中国科学院·电工研究所 IEECAS

Department for Energy Security & Net Zero

UNIVERSITY OF BIRMINGHAM

RSE Ricerca Sistema Energetico

GREEN POWERED FUTURE MISSION

MISSION INNOVATION CHINESE SECRETARIAT

Mission Innovation Green Power Innovation Conference 2026

Birmingham, United Kingdom
May 28, 2026

MI GREEN POWER INNOVATION CONFERENCE

Contents

1. Introduction

1.1 About the Mission Innovation

Mission Innovation (MI) is a global, member-driven intergovernmental platform dedicated to accelerating clean energy innovation through voluntary collaboration among governments, international organizations and industry. Launched at COP21 in Paris in 2015, MI brings together 22 countries and the European Commission, representing the European Union, with the shared objective of advancing research, development and demonstration to make clean energy solutions affordable, attractive and accessible worldwide.

1.2 About the Green Powered Future Mission

As one of the seven Missions under the MI initiative, the Green Powered Future Mission (GPFM) has the ambitious goal to demonstrate that power systems in different geographies and climates can effectively integrate up to 100% variable renewable energy (VRE) in their generation mix by 2030 while maintaining a cost-efficient, secure, and resilient system.

To draw a pathway towards integrating 100% VRE sources in the power systems generation mix by 2030; GPFM during the first sprint of activity has developed and released the Joint Roadmap of Global Innovation Priorities. Presented at COP26 in November 2021, this joint roadmap identifies the Top 100 Global Innovation Priorities that need to be tackled to accelerate energy system modernisation and decarbonisation. The Mission's activities will rely on large-scale demonstrations, replicability studies and digital solutions to build a "toolbox" from which countries can pick and customize innovative solutions as appropriate to their own geography, system conditions and national strategies.

1.3 About the MI Green Power Innovation Conference

The MI Green Power Innovation Conference (GPIC) is an annual international forum mechanism initiated by the MI's GPFM. It is committed to addressing the common challenges in the global green and low-carbon energy transition through diverse thematic agendas,

including technical workshops, demo promotions, and cooperative dialogues, while exploring new models of government-industry-academia-research-investment innovative cooperation.

From 2023 to 2025, the GPIC has been successfully held for three consecutive sessions in Yancheng, China, laying a solid foundation for global cooperation in green power innovation. Looking ahead, we are committed to engaging more international partners to jointly integrate and promote global innovative solutions for renewable energy systems.

1.4 About the GPIC Birmingham Workshop

As an important part of the GPIC Series, MI Green Power Innovation Conference 2026 Birmingham Workshop will be held at the University of Birmingham on May 27-28, 2026, with the theme of "Building Smart, Flexible and Resilient Power Systems for High Renewable Integration." The event is organized by the Institute of Electrical Engineering, Chinese Academy of Sciences (China), the University of Birmingham (UK), the Department for Energy Security and Net Zero (UK), and Ricerca sul Sistema Energetico S.p.A. (Italy). It is co-organized by the GPFM Coalition and the MI Chinese Secretariat.

1.5 About Birmingham

As you prepare for the Birmingham Workshop, we invite you to explore the rich heritage and forward-looking spirit of the UK's second-largest city. Historically known as the "City of a Thousand Trades," Birmingham was the engine room of the Industrial Revolution. Today, it has evolved into a vibrant, multi-cultural metropolis that balances its industrial roots with a modern, green identity.

In recent years, Birmingham has undergone a significant "Green Revolution," positioning itself as a leader in clean energy and sustainability. The city has set an ambitious "Route to Zero" (R20) commitment, aiming to become net-zero carbon by 2030. A cornerstone of this progress is the Tyseley Energy Park (TEP), located just a few miles from the University. TEP is a world-leading energy innovation hub that focuses on low-carbon power, transport, and waste solutions.

As of 2026, it is home to the UK's first commercial-scale rare earth magnet recycling facility and a massive hydrogen refueling station, supporting the city's fleet of zero-emission buses.

Birmingham Skyline

The University of Birmingham itself plays a pivotal role in this transformation through its Birmingham Energy Institute, which drives research into thermal energy storage and "clean cold" technologies. Furthermore, the city's Clean Air Zone (CAZ), launched in 2021, has successfully reduced nitrogen dioxide levels by over 30% in the city center, creating a healthier environment for residents and visitors alike. Whether you are strolling along the revitalized canals or attending sessions in our state-of-the-art campus facilities, you are witnessing a global city in the midst of a historic transition toward a sustainable, high-tech future.

