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BEIJING 2022 SUSTAINABILITY AND LEGACY

Beijing Organising Committee for the 2022 Olympic and Paralympic Winter Games

BEIJING 2022




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New Concepts of the Beijing 2022 Games





Beijing 2022 is committed to hosting the Games in a green, inclusive, open and clean manner.



By staging a green Games, we mean to give priority to resource conservation and environmental protection, and contribute to a beautiful environment through the Games preparations.



By staging an inclusive Games, we mean to engage the public and let everyone share the benefits, improve the quality of life for all, and improve social development through the Games preparations.



By staging an open Games, we mean to gear to the needs of modernisation, of the world and of the future, and make the Beijing 2022 Games a booster for opening up to the outside world.



By staging a clean Games, we mean to uphold frugality, eliminate corruption, and improve efficiency, so as to make the Games as pure as the snow and ice.



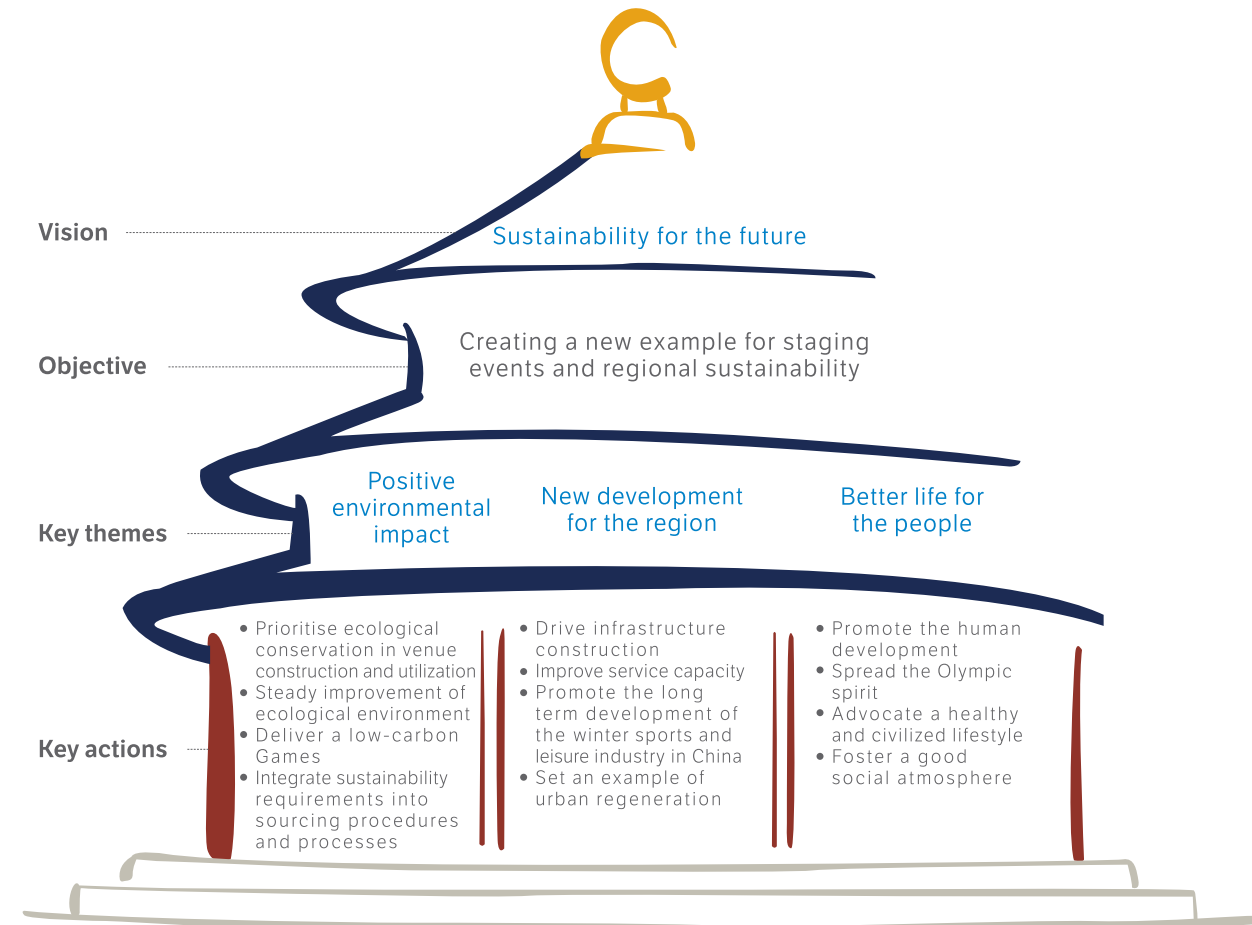
BEIJING 2022 SUSTAINABILITY VISION, MISSION AND TASKS

To fulfil the sustainability commitments, Beijing 2022, together with the host city governments and major stakeholders, has prepared and issued the Beijing 2022 Games Sustainability Policy and the Beijing 2022 Games Sustainability Plan, and established the Beijing 2022 Sustainability Management System integrating three international standard systems, namely, ISO20121 Event Sustainability Management Systems, ISO14001 Environmental Management Systems, and ISO26000 Guidance on Social Responsibility, to promote the implementation of various sustainability measures in an all-round way and achieve the sustainability goal.

On the basis of scientifically summarising the sustainability practise of the Beijing 2022 Games, Beijing 2022 has innovatively compiled the Guidance for Event Sustainability Evaluation (DB11/T 1892-2021), which has become the local standard of Beijing. The standard proposes the evaluation content in seven aspects and 35 indicators, providing a reference for scientific evaluation of the sustainability of events. It also guides and assists event organizers to enhance their sustainability management, leaving a valuable legacy of the Games sustainability.

By integrating sustainability into all aspects of Games preparations, we promote harmony between man and nature through accelerated environmental improvement, drive the coordination of regional development with a higher level of development, and meet people's needs for a better life with greater public participation, so as to create an example of positive interaction and mutual promotion between the Olympic Movement and the host cities and the region.

The Sustainability Framework of the Beijing 2022 Games



BEIJING 2022 LEGACY VISION, MISSION AND TASKS

VISION

The Games with a Shared Future

MISSION

Through scientific planning, creation, management and use of the achievements of Games preparations, the Beijing 2022 Games will leave a rich legacy and lasting benefits for people, the host cities and the region, and set a new model of mutual benefit and win-win development between the Olympic Movement and the host cities.

TASKS

We strive to create rich legacies in 7 themes of sports, economy, society, culture, environment, urban and regional development in 35 areas, creating precious aspirations for the long-term development of the host city and the region.

7+35

| 7 Goals + Key Tasks in 35 Areas



Winter Sports for All

Since the beginning of the Beijing 2022 Games preparations, the amount of winter sports venues and facilities have been extended and various mass ice and snow activities have been organized nationwide. Meanwhile, extensive winter sports and cultural activities for youth have been carried out and the development of winter sports events has been facilitated. The goal of “engaging 300 million people in winter sports” is gradually translated into reality.



DIVERSE WINTER SPORTS ACTIVITIES PROSPER

Since the joint bidding for the 2022 Olympic and Paralympic Winter Games, Beijing and Zhangjiakou have actively encouraged more people to experience and practise winter sports, so as to facilitate the popularisation of winter sports in China.

The National Public Ice and Snow Season, which is the national biggest and most popular winter sports for all activities, has been held for seven consecutive years. During the 7th National Public Ice and Snow Season in 2020, more than 1,200 winter sports events and activities were held across the country, with over 100 million participants. The 8th National Public Ice and Snow Season has been launched in December 2021 and will continue until April 2022.

Since 2018, the National Public Ice and Snow Week has been held in summer for four consecutive years, involving 25 provinces, autonomous regions, and municipalities in China.

In the host cities, various brand-new winter sports for all activities have been organised to promote winter sports. In the snow season of 2020-2021, about 5.3 million people in Beijing and 22 million in Hebei province participated in winter sports.



EXPANSION OF WINTER SPORTS VENUES AND FACILITIES IN CHINA

Governments at all levels have stepped up the re-deploy of public resources, and encouraged more social capital investment in the construction of winter sports venues and facilities nationwide, and facilitated public engagement laying a solid foundation for promoting the development of winter sports industry in China.

By the end of 2020, the number of standard ice rinks reached to 1187 from 609 in 2018, and the number of ski venues reached to 701 from 524 in 2018.

Winter sports fitness facilities for people with impairments have been improved significantly. By 2020, 50 winter sports fitness demonstration sites for people with impairments had been built nationwide.



