence on fossil fuels has also limited employment options. Mongolia needs an energy transition from fossil fuels to renewables. But since it could have a disproportionate impact on different groups, so there should be a fair and just approach that leaves no one behind. Such a ‘just energy transition’ would strengthen human development, setting Mongolia on a low carbon emissions path to the Sustainable Development Goals.

Human development is about expanding people’s capabilities and improving their wellbeing. People and communities should not be passive beneficiaries of development but active agents of change, engaging fully in economic, social, and political life, while remaining committed to a healthy environment and careful stewardship of the planet.

This paper considers the policies that would be needed to achieve a just energy transition (JET) for human development for current and future generations. To do so, it presents the state of human development in Mongolia, and explores the impact of Mongolia’s coal-driven economy on human capacities and capabilities . Hence, it reviews the energy sector challenges and how long-term fossil fuel dependence in the energy sector contribute to emissions and related climate uncertainties that are negatively impacting human development and the economy. Finally, it makes the case for just energy transition and possible energy transition choices

along with a policy framework that is needed to actualize JET and human development. It identifies a JET as an essential element to counter the negative impact of transition, thus fostering human development and taking into account equity within and between generations.

Such a transition carries significant economic and social challenges as there will be both beneficiaries and people adversely affected. Investments made in fossil-fuel systems will become sunk costs, and jobs may shift or disappear, posing new challenges and opportunities in livelihoods, health, education, and skills-development systems. A just energy transition that embodies social, economic, political and environmental aspects is thus more than a technical shift; it also aims at managing the culture of human development around the change, by investing in education, health, and the environment.



The state of human development in Mongolia

Mongolia is the world's second-largest landlocked country, with a population of 3.4 million growing by roughly 1.9 percent annually.¹ Around half the population live in the capital, Ulaanbaatar; the rest are widely dispersed over a vast territory with a population density of 2.2 people per sq km.² The country has 897,000 household dwellings; of these, 61 percent are houses or other buildings, while 38 percent are traditional 'gers' – made from wooden lattices and poles covered in layers of felt made from animal hides, and sometimes further layers of canvas.³

Over recent decades, Mongolia has made steady progress in human development with promising achievements in health, education, and income. However, in recent years progress has faltered as measured by the human development index (HDI). The HDI had risen steadily until 2018, but then started to decline and by 2022 it had still not recovered to its 2016 level.⁴

Human development progress has partly been enabled through economic growth. Between 2009 and 2023, GDP per capita rose from \$1,718 to \$4,040. Growth has created more jobs, but most are in low-paying sectors. Around half the employed population work in the service sector, 25 percent in agriculture, and 22 percent in the production sector. Only 5 percent are in mining (7 percent of men and 2 percent of women). In September 2023, the overall unemployment rate was 5.2 percent. There is also a clear urban-rural divide. Unemployment is highest, 15 percent, in Govi Altai province, followed by 13 percent in Bayankhongor.⁵

The women's labour force participation rate was only 52 percent, compared to men at 66 percent. And though women tend to have better education rates than men they only occupy 43 percent of managerial positions, and they face a gender wage gap of 6.7 percent.⁶ Women are less likely to be in the labour force because of unpaid domestic and care demands. But they are also hindered by gender stereotyping, gender segregation in higher-paid occupations, and the early female retirement age.

Mining, whether for coal or for metal ores, is a major part of Mongolia's economy. In 2023 when the GDP grew by more than 7 percent, the mining sector provided 28 percent of the added value. Mining and quarrying account for over 90 percent of exports and for 74 percent of foreign direct investment. However, mining creates relatively few jobs.⁷

Mongolia's economic landscape is also dominated by deep-rooted agricultural traditions and nomadic societies. In 2023, agriculture contributed around 10 percent of value added and absorbed over 22 percent of the labour force. The average annual income of a herding household is around \$5,000, which is on par with the national average, but their incomes depend on the types of animals a family keeps and their proximity to urban centres.⁸ On average, earnings from the sale of milk constitute a third of the income. When herders are unable to sell their milk, many resort to selling their livestock. The absence of state support, especially since the fall of communism in 1990, has left herders to fend for themselves. As of 2019, many were in debt. The majority of nomadic herders are vulnerable to climate related disasters, especially extreme winter weather conditions called 'dzud'.