Edgbaston Campus, University of Birmingham

1.6 About the Tyseley Energy Innovation Park

Tyseley Energy Park (TEP), a 16-acre flagship green energy innovation zone in Birmingham's Tyseley district, is the core of the West Midlands' low-carbon transition. Built on the historic site of 300-year-old Webster & Horsfall, it operates independently to drive decarbonisation and clean energy innovation. Key facilities include a 10MW waste wood biomass power station (converting local waste to green electricity) and the UK's largest green hydrogen hub, producing over 1 tonne of green hydrogen daily to fuel Birmingham's zero-emission bus fleet. It also hosts the Birmingham Energy Innovation Centre (in partnership with the University of Birmingham) for R&D in hydrogen, smart grids and low-carbon heating, plus the UK's first commercial rare earth magnet recycling hub. Through collaboration with industry, academia and government, TEP aims to create 500+ low-carbon jobs by 2030, serving as a national blueprint for urban net-zero transformation.

Aerial Perspective of the Park

2. Agenda

Time: 27th May (Wednesday) **Location: Tyseley Energy Innovation Park**	
14:00-16:00	**Technical Visits**
Time: 28th May (Thursday) **Venue: The University of Birmingham, Old School of Engineering, Lecture Theatre (First Floor, G29)**	
09:00-09:20	**Networking Coffee & Group Photo**
Chair: Yaxuan Jiao MI Chinese Secretariat Deputy Head, Institute of Electrical Engineering, Chinese Academy of Sciences, China	
09:20-09:30	**Welcome Address** **Sara Walker** — Director, Birmingham Energy Institute, University of Birmingham UK **Yibo Wang** — GPFM Pillar 1 Lead, Institute of Electrical Engineering, Chines Academy of Sciences, China
09:30-09:45	**Introduction to the Mission Innovation Green Powered Future Mission** **Jia Zhang** — MI Chinese Secretariat Head, Institute of Electrical Engineering, Chinese Academy of Sciences, China
Plenary Session	
Chair: Xiaoping Zhang Co-Director, Birmingham Energy Institute, School of Engineering, University of Birmingham	
09:45-09:55	**GPFM Pillar 1: Progress on Renewable Energy Innovation & Collaboration** **Yibo Wang** — GPFM Pillar 1 Lead, Institute of Electrical Engineering, Chines Academy of Sciences, China
09:55-10:05	**GPFM Pillar 2: Progress on System Flexibility Innovation & Collaboration** **Mattia Cabiati** — GPFM Pillar 2 Lead, Ricerca sul Sistema Energetico S.p.A., Italy
10:05-10:15	**GPFM Pillar 3: Progress on Digital Integration Innovation & Collaboration** **Craig Fraser** — GPFM Pillar 3 Lead, Department for Energy Security and Net Zero, UK
10:15-10:25	**The Urban Transitions Mission (UTM), brokering solutions for research and innovation in cities** **Miriam Badino** — Technical Coordinator, Mission Innovation - Urban Transitions Mission
10:25-10:35	**Launching Ceremony of the China-Italy GPFM Young Talents Exchange Program**

	Yibo Wang	GPFM Pillar 1 Lead, Institute of Electrical Engineering, Chinese Academy of Sciences, China
	Mattia Cabiati	GPFM Pillar 2 Lead, Ricerca sul Sistema Energetico S.p.A., Italy
	Agreement Signing on Green Power Technology China-UK Joint Laboratory between IEECAS and Brunel	
	Yibo Wang	GPFM Pillar 1 Lead, Institute of Electrical Engineering, Chines Academy of Sciences, China
	Gareth Taylor	Director, Brunel Interdisciplinary Power Systems Research Centre, Brunel University of London, UK
10:35-11:00	**Coffee Break**	
"International Cooperation on Technology, Market and Regulation for Next-Generation Power Systems" Panel Discussion		
Chair: Craig Fraser		
11:00-12:00	**Participation List**	
	Mattia Cabiati	Ricerca sul Sistema Energetico S.p.A., Italy
	Avi Aithal	Strategic Programme Director, Energy Networks Association, UK
	Haiyan Wu	Research Manager, Bartlett School of Environment, Energy and Resources, University College London, UK
	Miriam Badino	Technical Coordinator, Mission Innovation - Urban Transitions Mission
	Chen Huo	Assistant Research Fellow, IEECAS, China
12:00-13:00	**Lunch Break**	
"Enhancing Flexibility and Resilience in Advanced Power Systems" Technical Session		
Chairman: Mattia Cabiati		
13:00-13:15	**Future Energy Systems Data Sharing Infrastructure and Digitalisation**	
	Gareth Taylor	Director, Brunel Interdisciplinary Power Systems Research Centre, Brunel University of London, UK
13:15-13:30	**Energy Quality for Renewable Energy Integration: From Theory to Practice**	
	Xiaoping Zhang	Co-Director, Birmingham Energy Institute, University of Birmingham, UK
13:30-13:45	**Technological Progress on HVDC renewable power system**	
	Huan Wang	Associate Researcher, IEECAS, China
13:45-14:00	**Standards for Interoperable Domestic Flexibility: PAS 1878 & the revision**	