PROSPEROUS DEVELOPMENT OF NATIONAL PROFESSIONAL WINTER SPORTS EVENTS

An increasing number of winter sports events are taking place year by year and the level of these events is steadily upgrading, which have provided a great platform for the development of winter sports and the growth of athletes in China. It has also played an important role in expanding the popularity of winter sports in China.

The number of winter sports events in China has been increasing year by year, with 77 events in the 2018-2019 season and fewer events after 2020 due to the impact of the COVID-19 epidemic. In addition, a large number of international winter sports events have settled in China, including

- The World Women's Curling Championship
- The China ISU Grand Prix of Figure Skating
- The FIS Cross-country Skiing China City Tour
- The FIS China Beijing Roller Ski World Cup
- The ISU Grand Prix of Figure Skating



ICE AND SNOW TOURISM CONTINUES TO HEAT UP

As the Beijing 2022 Games is approaching, the number of participants in the ice and snow sports in China is increasing steadily, stimulating more market potential. The ice and snow tourism industry has developed rapidly. In the snow season of 2020-2021, the number of ice and snow tourists reached 230 million.



• Chinese tourists are participating in snow entertainment activities



• A ski amusement park in China



• Children of Beijing-Tianjin-Hebei Region in ice and snow activities

PROMOTION OF WINTER SPORTS AMONG YOUTH

The educational authorities have continuously promoted the “Ice and Snow Sports for the Youth” project and the “Ice and Snow Programme for Schools”. To integrate winter sports knowledge into school curriculum, various forms of winter sports education are carried out in schools. By the end of 2020, 2,062 Schools with Winter Sports Programme have been selected in China.

A series of ice and snow events for the youth, such as the World Snow Day & International Children’s Skiing Festival, the Youth Ice and Snow Winter Camp, have been held in winter, attracting more and more young people to engage in winter sports. Neighborhood communities are encouraged to work with ice and snow enterprises to organise ice and snow activities for the youth.

Young people are encouraged to engage in winter sports by participating in winter sports competitions. In the 2020-2021 snow season, 14 ice and snow events such as the Beijing-Tianjin-Hebei U Series Short Track Speed Skating Championships and Youth Ice Hockey Invitational Tournament were held, attracting nearly 5,000 participants.



• the World Wheelchair Curling Championship 2021 was held in the National Aquatics Centre

DEVELOPMENT OF WINTER SPORTS FOR PEOPLE WITH IMPAIRMENTS

The construction of winter sports fitness facilities and various winter sports activities have delivered more access for people with impairments to participate in winter sports. Since 2016, the China Disabled Winter sports Season has been held nationwide for five consecutive years.

The number of national winter Paralympic athletes increases from less than 50 to more than 1,000, that of technical officials has grown from zero to more than 100, and that of sports of the Paralympic Winter Games grows from 2 to 6, fully covering all sports of the Paralympic Winter Games.


In the PyeongChang 2018 Paralympic Winter Games, the Chinese wheelchair curling team won the first ever gold medal for China in Paralympic winter events.








• Athletes competing in the slalom sitting event at the Alpine Skiing Championships



A New Model for Venues



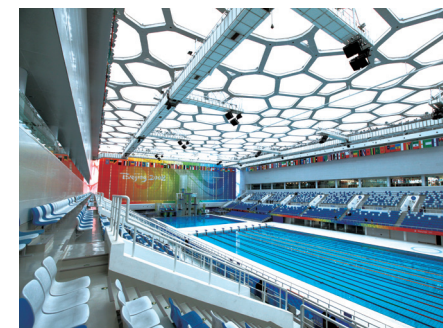
The Beijing 2022 Games makes full use of the venues of the Beijing 2008 Olympic Games. Through technological innovation and space renovation, these venues are able to switch between winter and summer Olympic venues. They can meet the requirements of the Beijing 2022 Games, and hold fitness activities for the general public, commercial exhibitions, artistic performances and other activities. The post-Games utilisation plan has been formulated to ensure all-year-round operation, long-term utilisation and diversified business formats.



NATIONAL AQUATICS CENTRE CONVERTING SWIMMING POOL INTO CURLING HALL

The National Aquatics Centre (the Water Cube) which hosted swimming, diving, synchronised swimming and Para swimming competitions during the Beijing 2008 Olympic and Paralympic Games hosts the curling and wheelchair curling events during the Beijing 2022 Games. The construction team used a convertible steel support system and a removable ice-making system to build temporary ice surface in the pool to form four standard curling tracks, turning the “Water Cube” into the “Ice Cube”. The water-ice conversion has greatly reduced the resource consumption of venue construction, deconstruction and renovation, and avoided the carbon emission of new venue construction.

The converted “Water Cube” can simultaneously host ice events, water events and large-scale commercial activities.



NATIONAL INDOOR STADIUM CONVERTING GYMNASIUM INTO ICE HOCKEY VENUE

The National Indoor Stadium (“Ice Fan”) was the venue for gymnastics, trampoline, handball and wheelchair basketball during the Beijing 2008 Games. It hosts ice hockey and Para ice hockey competitions of the Beijing 2022 Games.

The facade of the newly-built training hall adopts the ice glass block design, which fully brings in natural light and minimises the energy consumption of lighting. Each of the assembly dressing rooms can be disassembled into eight independent boxes or reassembled into new rooms as required, with the recycling rate reaching more than 95%.

In the National Indoor Stadium, its ice rink can be changed in several sizes, where ice hockey competitions and ice skating events can be held. In addition, after the Games, the venues can be used to hold popular winter sports, winter sports for teenagers, and large-scale cultural and sports activities.



WUKESONG SPORTS CENTRE CONVERTING BASKETBALL COURSE INTO ICE HOCKEY VENUE IN SIX HOURS

The Wukesong Sports Centre was the competition venue for the basketball events of the Beijing 2008 Olympic and Paralympic Games, with affiliated facility hosting baseball competitions, and ice-making pipes were embedded underground during construction. In the past few years, it has hosted such activities as the Continental Cup Ice Hockey League, and the ice show. The venue can be converted within six hours to host basketball events, ice hockey competitions and cultural performances, making China's first stadium capable of hosting both ice hockey and basketball events.

It hosts the ice hockey events of the Beijing 2022 Games. In the venue, the original standard ice surface, changing rooms, stands, lighting facilities, sound reinforcement system and display screen have been renovated and the ice rink has been changed in size from 30m × 60m to 26m × 60m to meet the requirements of the Beijing 2022 Games so that diverse ice events can be held here by changing the size of the ice rink. After the Games, the Wukesong Sports Centre cluster will be developed into a cultural, sports, leisure and entertainment complex including an ice-basketball venue, a basketball park, an ice sports centre, a commercial street, and a sports square.





CAPITAL INDOOR STADIUM "THE MOST BEAUTIFUL ICE" IN AN OLD VENUE

The Capital Indoor Stadium, built in 1968, is the first modern sports stadium built after the founding of the People's Republic of China and the country's first indoor cooling ice rink. Over the past 50 years, it has served as the venue of numerous international and domestic sports competitions, training and large-scale artistic performances. The Capital Indoor Stadium hosted the volleyball events in the Beijing 2008 Olympic and Paralympic Games and

hosts the short track speed skating and figure skating events of the Beijing 2022 Games.

The Capital Indoor Stadium has preserved the original historical features of the building during the renovation. The ice rink is made by carbon dioxide transcritical direct cooling technology, which is green, low-carbon and environment-friendly, and provides technical support for the conversion between the two field modes for figure skating and short track speed skating. The latest sound and optical technology is adopted at the venue to deliver a fantastic competition and game watching experience and create "the most beautiful ice".

After the Beijing 2022 Games, the Capital Indoor Stadium, aside from supporting the routine training of the national teams, will be open to the public, serving as both a training base and a winter sports experience centre.

NATIONAL SPEED SKATING OVAL A NEW VENUE ON THE OLD SITE

The National Speed Skating Oval (“Ice Ribbon”) is the only new ice sports venue for the Beijing 2022 Games. It is built on the site of the temporary venue (hockey field and archery range) of the Beijing 2008 Games and speed skating events will be held here during the Beijing 2022 Games.

Innovative breakthroughs have been made for the venue in design concepts, technology, and material selection, and green and low-carbon measures have been integrated into its design and construction. The glass curtain wall of the venue is made up of 3,360 curved glass units, creating a “ribbon” shape that symbolises the high-speed movement of speed skaters.

