







# BRICS ENERGY RESEARCH DIRECTORY 2021



### **Imprint**

### **Study By**

Indian Council for Research on International Economic Relations (ICRIER)
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### **Commissioned on behalf of**

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The directory has been prepared under the leadership of Amrita Goldar, Senior Fellow (ICRIER). The project activities were carried out by Diya Dasgupta (Research Associate), Tarun (Research Assistant), Kumar Gaurav (Research Assistant) and Sajal Jain (Research Associate).

# **BRICS RESEARCH DIRECTORY**

This year, the Indian Presidency has prepared a Draft BRICS Research Directory that is a compilation of agencies (research institutes, academic bodies, etc.) within the BRICS countries that are engaged in low carbon technology research. It is expected that this document will prove to be pivotal for taking forward research cooperation between member countries and also between the academia and government circles.

## **Brazil**

| No. | Name of the organization/institute | About   | Contact Person   |
|-----|------------------------------------|---|--|
| 1   | Energy Research<br>Office (EPE)    | The Energy Research Office (EPE, in its Portuguese acronym) aims at supporting the Brazilian Ministry of Mines and Energy (MME) energy policies with studies and research on energy planning covering electricity, oil, natural gas and its derivatives and biofuels. EPE' studies cover the areas of engineering, economics, modeling, policy and environment and where they overlap.  | Thiago Barral, CEO (presidencia@epe.gov.br)  Mariana Espécie, Chief of Staff (mariana.especie@epe.gov.br; gabinete@epe.gov.br) |
|     |                                    | Established by Law 10.847, of March 15 <sup>th</sup> , 2004, EPE is 100% state-owned whose purpose is to ensure the basis for the sustainable development of the country's energy infrastructure. EPE's role has been consolidated as a fundamental part of the energy policy design and implementation that begin with the definition of policies and guidelines within the scope of CNPE - National Council of Energy Policy and MME. EPE' studies and research support the development of the Brazilian energy industry. |  |
|     |                                    | The EPE work requires broad articulation with a multiple range of institutions whose mandates are related to the energy industry. Besides the MME, its institutional relationships include regulatory agencies - ANEEL, ANP, ANP and ANA, the Independent National Operator of the Electric System – ONS, the Market Operator – CCEE, among others.   |  |
|     |                                    | Located in Brasilia (headquarters) and Rio de Janeiro (main office), EPE is an organization that has about 270 employees, with graduate-level degree as diverse as Engineering, Economics, Mathematics, Biology, Business Administration, among many others and with about 80% of them holding a post-graduate degree.  |  |

# Russia

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| 2.  | Natural Monopolies<br>Research (IPEM)        | 5. Sustainable transport                              |                                      |
|     |  | 6. Energy efficiency                                  |                                      |
|     |  | 7. Hydrogen   |                                      |
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| 3.  | Diplomacy MGIMO of                           | 4. Gas, including LNG                                 |                                      |
|     | the Ministry of Foreign<br>Affairs of Russia | 5. Sustainable transport                              |                                      |
|     | Alland of Raddia                             | 6. Energy efficiency                                  |                                      |
|     |  | 7. Hydrogen   |                                      |
|     |  | 8. Standardization and regulation                     |                                      |
| 4.  |  | Research on energy sector development of BRICS states | George Toloraya                      |
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|     |   | 3. Renewables   | E-mail: VTerentev@vniineft.                    |
| 6.  | VNIIneft JSC  | 4. Gas, including LNG                                 |  |
| 0.  | Vitamoresoo   | 5. Capacity building                                  |  |
|     |   | 6. Hydrogen   |  |
|     |   | 7. Standardization and regulation                     |  |
|     |   | 8. Funding for research cooperation projects          |  |
|     |   | Research on energy sector development of BRICS states | Vitaly Kremlev                                 |
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| 7.  |   | 4. Renewables   |  |
|     |   | 5. Gas, including LNG                                 |  |
|     |   | 6. Sustainable transport                              |  |
|     |   | 7. Energy efficiency                                  |  |
|     |   | 8. Capacity building                                  |  |
|     |   | 9. Standardization and regulation                     |  |
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| 10. | Technical Center of<br>Unified Power System<br>- Emergency Control» | 3. Smart grids  | E-mail: ntc@ntcees.ru                          |
|     |   | 4. Standardization and regulation                     |  |