	Rebecca Shutt	Department for Energy Security and Net Zero, UK
14:00-14:15	**Analysis of Multi-rotor Wind Turbine Performance and Key Technologies Investigation**	
	Bin Song	Assistant Research Fellow, IEECAS, China
14:15-14:30	**Incentives and market design for power system flexibility: UK and Europe**	
	Anders Hove	Senior Research Fellow, Oxford Institute for Energy Studies, UK
14:30-14:45	**Q&A / Open Discussion**	
14:45-15:15	**Coffee Break**	
"Smart Technologies and Substantial Solutions for Future Power Grids" Technical Session		
Chair: Yibo Wang		
15:15-15:30	**Superconducting Electric Machines: Advancing Decarbonisation in Wind Energy and Transport**	
	Hongye Zhang	Assistant Professor, University of Edinburgh, UK
15:30-15:45	**AI-based Fast Frequency Response Control for Wind-Hydrogen Integrated Power Systems**	
	Mostafa Kheshti	Assistant Professor, University of Warwick, UK
15:45-16:00	**Examples of Results from GPFM Pilot Projects on Power System Flexibility**	
	Mattia Cabiati	Ricerca sul Sistema Energetico S.p.A., Italy
16:00-16:15	**Wave Power Conversion System and Grid Integration**	
	Nan Zhao	Senior Lecturer, School of Engineering, Lancaster University, UK
16:15-16:30	**Innovation project – MinGFM**	
	Yichen Liu	Senior Power System Engineer, National Energy System Operator, UK
16:30-16:45	**Building Integrated PV: Simulation, Design, and Technology**	
	Chen Huo	Assistant Research Fellow, IEECAS, China
16:45-17:00	**Q&A / Open Discussion**	
17:00-17:10	**Closing Remarks & Family Photo** **GPFM co-leads**	

3. Logistics Note

3.1 Event Venue

The Birmingham Workshop will be held at the University of Birmingham, Old School of Engineering, Lecture Theatre, with sessions running from 9am to 5pm on Thursday 28th May 2026. You can refer to the campus map to help you explore the Edgbaston campus and locate the venue.

3.2 Travel Guidance

3.2.1 Getting to the Edgbaston Campus

The University of Birmingham is located just over two miles from the city centre and is highly accessible by all major forms of transport. The main campus address is: *University of Birmingham, Edgbaston, Birmingham, B15 2TT, UK.*

Arriving by Air

- **Train:** Regular services run from the airport to the main central railway station "Birmingham New Street". It will take approximately 15-20 minutes depending on the route and number of stops. This will cost around £5.
- **Taxi:** A taxi rank is located just outside the arrivals area of – follow the "Taxi" signs as you exit. You may also request Uber services to this pick-up area. Taxi/Uber will cost £30-40.

Arriving by Rail and Bus

- From Birmingham New Street station there are regular trains directly to University which cost £3.50 (£3.60 return).
- If you are staying at a hotel on Broad Street, you can also walk to Five Ways station and take the same train line as above.
- You can also take the X21 or X22 bus from Smallbrook Queensway, a short walk from Birmingham New Street station.

Taxis and Local Travel

- **Taxis:** Ranks are available at New Street Station and throughout the city centre. The

drive to the University typically takes 10 minutes.

- **Cycling and Walking:** The campus is easily accessible via the Worcester and Birmingham Canal towpaths or the A38 cycle route, which provides a safe, segregated path from the city centre to the University gates. Cycle parking and free shower/changing facilities are available at the Munrow Sports Centre.

Arriving by Car and Parking

The University is accessible via the M6, M5, M42, and M40. Follow signs for the A38 Bristol Road.

- **Visitor Parking:** Please use the North East Multi-storey Car Park (Pritchatts Road, B15 2SA).
- **Charges:** Parking is charged Monday–Sunday, 8am–6pm (including bank holidays). Rates start at £3.40, capped at £10 on weekdays, with a flat day rate of £2.50 on weekends. Payments are made via the RingGo app (Location: 15677) or on-site machines.
- **Note:** The ground floor is reserved for Edgbaston Park Hotel guests. There is no lift in this car park. EV charging is available on the roof level (charges apply).

Traffic Tickets

Birmingham's public transport options (trains, buses, trams) do not use a unified ticket system, but they are reasonably simple to navigate.