The venue is equipped with 12,000 square metres of ice, the largest in Asia, which can accommodate 2,000 people for ice sports at the same time and meet the needs of all kinds of ice events and sports. After the Games, the National Speed Skating Oval will become the ISU Excellence Centre, where all kinds of ice events can be held all year round and popular winter sports can be extensively carried out. It will be developed into a multi-purpose ice centre used to hold sports events and exhibitions, provide spaces for fitness and cultural and leisure activities, and deliver social interests.





YANQING NATIONAL ALPINE SKIING CENTRE A "WING-FLAPPING SWALLOW" OVER HIGH MOUNTAINS

The National Alpine Skiing Centre in the Yanqing Zone is located on the highest peak of Xiaohaituo Mountain in Yanqing. The legend is that Haituo Mountain was transformed from a feather of a roc. The start platform at the top of Haituo Mountain looks like a swallow flapping its wings in the

distance, therefore, the venue is also named the "Snow Swallow".

The National Alpine Skiing Centre is mainly used for the alpine skiing events of the Olympic and Paralympic Winter Games Beijing 2022, designed with 7 ski courses, with a total length of 21km and a vertical fall up to 900m. It is China's first alpine skiing venue that meets the standards of the Olympic Winter Games. The venue has been certified with a three-star design and evaluation label for green snow sports venues.

The National Alpine Skiing Centre will operate in all seasons after the Games. Alpine skiing events will continue to be held during the snow season and the venue will be open to high-level skiers. In the non-snow season, it will serve as a place for mountain sightseeing and outdoor sports.

YANQING NATIONAL SLIDING CENTRE THE FASTEST TRACK

The Yanqing National Sliding Centre hosts the bobsleigh, luge, and skeleton events of the Olympic and Paralympic Winter Games Beijing 2022. With a total length of 1,975m and a maximum design speed of 134.4 km/h, the track is claimed as the fastest one for the Beijing 2022 Games.

The venue has a total of 16 curves with different angles and slopes. The unique sunshade design makes the whole venue look like a winding dragon perching on a ridge, so it is also named “Snow Dragon”.

Considering the natural terrain and light, the design team has developed a unique “topographical climate protection system”, which can effectively protect the track from sunlight, wind, and snow; ensure the high-level performance of athletes; greatly reduce the energy consumption, and provide spectators with a better experience. The venue has been certified with a three-star design and evaluation label for green snow sports venues.

After the Games, the National Sliding Centre will be used to hold various high-level events. In addition, it has a starting area set on the track for visitors so everyone can experience the sledding event with professional safety support after the Games.

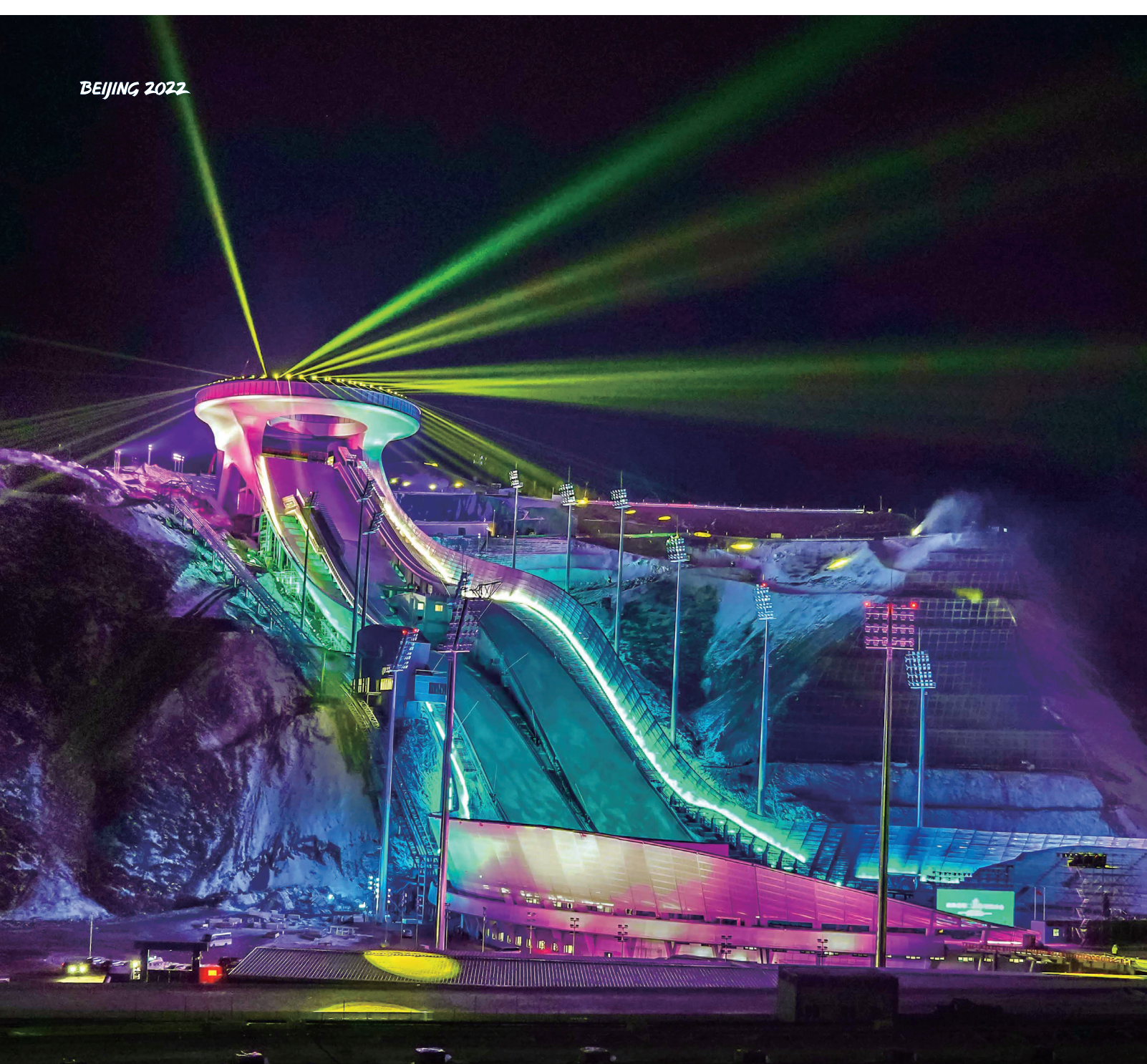


ZHANGJIAKOU NATIONAL SKI JUMPING CENTRE A GREEN SNOW SPORTS VENUE

The National Ski Jumping Centre in the Zhangjiakou Zone is China's first ski jumping venue, which hosts the ski jumping and Nordic combined events during the Beijing 2022 Games. Its design is inspired by Ruyi, a traditional Chinese decoration. The ring top of the ski jumping platform, the course profile, and the bottom stand perfectly match the S-shaped curve of the "Ruyi", hence the name "Snow Ruyi".

The Snow Ruyi is designed and constructed as per the three-star standards stipulated in the Evaluation Standard for Green Snow Sports Venues. The venue makes full use of the natural terrain and landform to reduce the damage to the mountain. During construction, 100% supporting systems of spigot type and buckle type were fully adopted, which reduced the steel consumption by 50%. Meanwhile, clean energy such as wind and solar energy and recycling technologies are used to turn the "Snow Ruyi" into a "Green Ruyi".

After the Games, the Snow Ruyi will be used for competitions, practise, training, and experience of ski jumping events. Other ice entertainment events will be developed such as snow football and outdoor ice hockey. In the summer, it will be the venue of recreational activities such as grass skiing.





ZHANGJIAKOU GENTING SNOW PARK TRANSFORMATION OF A SNOW VENUE

The Genting Snow Park in the Zhangjiakou Zone was officially opened in 2012. After Beijing and Zhangjiakou won the bid for hosting the 2022 Olympic and Paralympic Winter Games, the Genting Snow Park was designated

as the venue for freestyle skiing and snowboard events, including moguls, aerials, halfpipe, slopestyle, cross and parallel giant slalom.

Renovation has been made on the basis of the existing tracks, and six courses are developed for halfpipe, parallel giant slalom, slopestyle, and etc. The venue successfully hosted a number of FIS World Cup events in 2018, 2019 and 2020. The venue has been certified with a three-star design and evaluation label for green snow sports venues.

After the Games, the Genting Snow Park will become a comprehensive venue for both competitive sports and recreational sports.