After losing their livestock, herders have no other sources of livelihood, and they tend to migrate to urban centres in search of menial jobs.

Among vulnerable populations, are the large number of households in aimags outside the capital who particularly rely on jobs in mining and herding livestock, reindeer and other animals, which limits their economic mobility and makes them vulnerable to industry-specific downturns and extreme weather conditions, underscoring the need for economic diversification and their integration in resilient economic activities.⁹

Large-scale migration

The culmination of these pressures has led to significant migration to urban centres. In the past three decades, around 20 percent of Mongolia's population has moved to Ulaanbaatar which now houses over 1.6 million people, around half the country's population. In addition, one out of 11 Mongolians is living abroad, of whom 65 percent migrated for economic reasons.¹⁰

Initially, most migrants moved to the Central Region before ultimately settling in Ulaanbaatar. Annually, over 60,000 people migrate to the city, often bypassing intermediary options like soum or aimag centres due to a lack of economic opportunities at local level. Upon arrival in Ulaanbaatar, migrants face a host of challenges and various forms of discrimination, including limited access to basic amenities and services.

Most migrants reside in ger districts not connected to the city's water and sanitation infrastructure or centralized heat supply. Ger residents manage their own pit latrines and get clean water from local water kiosks, transporting it home by hand or on small carts. Compelled to burn coal for survival, they are unjustly stigmatized as the primary culprits behind the city's deteriorating air quality. This blaming exacerbates their vulnerability even though the root cause of the pollution is systemic poverty and a lack of urban infrastructure.¹¹

Dangerous air pollution

Air pollution has been a long-standing issue, particularly in Ulaanbaatar. The city's unique conditions, including its status as the world's coldest capital, and reliance on coal-powered heating, make it one of the world's most air-polluted cities. The burning of coal in ger area houses is responsible for more than 80 percent of air pollution in winter, with the rest attributed to combined heating and power systems and the transport sector.

Air pollution poses severe health risks, with pregnant mothers and fetuses being critically vulnerable. Children in Ulaanbaatar are more prone to bronchial inflammation, with rates five to fifteen times higher than those of their rural counterparts. The statistics are grim: in 2015, 435 children died from pneumonia; and by 2018, one in every five pneumonia deaths was a child under five.

In 2022, the economic cost of illness attributed to ambient air pollution in Mongolia amounted to \$1.15 billion. On average, the cost per death was \$386,980, with acute lower respiratory illness accounting for the largest proportion, followed by diabetes and stroke. This economic burden represents 8 percent of national GDP.¹²

Progress in poverty and inequality

Gains in human development in earlier decades were accompanied by unprecedented declines in poverty and inequality. During the economic boom of 2010–2014, the headcount poverty ratio fell, and by 2018 was 28 percent. Poverty can also be assessed using the national poverty line, which is set at \$66 per month in 2018 dollars. In 2020, the national poverty rate was 27 percent.¹³ People can, however, be deprived in many other aspects of their lives beyond income. To reflect this, a broader measure of poverty is the multidimensional poverty index (MPI) – which measures deprivation along ten indicators, covering income, education, and basic infrastructure services. If a person is deprived in a third or more of ten indicators, they



are characterized as ‘multidimensionally poor’. In 2018, 7.3 percent of the population (256,000 people) were multidimensionally poor while a further 15.5 percent were classified as vulnerable to multidimensional poverty.¹⁴ Thus, although Mongolia has seen an overall improvement in human development, the benefits have not been distributed equally. To capture some of these imbalances, UNDP has developed the inequality-adjusted HDI (IHDI). The IHDI discounts the HDI by a factor which reflects inequalities in income, education, and life expectancy - in 2021 this factor was 13 percent, which is the same as that of Tajikistan but higher than that of Kazakhstan (7 percent).¹⁵

There has also been some reduction in gender inequality. One measure of this is the gender development index (GDI) which is the ratio of the female and male HDIs. In 2022, the female HDI value was 0.751 while for males it was 0.728, resulting in a GDI value of 1.032. This places Mongolia in the high-GDI group. Nevertheless, women still face different types of discrimination. This is reflected in the gender social norms index (GSNI) which measures how social beliefs obstruct gender equality in areas like politics, work, and education. Based on gender social norms, most people in Mongolia have at least one bias against women’s empowerment.¹⁶