- Train tickets can be purchased online, using the Trainline app, or at ticket booths within the stations.
- Bus and tram tickets can be bought on board using contactless payment (tap with Visa/Mastercard/AMEX).

  Common options

  - Train: prices depend on distance, refer to online information or the Trainline app.
  - Bus: single: £3.00; day pass £5.20 (tap the same contactless card every journey within 24h and you will only be charged £5.20)
  - Apps: West Midlands Metro (tram, tram+bus), NX West Midlands (bus), Trainline, Google Maps

- Please check the above information before travelling.

3.2.2 Drinks

The Bratby Bar is on campus and thus is highly recommended. If looking for food and drink venues beyond the Bratby Bar, you can consider the following venues.

Harborne Area

- **The Hop Garden:** 19 Metchley Lane. Offers an excellent selection of craft ales; it is a short distance from campus and roughly the same distance from your accommodation as the Selly Oak pubs.
- **The Bell:** 11 Old Church Road. Located a bit further away, this spot offers a quaint, traditional English drinking experience.

Selly Oak (Near Campus)

- **Goose / The OVT:** 561 Bristol Road. Highly convenient due to its close proximity to the University campus.
- **The Bristol Pear:** 676 Bristol Road. Another great option benefiting from being situated right next to the campus.

City Centre (Near New Street Station)

- **Bacchus Bar:** Burlington Arcade. A unique venue located right next to the main train station.
- **The Victoria:** 48 John Bright St. A stylish choice also located very close to the train station.
- **Tilt:** 2 Union St. Situated slightly further into the city centre, this venue boasts real ales paired with vintage pinball machines.

If looking for venues that open later than 11.00pm, you need to venture into the bars in the City Centre.

3.2.3 Accommodation

We recommend booking your accommodation as early as possible. You are recommended to stay at Edgbaston Park Hotel and Conference Centre, which are conveniently located on the campus. More details are as follows.

Edgbaston Park Hotel (On-Campus)

As the University's own flagship hotel, Edgbaston Park Hotel offers a blend of contemporary luxury and historic charm. Located within very easy walking distance of the Edgbaston campus venues, the hotel features 185 modern bedrooms, three self-catering apartments, and two characterful period buildings. Residents can enjoy the landscaped gardens, free Wi-Fi, and free on-site parking. For dining, the 1900 Restaurant serves delicious seasonal menus and afternoon tea, while the 1900 Bar provides a stylish space for light bites, socializing, or catching up on work. To book or find out more, visit the Edgbaston Park Hotel website.

Peter Scott House (On-Campus)

Located at Birmingham B15 2RA, Peter Scott House is an ideal choice for business travelers looking for comfortable and affordable accommodation directly on campus. It offers 36 en-suite twin bedrooms equipped with business-friendly amenities, including desks and high-speed Wi-Fi. Breakfast is included in the booking, ensuring a convenient start to your conference day. Its central location makes it a perfect base, situated just a 10-minute drive from New Street Station and 5 minutes from the city center. To book or contact more, please contact info@conferences.bham.ac.uk or call 0121 415 8400, mentioning that you are attending a conference on campus.

Premier Inn Birmingham Central (Hagley Road, Off-Campus)

Situated just outside the immediate bustle of the city center but close enough to the action, the Premier Inn on Hagley Road is a reliable and highly-rated choice. It features spacious rooms with extra-comfy beds, air conditioning, and full en-suite bathrooms. The hotel provides free parking and free high-speed Wi-Fi for all guests. With an on-site restaurant and a 24-hour front desk, it offers a practical stay for those attending conferences at the University or nearby city venues. It is particularly well-placed for those who also wish to visit the Birmingham Botanical Gardens or the city's shopping districts. To book or find out more, please call 011 44 871 527 8082.

easyHotel Birmingham City Centre (Off-Campus)

For attendees seeking a super-budget stay in the heart of the city, easyHotel Birmingham is an excellent choice. Located just a few minutes' walk from Birmingham New Street Station, it provides easy rail access to the University of Birmingham (approx. 7 minutes by train). The hotel is perfectly situated for exploring cultural highlights, with the Bullring and Grand Central shopping centers nearby. All rooms are air-conditioned, heated, and feature en-suite showers. Please note that while the hotel offers a 24-hour front desk and baggage storage, certain amenities such as Wi-Fi and TV are available for an additional cost. To book or find out more, please check this website.

Other Suggested Alternative Hotels

Hotel	Location	Estimated cost per night
Hampton by Hilton	Broad Street	£64
Novotel	Broad Street	£69
Holiday Inn	Smallbrook Queensway	£80
Leonardo Royal	Broad Street	£83
Burlington Hotel	New Street	£88