Positive Environmental Impact

Adhering to ecology first, resource conservation and environmental friendliness, Beijing 2022 comprehensively protects the ecosystem and biodiversity during venues' construction; conducts strict low-carbon management, actively expands carbon offset methods, and strives to ensure a carbon-neutral Winter Olympic Games; and coordinates efforts to prevent and control regional environmental problems. The ecological environment in Beijing and Zhangjiakou has been effectively improved to create a more pleasant environment.

CAREFUL PROTECTION OF PLANTS IN THE COMPETITION ZONES

Trees, shrubs, and other ecological resources are effectively protected through measures including planned avoidance, in-situ conservation, near-situ conservation, and ex-situ conservation.

Five in-situ conservation areas have been set up in the Yanqing Zone, with a total area of 21.58 hectares.

A total of 11,027 rare shrubs have been transplanted near-situ in the Yanqing Zone.

A total of 24,272 trees have been transplanted ex-situ in the Yanqing Zone, with a transplanting success rate of 90.7%.



• Effective protection of *Batrachium pekinense*, a protected plant in China



• *Cypripedium macranthum*, a protected plant in the Yanqing Zone



• Trees under in-situ conservation in the Yanqing Zone



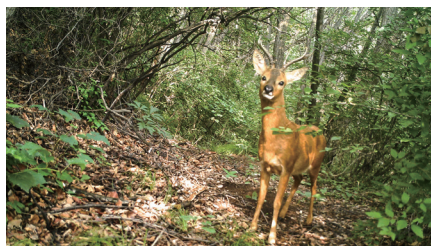
• Ex-situ conservation base in Shangbanquan Village, Zhangshanying Town, Yanqing

PROTECTION OF WILDLIFE

Measures are taken in the Yanqing Zone to reduce the impact of construction and venue operations on wildlife.

- Night construction is reduced and hoods are used for lighting to reduce the adverse impact on phototactic animals such as insects and birds.
- Artificial nests have been installed in and around the competition zone to maintain the normal breeding activities of birds.
- Natural amphibian and reptile habitats are created to improve the natural habitat quality and ecological carrying capacity.
- Existing bridges or culverts are used to set up wildlife passages to protect the spaces for small mammals and reptiles.
- Infrared cameras have been deployed to monitor wildlife.

According to the monitoring results, animals have been active around the competition zone during the venue construction, without out-migration.



• A roe deer monitored by an infrared camera in 2019



• An artificial bird nest



• A goral monitored by an infrared camera in 2021



• A ring-necked pheasant monitored by an infrared camera in 2019



- Restoration of subalpine meadows in the Yanqing Zone

RESTORATION OF ECOLOGY

Venue construction and ecological restoration are implemented synchronously in the Yanqing Zone and Zhangjiakou Zone.

To protect the germplasm resources in the topsoil, 81,848-cubic-metre topsoil on mountains was stripped during initial venue construction in the Yanqing Zone, and reused as part of the ecological restoration project. A total of 3,500 square metres of subalpine meadows have been repaired within the area of the National Alpine Skiing Centre through meadow stripping, restoration, and conservation.

In the Zhangjiakou Zone, plants are gradually restored on the site according to the growth characteristics of plants. The scope of forest land is gradually extended, and efforts are made to retain and use the existing plants and local vegetation for restoration so that the new vegetation is integrated with the original forest land.



- The effect of ecological restoration along the connecting roads of the Zhangjiakou Zone



- The effect of ecological restoration in the Yanqing Zone



- Topsoil stripping in the Yanqing Zone

SUSTAINABLE USE OF WATER RESOURCES

Beijing 2022 strives to achieve the goal of sustainable use of water resources through water security measures, sewage treatment, non-conventional water sources recycling, and flood control management.

- Ponds and reservoirs have been constructed in the Yanqing Zone and Zhangjiakou Zone to collect, store and reuse rainwater and snowmelt in multiple ways.
- Decentralised or centralised sewage treatment facilities have been constructed to achieve full collection, treatment and reuse of domestic sewage in the competition zones.
- An intelligent snowmaking system is used, which can be set and adjusted according to the actual situation such as the weather, expected snow depth, and required snowmaking time to achieve the optimal allocation and precise delivery of water resources.

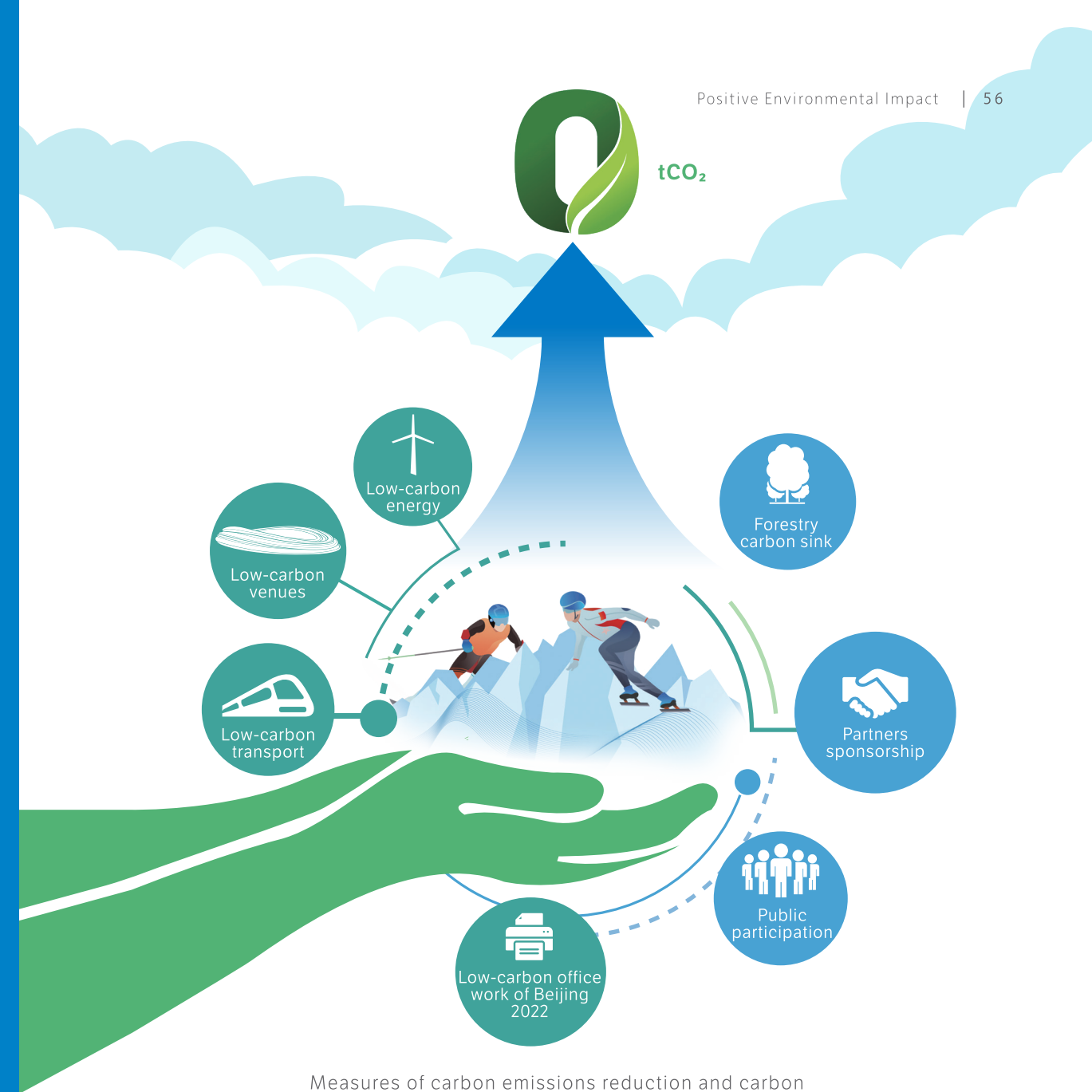
According to estimation, the water use of the Yanqing Zone and Zhangjiakou Zone of the Beijing 2022 Games will not affect the access to production and domestic water in the region.



• Guyangshu Cluster reservoir in the Zhangjiakou Zone

STAGING A CARBON NEUTRAL GAMES

Beijing 2022 actively has, in response to climate change, established and improved the low-carbon management mechanism, and integrated the low-carbon concept into the Games preparations. Beijing 2022 has taken measures involving low-carbon venues, low-carbon energy and low-carbon transport to reduce carbon emissions to the maximum extent. In addition, carbon offset is conducted through multiple channels and the carbon generalised system of preferences is promoted to achieve the goal of hosting a carbon neutral Winter Olympic Games.