Severe climate impacts and environmental degradation

With a small population, Mongolia is responsible for only 0.12 percent of global carbon emissions but ranks 17th among the world’s highest per capita CO₂ emissions at 11.2 tons (2022), largely because more than 90 percent of its energy needs are met from coal.¹⁷ Since 1990, Mongolia’s energy related GHG emissions have increase by 59.6 percent.¹⁸ As well as contributing to global warming, Mongolia also experiences the consequences. Between 1940 and 2015, average temperatures rose by more than 2 degrees, which is higher than the global average. Climate change has led to increased frequency of extreme weather incidents making Mongolians vulnerable to disasters, which along with higher temperatures are threatening Mongolia’s lively herding traditions, tourism, agriculture, and ecosystem. Beyond the direct emissions, non-renewable forest loss, was estimated at 436,000 hectares in 2023.¹⁹ This loss is likely tied to the use of wood and other biomass materials as fuel for cooking and heating.

To take account of environmental degradation, UNDP has developed the planetary pressures adjusted HDI (PHDI) which discounts the HDI based on per capita CO₂ emissions and the country’s material footprint. In 2022, the PHDI for Mongolia was 16 percent lower than the HDI – the highest discount among neighbouring countries.²⁰



Mongolia's coal-based energy system

Mongolia has high-quality coking and ignite coal deposits, estimated at 165 billion tonnes. In 2023, the country produced 81 million tons of coal, a 118 percent increase from the previous year, of which 70 million tons was exported, mostly to China.²¹

Coal forms the basis of a distinctive energy system, which in Ulaanbaatar is used for a centralized system for combined heat and power plants. Besides, coal is used in household stoves for coal-fired heating in the distinctive ger (yurt) housing areas unevenly scattered around Ulaanbaatar's suburbs. The energy system takes advantage of an abundant natural resource but is inefficient, and bad for human health and the climate and leaves the country vulnerable to external shocks.

Around 72 percent of energy is produced by the combined heat and power plants supplying hot water and steam for heating buildings, and some from renewables, but around one-fifth of electricity is imported from China and Russia.²² Electricity consumption has now overtaken domestic production, leaving gaps that need to be filled by imports. This situation is likely to get worse. Between 2020 and 2050, electricity demand is forecast to double.²³

A crisis of energy governance

Consumer electricity demand has surpassed production, which has added to the stress on electricity generation and distribution systems. In winter 2023-24, this resulted in frequent blackouts in certain areas. Further, consumer energy tariffs are low. Energy provision, of both heat and electricity, is highly subsidized and does not fully recover the cost of production.²⁴

For the future, coal will not remain the cheapest or most reliable option for energy sustainability and security. This is because of falling renewable prices. In 2010, globally, solar PV renewable power

generation was 710 percent more expensive than the cheapest fossil fuel-fired solution; but by 2022 it cost 29 percent less. The existing coal-fired power plants, some of which have been in operation since the 1960s and 1980s, are likely to become economically unviable.²⁵ Renewable power generation, such as solar and wind, offers a hedge against future fuel price uncertainties. Once the initial investment is recuperated, renewables provide power at a stable, low cost almost perpetually – along with substantial health, safety, and environmental benefits.²⁶

The confluence of global energy trends, the aging infrastructure of existing coal facilities, and the inexorable rise of renewables emphasize the need for transitioning away from coal and embracing more sustainable and economically viable energy sources everywhere, including Mongolia.²⁷

Subsidizing low consumer prices

Mongolia is subsidizing residential electricity and heat consumption for consumers, including the use of modified coal briquettes by ger area residents. This has resulted in uncontrolled use of energy by households. With low heat charges in the central district heating, and the absence of heating controls or a metering and billing system, people have little incentive to conserve energy.

Mongolia spent MNT 37,740 billion on electric energy subsidies in 2023, an increase of 120 percent over 2018.²⁸ Fossil-fuel subsidies are regressive, in that they offer the greatest benefits to high-income consumers. Nevertheless, a suggested increase in energy tariffs will worsen the economic wellbeing of the people living below or around the poverty line. Any tariff increase would impact vulnerable populations severely, hence such actions must be taken gradually and accompanied by targeted energy social protection measures.