| 11. | Joint-Stock Company<br>«Scientific and<br>Technical Center of<br>Unified Power System | Research on energy sector development of BRICS states | Peter Antonov                                  |
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|     |   | 3. Smart grids  | E-mail: antonov-ps@so-ups.                     |
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|     | Institute"  | 4. Funding for research cooperation projects          |  |
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| 14. | of Science and<br>Technology MISIS  | 3. Energy efficiency                                  | E-mail: rogozinskiyev@misis.                   |
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|     | Public Joint Stock<br>Company Gazprom   | Research on energy sector development of BRICS states | Alexey Biteryakov                              |
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|     | Company Gazprom   |   | E-mail: V.Zinin@adm.<br>gazprom.ru             |

|     | Public Joint Stock       |  | Kanatantin Damanay                             |
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| 17. | LLC "Gazprom<br>Vodorod" | 1. Hydrogen                                  | Tel.: +7 (812) 641-36-15                       |
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|     |                          |  |  |
|     |                          | 1. Technological cooperation                 | Sergey Dolgachev                               |
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| 22. | Hevel Energy Group       | 3. Energy efficiency                         | E-mail: s.dolgachev@avelar-<br>solar.com       |
|     |                          | 4. Hydrogen                                  |  |

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|     | National Gas Vehicles  | 3. Energy efficiency                                  |   |
| 24. | Association  | 4. Standardization and regulation                     |   |
|     |  | 5. Funding for research cooperation projects          |   |
|     | Financial University   |   | Ivan Petrov   |
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| 26. |  | 4. Renewables   |   |
|     |  | 5. Bioenergy  |   |
|     |  | 6. Gas, including LNG                                 |   |
|     |  | 7. Energy efficiency                                  |   |
|     |  | 8. Hydrogen   |   |
|     |  |   |   |
|     | Federal State Budgetary  | 1. Technological cooperation                          | Oleg Zhdaneev   |
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|     |  |   | E-mail: Zhdaneev@<br>rosenergo.gov.ru                                   |
|     | Federal State<br>Budgetary<br>Organization "Russian  | Research on energy sector development of BRICS states | Denis Deryushkin  |
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|     |  | 3. Digitalization                                     | E-mail: s.gumerov@dtwin.ru                         |
| 32. | DIGITAL TWIN                             | 4. Energy efficiency                                  |  |
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|     |  | 6. Standardization and regulation                     |  |
|     |  | 7. Funding for research cooperation projects          |  |
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|     | National Research                        | 5. Gas, including LNG                                 | Ilya Dolmatov                                      |
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|     |  | 8. Capacity building                                  |  |
|     |  | 9. Smart grids  |  |
|     |  | 10. Hydrogen  |  |
|     |  | 11. Funding for research cooperation projects         |  |

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|     |   | 4. Gas, including LNG                         | 2 main vacionave impara                 |
|     | Moscow Institute                          | 5. Sustainab le transport                     |   |
| 34. | of Physics and                            | 6. Energy efficiency                          |   |
| ·   | Technology (National Research University) | 7. Capacity building                          |   |
|     | Tresearen enivereity)                     | 8. Smart grids                                |   |
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|     |   | 10. Funding for research cooperation projects |   |
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|     |   |   | E-mail: Zharikova_NKh@pers.<br>spmi.ru  |
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|     |   | 2. Hydrogen                                   | Tel. +7 (912) 425-90-65                 |
|     |   |   | E-mail: Zharikova_NKh@pers.<br>spmi.ru  |
|     |   |   | Oleg Kazanin                            |
|     |   | 1. Coal                                       | Tel. +7 (812) 328-82-11                 |
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# India