Measures of carbon emissions reduction and carbon offset to stage a carbon neutral Games

CARBON DIOXIDE REFRIGERANT ADOPTED

The eco-friendly CO₂ transcritical direct cooling ice making technology is used at the National Speed Skating Oval, Capital Indoor Stadium, CTS Short Track Speed Skating Training Hall, and Wukesong Ice Hockey Training Hall, setting an example for coping with climate change during large-scale sports events. The CO₂ transcritical direct cooling system will not damage the ozone layer, as CO₂'s ozone depleting potential (ODP) is 0 and global warming potential (GWP) is 1. Compared to the secondary heat exchange of the traditional refrigerant system, the direct cooling system can enhance energy efficiency, efficiently recycle waste heat generated in the refrigeration process, and save more than 20% energy compared to the conventional refrigeration method.

ODP=0 GWP=1





- Wukesong Ice Hockey Training Hall



- Beijing Olympic/Paralympic Village Polyclinic



- Cluster VI, Yanqing Olympic/Paralympic Village

ULTRA-LOW ENERGY CONSUMPTION PROJECTS

Three ultra-low energy consumption projects with a total floor area of 51,174 square metres have been constructed for the Beijing 2022 Games. With a floor area of 1,358 square metres, the ultra-low energy consumption project in the Beijing Olympic/Paralympic Village Polyclinic increases the building airtightness through efficient thermal insulation or thermal

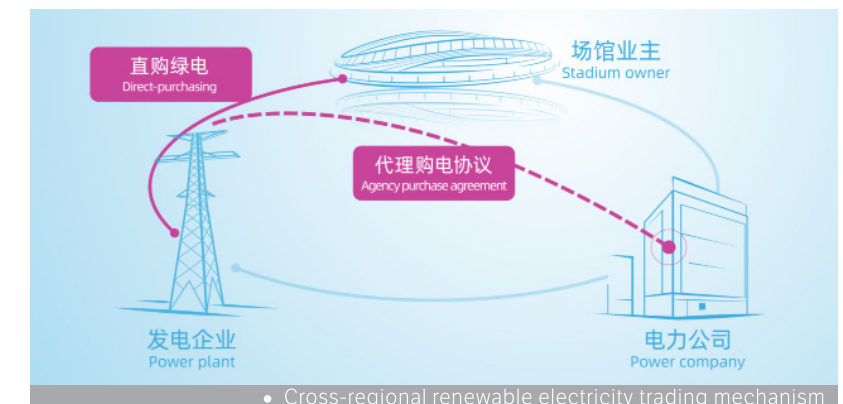
bridge-free design, with the comprehensive building energy-saving rate reaching 51%. With a floor area of 10,856 square metres, the ultra-low energy consumption project in Cluster VI of the Yanqing Olympic/Paralympic Village adopts the high-efficiency envelope, intelligent lighting system, and thermal bridge prevention design to reduce the overall energy consumption of the building. The floor area of the ultra-low energy consumption project completed in the Wukesong Ice Hockey Training Hall reaches 38,960 square metres.

ALL VENUES POWERED BY RENEWABLE ELECTRICITY

The use of renewable energy has been actively explored for the venues of the Beijing 2022 Games, with the conventional electricity of all venues generated using renewable energy.

Zhangbei $\pm 500\text{kV}$ Flexible DC Grid Project, an electricity support project for the Beijing 2022 Games, connects the abundant renewable energy of wind power and photovoltaic power in Zhangbei, Zhangjiakou, overcomes the problems of intermittency and instability of renewable energy power generation and pools and transmits the clean energy in Zhangbei to effectively enable the Beijing 2022 venues to be powered by 100% clean energy.

In association with the host city governments, the power exchange centre and power companies, Beijing 2022 helped the establishment of a cross-regional renewable electricity trading mechanism to realise the sole supply of renewable electricity to all venues and related facilities through a market-based renewable electricity direct purchase method.



LOW-CARBON TRANSPORT SYSTEM

A Games-time low-carbon transport system is in place, with the Beijing-Zhangjiakou High-Speed Railway used for cross-zone transfers. Spectators are encouraged to access the competition zones through low-carbon travel.

The use of clean energy vehicles such as electric vehicles and hydrogen fuel cell vehicles are maximised, and energy-efficient and clean energy vehicles account for 84.9% of all the Games transport service vehicles.

The system interconnection between Games transport and urban traffic is strengthened, and the urban public transport operation dispatch system is improved to enhance the intelligent and refined management of transport.



• Hydrogen energy coach in a test event of the Beijing 2022 Games



• Zhangjiakou hydrogen refuelling station



• Beijing-Zhangjiakou High-Speed Railway

PARTNERS SPONSORSHIP OF CERTIFIED EMISSION REDUCTIONS

The three official partners of the Beijing 2022 Games, China National Petroleum Corporation, State Grid, and Three Gorges Corporation, have sponsored a total of 600,000 tonnes of certified emission reductions to help the Beijing 2022 Games achieve its carbon-neutrality goal.



Official Partner of the Olympic and Paralympic Winter Games Beijing 2022



Official Partner of the Olympic and Paralympic Winter Games Beijing 2022



Official Partner of the Olympic and Paralympic Winter Games Beijing 2022



• Wind and solar energy storage and transmission demonstration project of State Grid



• Jiangsu Rudong offshore wind power project of Three Gorges Corporation



• Hydrogen refuelling station of CNPC in Chongli

AIR POLLUTION CONTROL

Taking the preparations for the Beijing 2022 Games as an opportunity, Beijing and Hebei province have taken air pollution control actions to significantly improve air quality.

- Optimise the energy structure, take measures to reduce coal consumption and achieve power generation from gasification, and expand the use of clean energy.
- Implement industrial pollution treatment, increase efforts in investigating and rectifying polluting enterprises, and eliminate and phase out production processes with large pollution.
- Eliminate old motor vehicles that do not conform to the new emission standards and promote new energy vehicles.

Air quality in Beijing and Zhangjiakou significantly improved from 2015 to 2021. The average PM_{2.5} concentration in Beijing was 33 µg/m³ in 2021, down by 59% compared to 2015. The average PM_{2.5} concentration in Zhangjiakou was 23.4 µg/m³ in 2021, down by 31.4% compared to 2015.



SAND CONTROL AND AFFORESTATION

Since the preparations for the Beijing 2022 Games, Beijing and Zhangjiakou have conducted extensive afforestation projects to create ecological corridors, build ecological shields, effectively prevent and control wind and sand attacks, and optimise the regional environment.

The area of afforestation and forest cultivation by restricting access to mountain areas has significantly increased in Beijing since 2015. From 2015 to 2021, the forest coverage increased from 41.6% to 44.4% and the urban green coverage increased from 47.6% to 48.96% in Beijing. From 2015 to 2021, the forest coverage increased from 37% to 50% in Zhangjiakou City.

Large area afforestation in and around the competition zones improves the level of ecological landscape in winter and leaves ecological legacies of the Games. From 2016 to 2021, the total afforestation area was 1,029 million hectares in Zhangjiakou. The total afforestation area was 86,517 hectares in Chongli District, Zhangjiakou City, with the forest coverage reaching 71.53% in the whole district and 81.02% in the core area of the Games.

WATER SOURCE PROTECTION AND GOVERNANCE

Beijing and Zhangjiakou actively advance the development of eco-clean small watersheds, provide targeted protection for drinking water sources in and around the competition zones, conduct water pollution treatment, and promote sewage treatment and reclaimed water use to continuously improve water environment quality and water-source conservation function.

From 2015 to 2021, the quality of surface water in Beijing continued to improve, and the water quality of rivers improved year by year. The water quality of lakes and reservoirs there has been good enough to meet the water environmental function zone requirements, and the water quality of municipal and district drinking water sources has reached or exceeded the related standards. The sewage treatment rate of Beijing increased from 87.9% in 2015 to 95.8% in 2021 and has reached almost 100% in the six core districts.

From 2015 to 2021, in Zhangjiakou City, the superior rate of water quality on national and provincial assessment sections of surface water increased from 70% to 93.3%, and water quality in major river basins achieved 100% compliance with Chinese national quality standards.



An aerial photograph of the Beijing 2022 Olympic venues at dusk. The image shows the National Aquatics Center (Water Cube) with its distinctive blue, cuboid structure, and the surrounding urban landscape with high-rise apartment buildings. A river flows through the center of the image, reflecting the sky. The sky is a mix of deep blue and soft pinkish-purple clouds. In the foreground, there are green spaces and parking lots. The overall tone is serene and modern.