Benefits of a just energy transition

An energy transition in Mongolia from fossil fuels to renewables will need to reallocate resources and wealth, which will likely result in inequalities among beneficiaries and people adversely affected including those who have invested in the fossil-fuel economy. To ensure fairness the Government will therefore need to intervene – aiming for a transition that benefits all stakeholders and leaves no one behind. A truly just energy transition would set Mongolia onto a new human development trajectory.

A JET does not just mean phasing out fossil fuels but also phasing out the political, cultural, and

social legacy that favours carbon-intensive choices for economic decision making.

To ensure that the discussions are comprehensive, Mongolia needs to engage all stakeholders with eagerness and vigour to negotiate a JET framework around socio-economic issues – related to a coal phase-out, energy costs and subsidies, labour relations, and policy and regulatory obstacles, with particular concern for gender equality.

The following sections summarize the main human development opportunities.

A healthier and more productive population

A JET encourages cleaner alternatives, such as solar photovoltaic systems, electric stoves and heaters which can substantially reduce pollution levels. Better air quality offers immediate respiratory benefits and safeguards the health of Mongolia's population.



Modernized agriculture and food security

A JET presents an opportunity for modernizing agriculture while boosting food security. Herders, for example, can shift to solar-powered wells and sheds. Renewable energy can also displace diesel in agricultural and food processing – for example, in water and drip irrigation hydroponics and aquaponics systems in greenhouses.



A future-fit education system

A JET transition will mean moving to more sophisticated technologies, for which Mongolia will need to build critical skills, by increased investments in education, especially in the STEM subjects of, science, technology, engineering, and mathematics.



Greater energy security

Investing in a JET would help build a more decentralized and secure energy system. According to the International Renewable Energy Agency (IRENA), the combined wind and solar potential is estimated at 2.6 terawatts (TW). Based on different estimates this could translate into 7,300 to 15,000 TWh of electricity production per year which could meet the needs of neighbouring China by 2030.²⁹ While energy self-sufficiency remains paramount, by exporting excess renewable energy via a future 'Northeast Asia Grid', Mongolia could become an energy-exporting powerhouse.





A more diverse economy



Low-carbon electricity, heat and energy efficiency technologies can help diversify the economy and create more jobs. These technologies are related to heat pumps, energy storage, geothermal, biogas, recycling waste to heat energy, green hydrogen, battery storage connected via smart mini-grids, and green and passive housing. In Ulaanbaatar, electric and hydrogen fuel-cell buses would dramatically reduce the city’s carbon emissions while spurring local manufacturing units.

Stronger regional development

Nomadic herders can benefit from off-grid solar power. By channelling more investments into solar projects in the Eastern and Western region, for instance, in Bayan-Ulgii, Mongolia can create multiple and immediate job opportunities in installation, maintenance and operations. Another Western province, Zavkhan, stands to benefit immensely from wind-energy projects. Renewable energy can power rural small and medium enterprises (SMEs) – for example in greenhouses, vegetable processing and pickling, dairy farms, meat processing, frozen vegetable processing, aquaponics, and livestock husbandry in the Eastern Provinces.

Sustainable mining of energy transition minerals



Mining operations can replace conventional electricity sources with solar and wind energy, and green hydrogen. Just as important, Mongolia can be a major exporter of minerals critical for global renewable energy needs – including copper, fluorspar, lithium, gold, iron, tungsten, molybdenum, uranium, zinc, and 15 rare earth elements. Moreover, instead of exporting raw ores, the country should process more minerals domestically.



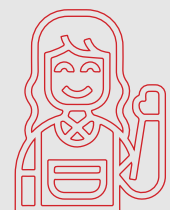
More diverse employment



Compared with fossil-fuel energy generation, clean energy systems can create three times as many jobs for the same investment. Globally, renewable energy, hydropower, and waste-to-energy generation are known to create up to 7.7 full-time equivalent jobs per \$1 million invested, compared to only 2.7 full-time equivalent jobs for fossil-fuel investment.³⁰

More opportunities for women

A gender-just energy transition would mean changing cooking methods to use clean fuels and technologies. This will not only reduce indoor air pollution but also reduce the time and labour burden on women. Women may also be more attracted to working in a sector perceived to be more socially and environmentally sustainable. For this they require education and training programmes. But energy and mining companies will also need to alter their corporate cultures to enable women to grow their careers.