| S.No | Name of<br>Organizations/<br>Institute                                   | Priority Area of Work  | Contact Person  |
|------|--|--|---|
| 1    | The Energy and<br>Resources Institute                                    | 1. Energy Efficiency 2. Energy Access 3. Renewable Energy 4. Demand Side Management 5. Hydrogen 6. Electric Mobility 7. Smart Grids 8. Green Building and Sustainable Habitat 9. Resource Efficiency 10. Waste Management  | Dr. Vibha Dhawan<br>Tel. +91-11-2468 2100<br>E-mail: DG@teri.res.in               |
| 2    | Council on Energy,<br>Environment and<br>Water                           | <ol> <li>Energy Access</li> <li>Renewable Energy</li> <li>Power Sector</li> <li>Industrial Sustainability &amp; Competitiveness</li> <li>Low Carbon Pathway</li> <li>Technology, Finance &amp; Trade</li> </ol>  | Dr. Arunabha Ghosh<br>Tel. +91-11-40733300<br>E-Mail: <u>info@ceew.in</u>         |
| 3    | Indian Institute for<br>Human Settlements                                | <ol> <li>Climate Change Adaptation and Mitigation</li> <li>Urban Risk and Resilience</li> <li>Water, Sanitation and Environmental</li> <li>Services</li> <li>Energy</li> <li>Architecture, Spatial Design and Heritage</li> <li>Land Governance and Management</li> <li>Sustainable Urban Development</li> </ol> | Dr. Aromar Revi<br>Tel. +91-80-67606666<br>E-Mail: info@iihs.co.in                |
| 4    | Alliance for an<br>Energy Efficient<br>Economy                           | Building and Communities     Power Utility & Electric Mobility     Industrial Energy Efficiency     Energy Data Services   | Dr. Satish Kumar<br>Tel. +91-11-41235600<br>E-Mail: info@aeee.in                  |
| 5    | Center for Study<br>of Science,<br>Technology and<br>Policy              | Climate Environment and Sustainability     Energy and Power  | Dr. VS Arunachalam<br>Tel. +91-80-66902500<br>E-Mail: cpe@cstep.in                |
| 6    | Indian Council<br>for Research on<br>International<br>Economic Relations | 1. Climate Change and Sustainable Development 2. Challenges and Opportunities of Urbanisation 3. Physical and Social Infrastructure including Telecom, Transport, Energy and Health  | Dr. Deepak Mishra<br>Tel. +91-11-43112400<br>E-Mail: dmishra@icrier.<br>res.in    |
| 7    | Development<br>Alternatives  | 1. Renewable Energy 2. Green Buildings 3. Natural Resource Management 4. Climate Adaptation and Resilience   | Dr. Ashok Khosla<br>Tel. +91-11-26544100<br>E-Mail: mail@devalt.org               |
| 8    | National Physical<br>Laboratory  | Development of economically viable and efficient organic and inorganic Photovoltaic and Thermoelectric devices, Luminescent materials, Carbon based materials & composites and Thin-film based gas sensors   | Dr. Sanjay R. Dhakate<br>Tel. +91-11-45609388<br>E-Mail: dhakate@<br>nplindia.org |

| 9  | NTPC Energy<br>Technology<br>Research Alliance                                | 1. Efficiency Improvement of Thermal Power Plant 2. New & Renewable Energy 3. Climate Change & Environmental protection which includes water conservation, Ash utilization, carbon capture, and utilization 4. Waste Management.   | Sh. R Satyakam Tel. +91-9650993201 E-Mail: rsatyakam@ntpc. co.in                   |
|----|---|--|--|
| 10 | Central Power<br>Research Institute   | 1. Electricity Generation, Transmission and Distribution 2. Power System Planning 3. Wireless Power Transmission 4. Renewable Energy 5. Carbon Capture and Storage 6. Energy Efficiency  | Shri V. S. Nanda kumar<br>Tel. +91-80-22072234<br>E-Mail: dgcpri@cpri.in           |
| 11 | Alternate Hydro<br>Energy Centre<br>Indian Institute of<br>Technology Roorkee | 1.Small Scale Hydro Power Plant 2. Decentralised Renewable Energy  | Dr. Arun Kumar<br>Tel. +91-133-2274254<br>E-Mail: ahee@iitr.ernet.in               |
| 12 | Indian Renewable<br>Energy<br>Development<br>Agency                           | Renewable Energy Financing   | Sh. Pradip Kumar Das<br>Tel. +91-11-24682206<br>E.Mail: cmd@ireda.in               |
| 13 | National Institute of<br>Solar Energy   | 1. Performance and Qualification Testing of Photovoltaic Modules 2. Qualification Testing Of PV Modules As Per IEC Standards. 3. Quality Benchmarking of PV Modules 4. Battery Testing and Certification 5. Concentrated Solar Power Plant for Decentralized Power Generation 6. Solar Cooling 7. Design and Development of Solar-biomass hybrid cold storage 8. Solar Sterling Engine 9. Solar Water Distillation 10. Skill Development and Consultancy 11. Solar Radiation Resource Assessment 12. Green Hydrogen Generation 13. Fuel Cell Testing | Dr. Chandan Banerjee<br>Tel. +91-124-2853001<br>E.Mail: banerjee.mnre@<br>gov.in   |
| 14 | National Institute of<br>Wind Energy  | 1. Wind Resource Micro Survey 2. Wind Farm Development 3. Assessing and Analyzing Wind Resources 4. Certification of Wind Turbines 5. Skill Development and Training   | Dr. K.BALARAMAN<br>Tel. +91-44-22463981<br>E.Mail: dg.niwe@gov.in                  |
| 15 | Sardar Swaran<br>Singh National<br>Institute of Bio-<br>Energy                | 1.Biomass management 2. Biomass Thermal Gasifier 3. Bio-Oil, Bio Crude Production, Integrated Bio-Refinary Development 4. Hydrogen Generation from biomass resources   | Sh. Dinesh Dayanand<br>Jagdale<br>Tel. +91-182-2255543<br>E.Mail: info@nire.res.in |