New Urban Landscape

The Beijing 2022 Games has given a boost to the transformation and development of the host cities intensively, and profoundly changed the appeal of Beijing and Zhangjiakou with better environment, rapid economic growth, and upgrading of social harmony.

BEIJING HOST CITY FOR BOTH SUMMER AND WINTER OLYMPIC GAMES

The Beijing 2008 Games has successfully spread the Olympic spirit and greatly ignited passion for practising sports and fitness among the general public, leaving lasting legacy that facilitated the post-Games development of the city.

Beijing 2022 has inherited and taken advantage of the legacy of the Beijing 2008 Games to give full play to its guiding and exemplary role. It has vigorously promoted the popularisation of winter sports and the development of fitness for all and brought about constant improvement of urban ecology and environment as well as accelerated transformation, upgrade and high-quality development of the city.

The Summer and Winter Olympic Games have profoundly changed the Chinese capital, where the elements of the two editions of the Games are integrated in the urban development and the Olympic legacies continue to bring the people and the city lasting benefits.



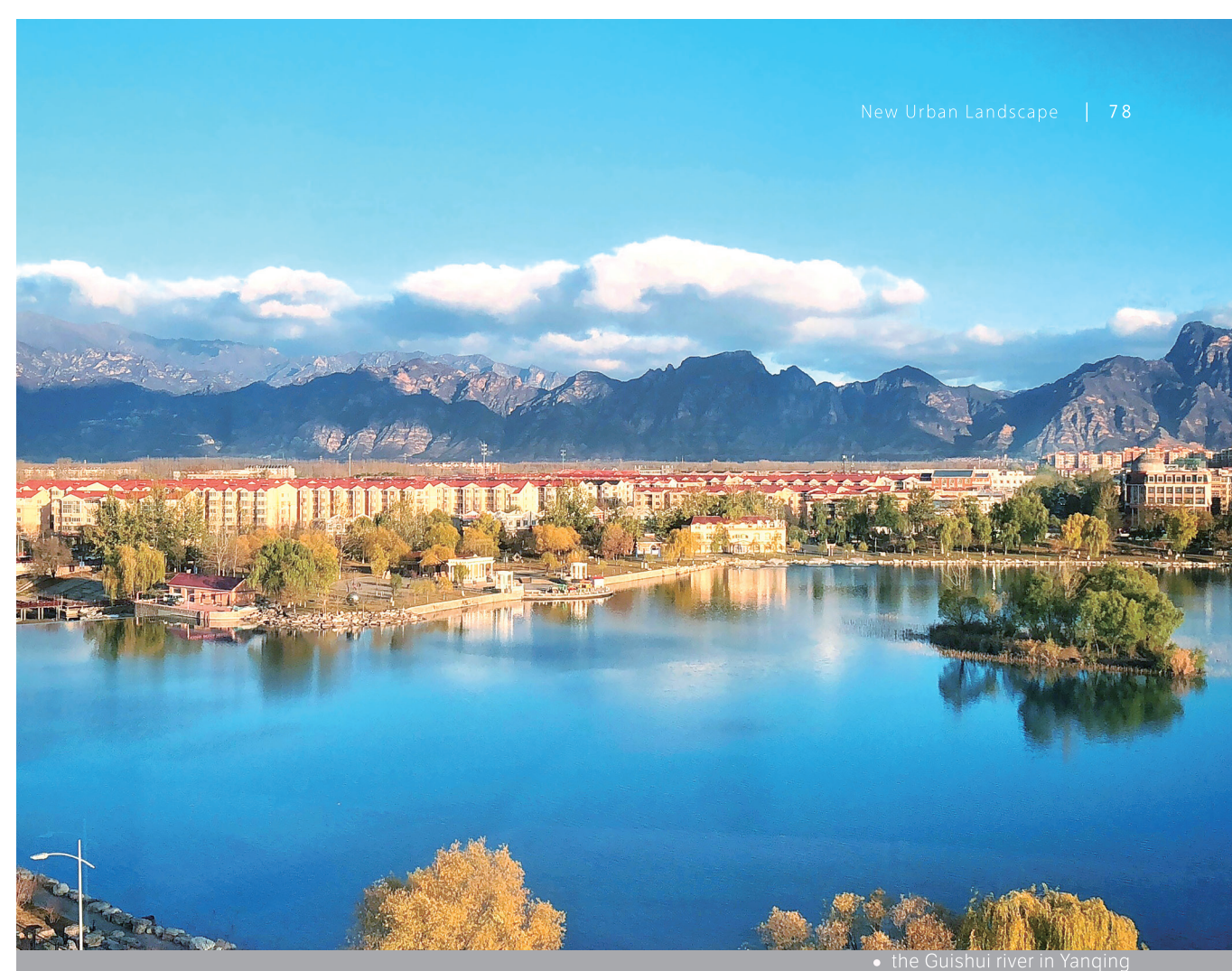
YANQING—BEAUTIFUL CITY

HOST CITY OF THE OLYMPIC AND PARALYMPIC WINTER GAMES BEIJING 2022

Taking the opportunity of staging the Beijing 2022 Games, Yanqing is vigorously developing its unique cultural and sports tourism. The three tourism “highlights” of Yanqing, the Great Wall, the site of the Beijing 2022 Games and Expo 2019, have together served as the engine to propel the all-round and rapid development of the local tourism industry. Through enhancement of ecological and environmental protection, upgrading the standard of infrastructure and the capacity of public service, and promoting the homestay inns industry and ecological tourism, Yanqing has successfully developed into a national example for regional tourism.

Yanqing competition zone is aiming to achieve post-Games sustainable development through multiple measures:

- Building a world-class alpine skiing and sliding training base for the national teams.
- Making use of venues and auxiliary facilities for multiple purposes after the Games.
- Facilitating development of outdoor sports and cultural tourism.
- Achieving all-season operation of the Olympic venues.
- The naming of “Yanqing Olympic Zone” will be an Olympic brand legacy to facilitate long-term development in large.



• the Guishui river in Yanqing

In addition, the preparations for the Beijing 2022 Games drive the continuous improvement of the infrastructure and environment of Yanqing District, improve the regional public services, and promote the development of cutting-edge technologies such as winter sports technology and renewable energy as well as the building of beautiful countryside. In the future, the legacy of the Beijing 2022 Games will continue to benefit the people, and Yanqing is advancing on the new journey towards “the beautiful host city of the Beijing 2022 Games”.

ZHANGJIAKOU—A CITY OF SPORTS

HOST CITY OF THE OLYMPIC AND PARALYMPIC WINTER GAMES BEIJING 2022

- 29 ice rinks and ski resorts in Zhangjiakou
- 9 large-scale ski resorts with 177 beginner, intermediate and advanced slopes that total 164 kilometres
- More than five million people have engaged in winter sports in 2020

The Beijing 2022 Games has put Zhangjiakou in the spotlight of the world stage and brought unprecedented opportunities of development to the city. As part of the Beijing-Tianjin-Hebei Coordinated Development programme, the city has seen remarkable economic and social development thanks to the upcoming winter gala. A green industrial structure is primarily in shape, winter sports are popularised across the city, ice and snow industry is developing rapidly, and equipment manufacturing plants have landed here. The ice and snow economy has created more jobs, increased people's income and raised their living standards, contributing decisively to the poverty elimination campaign.

The naming of the Zhangjiakou-Chongli Olympic Park and Zhangjiakou Olympic Medals Plaza will help Zhangjiakou further implement the strategic positioning of the city, inherit and make good use of the legacy of the Olympic venues, hold competitive and recreational winter sports events, develop all-season tourism, and strive to become an ice and snow tourism destination and a “City of Sports” in Asia.

SHOUGANG A NEW LANDMARK OF URBAN REVIVAL

Shougang Park, a century-old steel plant, has completed the relocation of the entire steelworks, in order to support the staging of the Beijing 2008 Games and comply with the national strategy of transforming and upgrading the steel industry and the strategic positioning of the capital city. After becoming the home to the Beijing 2022 Headquarters and Big Air Shougang, the Shougang Park has made good use of its industrial legacies while preparing for the winter sports gala. Now, Shougang is transforming into the Beijing Olympic Winter Park and creating a new landmark of urban regeneration of the capital city.

New Development for the Region

The preparations for the Beijing 2022 Games have been the driving force for the coordinated development of Beijing-Tianjin-Hebei Region. Beijing 2022 has been working with the host cities on the legacy plan which is aligned with the long-term regional development goals.