Empowering migrants



The JET should incorporate the lived experiences of migrants and catalyse infrastructure development in soum and aimag centres making them more appealing for migrants for long-term settlement. This could also catalyse the development of more sophisticated and sustainable waste management systems, such as composting toilets or small-scale sewage treatment facilities, and extend to other areas of human development, including hygiene, healthcare, and overall wellbeing, thereby reducing the systemic vulnerabilities that migrants face.

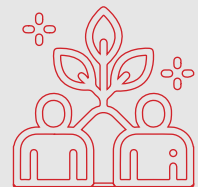
Inclusion of vulnerable households across Mongolia



A JET would support the most vulnerable households by creating opportunities for them in the capital city and aimags. Ulaanbaatar has the largest household population followed by Khangai, Central, Western and Eastern regions. Capitalizing on renewable sources like solar, wind, and geothermal energy will attract investment across Mongolia in other sectors such as tourism and small-scale industries, reducing dependence on animal herding. Involving the vulnerable populations in aimags in decision-making processes can empower them economically and socially.

Uplifting herder communities

Renewable-powered energy-efficient sheds could maintain stable temperatures for livestock during Mongolia's harsh winters and would support herder transitions to livestock farming businesses. Another avenue is milk powder production powered by renewable energy. Biogas generated from livestock manure can also be converted into biomethane to fuel combined cycle gas turbines in areas where this is feasible.



A JET thus embodies a comprehensive transformation towards sustainable energy. This aligns with the objectives of SDG 7, which emphasizes access to affordable, reliable, sustainable, and modern energy for all, but also connects with the achievement of various other SDGs, notably those concerned with poverty reduction, employment, and gender equality.



A just energy transition in action

A well-planned and just energy transition can make a strong contribution to human development – through social, economic, and environmental channels. By focusing on skills, worker protection, social equality, and active participation – and employing a whole-of-society approach – Mongolia can distribute the benefits and costs fairly among all actors.

Policies for a JET in Mongolia



A just energy transition would empower communities, opening safe public spaces for discussion on the transition from coal, expanding people’s capabilities, creating decent work opportunities, and offering the prospect of a brighter future for all.

While a JET is essential, it will not be easy. Mongolia faces barriers in attracting finance and





lacks much of the technical knowledge and skills related to renewable energy. The population is aware of the value of renewable energy and now has a greater understanding of its potential in economic diversification. But there remain barriers to adoption that need to be addressed through the policy and regulatory environment. In addition, there are persistent gender inequalities. If not well planned, the JET process could lose integrity causing stakeholder mistrust and delays and reversion to ‘business as usual’.

These hurdles are by no means insurmountable and can be tackled systematically. The table below summarizes key policy initiatives. The most important step is developing a people-centred JET strategic framework, with a net-zero 2050 focus, and a related investment action plan.







JET-related policy options and timeframes

| Policy Intervention | Short-term | Medium-term | Long-term |
|---|--|--|-----------|
| Strategic institutional and governance measures  | <ul style="list-style-type: none"> • Development of JET strategy and action plan. • Coal phase-out plan for ger districts. • Create inclusive space for dialogue, and adopt co-creation approaches, and transparency. | <ul style="list-style-type: none"> • Promote effective coordination among different stakeholders within the public and private sectors. • Build leadership capacity. • Decentralize and liberalize energy production and distribution – transition from the single buyer and seller to a multiple buyer and seller market. • Increase the role of the private sector in energy governance. • Implement future-fit governance. • Implement independent audits, accountability, anti-corruption, and risk management of JET. | |
| Legal, regulatory, and standardization measures  | <ul style="list-style-type: none"> • Review and update energy regulations and laws. • Introduce a mini-grid regulatory framework. • Develop carbon credit mechanism frameworks and emissions trading systems. | <ul style="list-style-type: none"> • Revise and localize energy efficiency and energy conservation standards and implement gradually. • Setup mechanisms for verification, validation, and implementation of energy efficiency standards across the country. • Develop monitoring verification and reporting (MRV) systems for the energy sector. • Develop and introduce best energy alternative technology (BEAT) framework. | |