Following over six years of preparations and joint efforts, a situation that the Games preparations and the regional development are mutually promoted has come into being.

- Expedited the interconnection of transport infrastructure of Beijing and Zhangjiakou.
- Enhanced the joint control and protection of ecology and environment in the two cities.
- Industries in the two cities are developed in a complementary and mutual benefiting way.
- Public services are co-developed and shared.
- The Beijing-Zhangjiakou Sports, Culture and Tourism Belt has taken initial shape.
- Zhangjiakou has fully fulfilled the target of poverty alleviation.

The implementation of the strategy for coordinated development of Beijing-Tianjin-Hebei Region has seen encouraging outcomes.

All these developments prove that outstanding results have been achieved in both Games preparations and local development, and the win-win situation in both the Olympic Movement and regional development can be guaranteed.

INTERCONNECTED TRANSPORT INFRASTRUCTURE

Spurred by the Beijing 2022 Games, the Beijing-Zhangjiakou High-speed Railway and the Beijing-Chongli Expressway have become operational. Meanwhile, the regional road network have been gradually consolidated and a number of comprehensive transport hubs have been built. The transport infrastructure system in the Beijing-Zhangjiakou region has been improved, which not only meets the needs of the Beijing 2022 Games but also strongly supports the long-term sustainable development of the region after the Games.

Beijing-Zhangjiakou High-speed Railway

The preparations for the Beijing 2022 Games have accelerated the construction of the high-speed railway line linking Beijing and Zhangjiakou, which became operational at the end of 2019. Since then, it only takes 20 minutes from Beijing to Yanqing and 50 minutes from Beijing to Zhangjiakou. The traffic time among the three competition zones has been shortened significantly. Moreover, the Beijing-Zhangjiakou High-speed Railway plays an important role in promoting the coordinated development of northwest China and the Beijing-Tianjin-Hebei Region. By the end of 2020, the Beijing-Zhangjiakou High-speed Railway transported 6.806 million passengers during its first year of operation.

Beijing-Chongli Expressway

The Beijing-Chongli Expressway was put through on January 23, 2020, reducing the travel time between Yanqing and Zhangjiakou Competition



• Beijing-Chongli Expressway

Zones from 2.5 hours to 50 minutes and cutting the three-hour travel time from Beijing to the venues in Taizicheng by half.

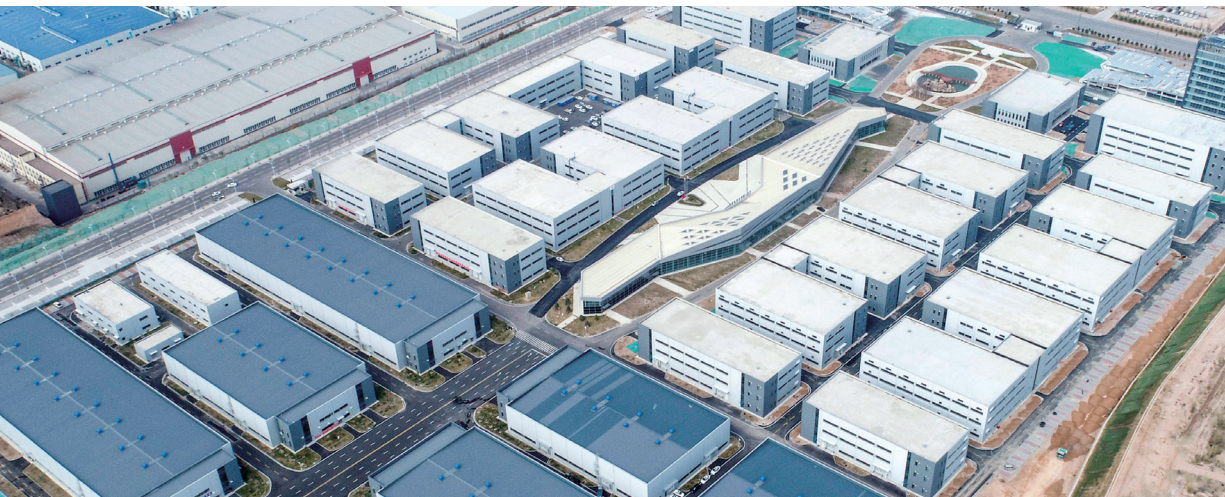
The Beijing-Chongli Expressway has helped Zhangjiakou integrate into the one-hour economic circle of the Beijing-Tianjin-Hebei Region, and facilitated the social-economic development in areas along the expressway. The Yanqing-Chongli section of the expressway has seen a total traffic flow of 2.25 million vehicles by June 2021 and an average daily traffic flow of nearly 10,000.

DEVELOPMENT OF MUTUALLY COMPLEMENTARY INDUSTRIES

Winter Sports Equipment Manufacturing Industry

Thanks to the preparations for Beijing 2022, winter sports have been popularised in Beijing and Zhangjiakou. This has propelled the rapid development of the winter sports industry as a whole, particularly the winter sports equipment manufacturing. Factories are concentrated in a number of winter sports equipment manufacturing parks and major projects are pushing ahead quickly.

Two manufacturing bases across the industry chain have been built in Zhangjiakou, each covering more than 200 hectares. By the end of November 2021, a total of 97 winter sports industrial projects have been signed.



• Winter sports industrial park in Zhangjiakou

Extended Industries of Renewable Energy

Motivated by the use of renewable energy at Beijing 2022 venues, Beijing and Zhangjiakou are promoting the production and consumption of green power and accelerating the development of hydrogen energy industry. During the Beijing 2022 Games, the Yanqing District and the city of Zhangjiakou will each launch 212 and 2,000 hydrogen-fuelled buses for chartered services and the emergency transport.

To date, Beijing and Zhangjiakou, particularly the latter, have developed complete industrial chains and established a framework of hydrogen power industry with good development potential.

Zhangjiakou has given full play to its advantages of cool climate, abundance of green power and low electricity price, as well as its proximity to Beijing, to attract high-tech companies from Beijing to set up big-data centres in Zhangjiakou. The big-data industry in Zhangjiakou has seen rapid development. By June 2021, twelve data centres were in operation in the city with 870,000 servers.

Agriculture

To provide high-quality agricultural products for the catering services of Beijing 2022, Yanqing and Zhangjiakou have respectively selected 3 and 30 agricultural bases. These measures have stimulated the upgrading of overall production capacity, quality and safety standards of the bases, and led to the leap-forward development in the agricultural industry of Yanqing and Zhangjiakou.

WORLD WINTER SPORTS (BEIJING) EXPO

Hosting the World Winter Sports (Beijing) Expo is a commitment made by Beijing 2022 to the international community. The Expo has been staged for six consecutive times in Beijing since 2016. This global platform has introduced many world-renowned winter sports enterprises and brands to China, showcased the latest scientific and technological innovations in the winter sports industry. It has played a positive role in opening China's winter sports market, and promoting international exchanges in the winter sports industry.

Take Expo 2020 as an example:

- More than 500 brands from nearly 20 competitive winter sports countries were involved, over 60% of which were top international brands.
- Nearly 200 guests including officials from national and international sports organisations, senior managers of domestic and foreign winter sports companies, experts of winter sports industries attended the forums.
- Around 600 media outlets covered the entire Expo, nearly 25,000 representatives from professional institutions were engaged in on-site business talks, and the Expo attracted about 200,000 visitors.



CO-CONSTRUCTION AND SHARING OF PUBLIC SERVICES

In preparing for the Games, Beijing and Zhangjiakou have increased investment in many areas such as communications infrastructure, accommodation and catering, medical services and education. The two cities have established the coordination and sharing mechanism to improve public services across the region.

Communication

Driven by the construction of communications infrastructure for the Beijing 2022 Games, the host cities speed up to build “a Smart City”. By the end of 2019, Beijing had built 17,357 5G base stations, along with 237 5G experimental stations in Zhangjiakou, providing full 5G coverage for the winter Olympic venues, the connecting roads and the urban areas of Zhangjiakou and Chongli.

Accommodation

Accommodation capacity and service standard of the host cities have been elevated by staging the Games. The Yanqing District has designated 14 hotels for Beijing 2022, including six newly-built ones, and 120 homestay inns and 376 guesthouses have been developed. The number of star-rated hotels in Zhangjiakou increased from 48 to 74 between 2015 and 2019, and the number of four-star hotels and above rose from 17 to 22. The Olympic standards are applied in these hotels to enhance the service quality of the entire industry in the host cities.