| Policy Intervention | Short-term | Medium-term | Long-term |
|---|---|--|--|
| <p>Energy infrastructure</p>  | <ul style="list-style-type: none"> • Support renewable energy and energy efficiency solutions for households and SMEs in the ger areas of Ulaanbaatar as well as aimags. | <ul style="list-style-type: none"> • Develop off-grid and on-grid renewable energy and mini-grid solutions/ infrastructure. • Develop green housing, expanding off-grid renewables. • Upgrade the national grid and distribution network. • Implement renewable energy and hydroelectric projects. • Undertake green energy-efficient housing and transport infrastructure development. | |
| <p>Sustainable finance</p>  | <ul style="list-style-type: none"> • Develop JET financing framework. | <ul style="list-style-type: none"> • Promote blended climate finance for financing energy transition projects, including renewable energy and energy efficiency. | |
| <p>Fiscal policy</p>  | <ul style="list-style-type: none"> • Results-based budgeting in JET sectors of the economy. • Revise carbon taxation framework | <ul style="list-style-type: none"> • Gradual introduction of carbon taxes. • Gradual phase-out of coal and energy subsidies to build a fiscal surplus for de-risking renewable energy and financing social protection. | <ul style="list-style-type: none"> • Implement carbon taxes in all sectors. • Create fiscal space for financing green energy and attracting FDI. |
| <p>Economic measures</p>  | <ul style="list-style-type: none"> • Socio-economic analysis including social accounting matrix modelling, and social protection mapping surveys. • Increase tariffs with a phased approach gradually for full cost recovery. • Fair negotiation of energy and JET contracts. • Operationalize mechanism for renewable energy auctions to benefit from lower production prices. | <ul style="list-style-type: none"> • Support de-risking of renewable energy investments by redirecting subsidies to households and businesses for adopting renewable energy solutions. | <ul style="list-style-type: none"> • Promote investment in sustainable critical energy transition minerals mining. |



| Policy Intervention | Short-term | Medium-term | Long-term |
|--|---|--|--|
| Innovation  | <ul style="list-style-type: none"> Invest in research, innovation, and develop local energy solutions, e.g. energy-efficient insulation from local materials | <ul style="list-style-type: none"> Introduce demand-side programmes for improving energy efficiency to lessen the impact of tariff increases. Build modern smart AI grid management infrastructure in cities. Introduce and manage smart energy infrastructure for a nationwide grid. | |
| Social Protection  | <ul style="list-style-type: none"> Provide targeted social protection measures to vulnerable households impacted by tariff increases. | <ul style="list-style-type: none"> Introduce future skills and cash-for-work for displaced workers | |
| Skills of future  | <ul style="list-style-type: none"> Skill mappings of vulnerable sectors affected by a JET. Design a national qualification framework for emerging skills and formulate training programmes. | <ul style="list-style-type: none"> Skills training and employment placement programmes for youth and women in the emerging sectors of the economy. Retrain people who lose their jobs. | |
| Empowerment  | <ul style="list-style-type: none"> Integrate vulnerable groups in decision making and project planning, especially women, youth, and those who would be affected by a JET. Introduce and step-up behavioural change programmes. | <ul style="list-style-type: none"> Promote social entrepreneurship for energy efficiency and energy conservation. | |
| Behavioural change communication  | <ul style="list-style-type: none"> Introduce behavioural change communication and public awareness programmes with respect to renewable energy, fossil-fuel phase out, energy efficiency and conservation, and targeted social protection. | <ul style="list-style-type: none"> Assess the impact of communication and behavioural change programmes and update the messages based on communication needs. | |
| International cooperation  | <ul style="list-style-type: none"> Support dialogue for breaking cooperation gridlocks. Attract foreign direct investment. | <ul style="list-style-type: none"> Support COP28 implementation of commitments on tripling renewables and develop a fossil-fuel phase-out net zero plan. | <ul style="list-style-type: none"> Export energy to neighbouring countries. |



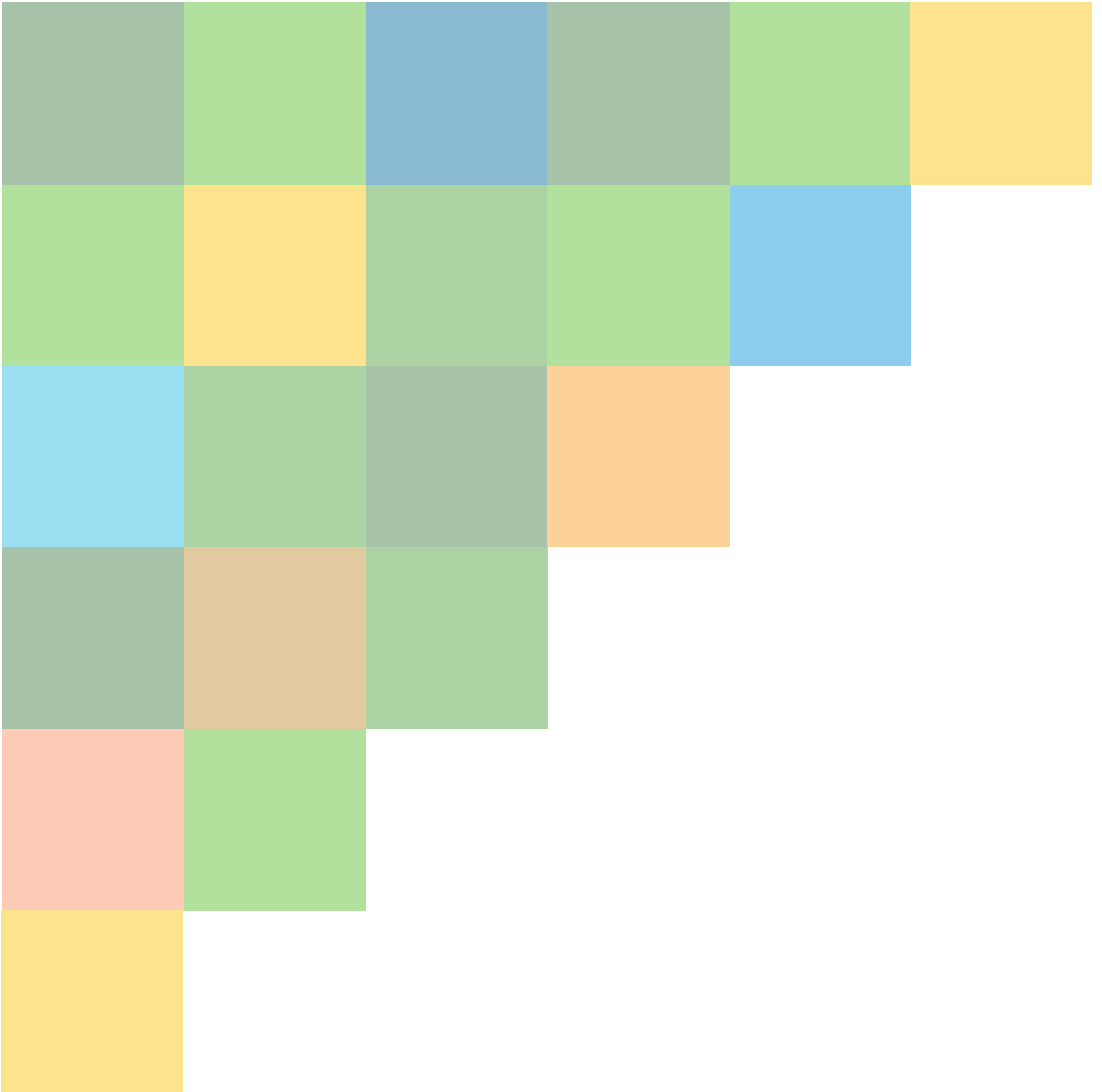
The new Government is however, developing a new energy transition plan as part of the New Action Program 2024-2028, which will likely address some of the issues. The Action program will involve developing Western region as an energy diversified zone, 20-minute smart cities, economic diversification and liberalisation, and climate change focusing on green financing. And by placing a larger emphasis on human development it will likely build the momentum for just energy transition.

Thus, for Mongolia a JET is a human development imperative that will have far-reaching consequences for the nation's public health, economic resilience,

social equity, and environmental sustainability. It could also place Mongolia at the forefront of global renewable energy development through mining and processing materials essential for sustainable energy equipment.

A people-centred JET, based on the principles of human development would cut dependence on coal and boost levels of health, education and skills – and provide decent and greener work opportunities for women, youth, minorities, and vulnerable populations, and offer a brighter future for all.





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