• the Peking University Third Hospital in Yanqing

Education

By 2020, a total of 460,000 primary and middle school students in Beijing and 110,000 in Zhangjiakou have taken part in winter sports on campus programmes. From 2016 to 2020, Beijing carried out 20 educational projects as part of the targeted assistance to Zhangjiakou, in addition to 25 school construction projects.

Medical Services

Yanqing has built a new Medical Support Centre for the Games and Zhangjiakou the Peking University Third Hospital Chongli. By September 2019, 48 public hospitals in Zhangjiakou and 60 major hospitals in Beijing have carried out 62 cooperation projects. Moreover, a standardised air rescue system has been established and 80 doctors have been trained to provide services on ice and snow fields.

BUILDING OF BEIJING-ZHANGJIAKOU SPORTS, CULTURE AND TOURISM BELT

The Beijing, Yanqing, and Zhangjiakou zones of the Beijing 2022 Games are located at the nodes in a belt-shaped territory, which is at the core area of the Beijing-Tianjin-Hebei Region from the south to the north. There are many famous scenic areas, historic sites, and cultural tourism resources located in this belt. In terms of traffic, the Beijing-Zhangjiakou High-speed Railway and the Beijing-Chongli Expressway link all places along the belt.

Since the start of the preparations for Beijing 2022 over six years ago, Beijing and Zhangjiakou have been working together closely to vigorously promote the integrated development of sports industries, culture and leisure industries, and winter tourism. The building of the Beijing-Zhangjiakou Sports, Culture and Tourism Belt has seen positive results and injected new vitality into the long-term regional development.



Better Life for the People

The Games preparations in the past seven years have brought positive changes to people's lives, satisfied their expectation for better life, and left lasting benefits to the people and host cities.

- Winter sports for all and healthy lifestyle have been promoted.
- Employment has increased and people's living conditions have improved driven by the development of winter sports industry.
- Interconnected transport infrastructure has provided travellers with reliable and convenient travelling method.
- Co-construction and sharing of public services has offered easier life for people.
- The improvement of accessibility has created a more inclusive environment for people with disabilities.
- A growing number of people have engaged in social volunteering.



北京奥运城市体育文化节
Beijing Olympic City Sports Culture Festival



“FITNESS-FOR-ALL” AND “HEALTHY CHINA”

The Beijing 2008 Games has ignited the enthusiasm of the public for sports and launched a boom in fitness for all activities. During the preparation for the Beijing 2022 Games, various winter sports activities and events have been organised, a number of winter sports venues and facilities have been constructed, more and more people are brought to enjoy winter sports all year round, and doing regular physical exercises has gradually become a lifestyle of the public, which further promotes the national fitness and contributes to the building of “Healthy China”. As of the end of 2020, 50.18% of the total residents of Beijing and 43.41% of the total residents of Hebei Province had engaged in regular physical exercises.

Olympic and Paralympic education has been widely promoted throughout the society at large. Under the framework of the Beijing 2022 National Olympic and Paralympic Education Programme for Primary and Secondary Schools, Olympic and Paralympic education has been included into school curriculums. Olympic knowledge, Olympic culture and winter sports have been popularised and the Olympic Spirit has been spread through various activities, inspiring more and more young people to participate in winter sports, adopt a healthy lifestyle, hold onto the Olympic values of excellence, friendship and respect, and promote the healthy growth and all-round development.



- The Beijing Organising Committee for the 2022 Olympic and Paralympic Winter Games organised a charity run in the Expo 2019 Beijing on the International Olympic Day in 2019, advocating low-carbon lifestyle.

POVERTY ALLEVIATION AND LOCAL DEVELOPMENT

The preparations for Beijing 2022 have provided Yanqing and Zhangjiakou with a historical opportunity to expedite the construction of infrastructure and carry out poverty alleviation campaign in the rural areas, which have provided more employment and development opportunities for the locals, and substantially improved the living standard.

As of June 2021, all 12 poverty-stricken counties and districts in Zhangjiakou have been lifted out of poverty, involving 939,000 poor people in 1,970 poverty-stricken villages.

Infrastructure construction intensified

Infrastructure for drinking water, electricity and telecommunication have greatly upgraded, and transport infrastructure totally improved, making people's life more convenient and improving living conditions significantly.

Poverty alleviation through ecological means

Zhangjiakou has increased the engagement of the population below poverty line in the afforestation projects, providing more job opportunities for the registered individuals below poverty line. The new ecological approaches for poverty alleviation have helped local people to increase their income and lifted them out of poverty.



- The living conditions of residents in Shangwopu village, Chongli District of Zhangjiakou City have significantly improved

“Pair-up assistance in poverty alleviation” between Beijing and Zhangjiakou

Beijing and Zhangjiakou have launched a programme of “pair-up assistance in poverty alleviation” in the areas of ecological and environment protection and social services, bringing together resources to help people below poverty line increase their income and employment.

Employment through development of winter sports industry

Development of the winter sports industry and sport economy play an important role in supporting rural labour transfer and employment of the poverty-stricken people. All kinds of vocational training programmes are provided to guide urban and rural labour forces to get higher-quality employment through skill training.

IMPROVING PUBLIC SERVICES TO ENHANCE PEOPLE'S HAPPINESS

Driven by the Beijing 2022 Games, Beijing and Zhangjiakou have established a co-construction and sharing mechanism to increase the investment in transport, communication, accommodation, catering, medical services, education, etc., and enhance people's happiness and sense of fulfilment by improving the regional public services.

Convenient Transport

With the full opening of the Beijing-Zhangjiakou High-speed Railway and the Beijing-Chongli Expressway, the public can travel faster in the region in a comfortable and convenient way, and enjoy the convenience of skiing tour, business travel, and visits to friends and relatives.



• Running to Beijing 2022

Smooth communication

With the acceleration in the construction of communication infrastructure and services focusing on the sites related to the Beijing 2022 Games, 5G signals are available in all Games' competition zones and relevant urban areas. People can enjoy massive and fast communication services in a wider range and access to the Internet all the time.

Pleasant catering and accommodation services

The capacities of accommodation and catering services standards have been expanded gradually in the host cities. Accordingly, people can enjoy better accommodation and catering services, and more pleasant experience during trips and holidays.

Satisfactory medical services

Guided by the needs for medical services during the Games, joint efforts have been made by Beijing and Zhangjiakou to improve regional medical services. More hospitals and medical care facilities have been built, enabling people in Yanqing, Zhangjiakou, and even the surrounding areas to enjoy high-level medical services at their doorsteps.

Better education resources

Lots of "Pair-up assistance in education" projects have launched between Beijing and Zhangjiakou since 2016. More schools co-construction projects have been implemented, and the Beijing Institute of International Olympic Studies settled in Yanqing. All those measures have brought more opportunities for quality education to the local students.

VOLUNTEERISM DRIVES SOCIAL PROGRESS

During the Beijing 2008 Olympic and Paralympic Games, 1.7 million volunteers not only impressed the world with their sincere smiles and enthusiastic services as a brilliant part of the grand event, but also triggered a surge of volunteer services in the country afterwards. The public has responded enthusiastically to the recruitment of volunteers for the Beijing 2022 Games since 2019, and 1.15 million people have registered by June 30, 2021.

The voluntary services at both the Summer and Winter Olympic Games in Beijing have further inspired more people to join the volunteer service cause, and the level and capability of voluntary services have significantly improved, which has promoted the social values of “Dedication, Friendship, Solidarity”, established good images of the host cities, and further promoted social progress.



IMPROVING ACCESSIBILITY TO EXPEDITE CONSTRUCTION OF AN INCLUSIVE SOCIETY

In preparation for the Beijing 2022 Games, the host cities accelerated the construction of accessible facilities and improved accessible services so that people with disabilities can travel more easily, live more conveniently, and better engage in social life, and the awareness of respecting and caring for them is growing. The initiative and professionalism of helping people with disabilities have been improved and remarkable achievements have been made in building an inclusive society.

- The host cities have vigorously promoted the development of accessibility in the areas of urban roads, public transport, public service as well as information and communications.
- Establish fitness models for the PwDs, upgrade the winter sports fitness facilities to engage more PwDs participate in physical exercise in winter.
- A series of “National Training Camp for Instructors of Winter Sports for the PwDs” have been organised since 2017.
- The role of media is strengthened in spreading the spirit of the Paralympic Games, and creating a good social climate of caring for and respecting the PwDs.