| S.<br>No. | Sector<br>Expert                    | Name of organization  | Name                         | Designation          | Address   |
|-----------|-------------------------------------|---|------------------------------|----------------------|---|
| 1         | Cement                              | National Council<br>for Cement and<br>Building Material   | Shri BN<br>Mohapatra         | Director<br>General  | 34 Km, Delhi-Mathura Road (NH-2)<br>Ballabhgarh, Haryana-121 004<br>Tel: 0129-2242525<br>Fax: 129-2254968, 2242100<br>Email: dg@ncbindia.com;<br>nccbm@ncbindia.com |
| 2         | Iron & Steel                        | ED- Sponge Iron<br>Manufactures<br>Association,   | Shri.<br>Dependra<br>Kashiva | Member               | 1501, Hemkunt Tower, 98, Nehru<br>Place, New Delhi, Delhi 110019<br>dkashiva11@sima.org.in<br>9899571963  |
| 3         | Chlor Alkali                        | Alkali<br>Manufacturers<br>Association of India   | Shri K<br>Srinivasan         | Secretary<br>General | Pankaj Chamber, 3rd Floor,<br>Commercial Complex, Vikas Marg,<br>Preet Vihar, Delhi, 110092<br>ksrinivasan@ama-india.org  |
| 4         | Fertilizer                          | -   | Dr. S. Nand                  | Chairman             | DDG, FAI, Plot No 10, Shaheed<br>Jeet Singh Marg, Block A, Qutab<br>Institutional Area, New Delhi, Delhi<br>110067<br>tech@faidelhi.org                             |
| 5         | Pulp & Paper                        | Central Pulp and<br>Paper Research<br>Institute   | -                            | Director             | Paper Mill Rd, Himmat Nagar,<br>Saharanpur, Uttar Pradesh 247001<br>director.cppri@gmail.com  |
| 6         | Textile                             | The South India<br>Textile<br>Research<br>Association   | -                            | -                    | 13/37, Avinashi Road,<br>Coimbatore Aerodrome Post,<br>Coimbatore - 641 014<br>engg@sitra.org.in,<br>info@sitra.org.in,<br>mmk@sitra.org.in                         |
| 7         | Textile                             | Northern India<br>Textile Research<br>Association   | -                            | -                    | Sector-23, Raj Nagar,<br>Ghaziabad-201002<br>mail@nitratextile.org  |
| 8         | Textile                             | The Bombay<br>Textile Research<br>Association   | -                            | -                    | Lal Bahadur Shastri Marg,<br>Ghatkopar(W), Mumbai - 400 086<br>btra@vsnl.com,<br>btradirector@gmail.com   |
| 9         | Textile                             | Ahmedabad Textile<br>Industry's Research<br>Association (ATIRA)                                 | -                            | -                    | P.O. Ambawadi Vistar,<br>Ahmedabad, Gujarat - 380 015,<br>India<br>director@atira.in,<br>atiraad1@sancharnet.in,<br>ctd@atira.in                                    |
| 10        | Aluminium                           | Jawaharlal Nehru<br>Aluminum Research<br>Development and<br>Design Centre                       | Shri.<br>Anupam<br>Agnihotri | Director             | Amrawati Road, Opp. Wadi,<br>Nagpur<br>director@jnarddc.gov.in  |
| 11        | Commercial<br>Building and<br>Hotel | Council Of Scientific And Industrial Research–Central Building Research Institute (CSIR– CBRI), | -                            | -                    | Roorkee, Uttarakhand<br>director@cbri.res.in, director@<br>cbrimail.com   |

# China

| Sector   | Subsector         | Name of Institute   | Focus Area  | Contact Person  |
|----------|-------------------|---|---|---|
| Industry | Iron and<br>Steel | China Iron<br>and Steel<br>Association                        | China Iron and Steel Association is a national wide industrial organization of Chinese steel industry. Guided by the Party's lines, rules and policies, it follows scientific development view and provides services to the enterprises, the industry, the government and the society.  | International<br>Cooperation<br>Department<br>Tel.: (+86/10)-<br>65133322-1328<br>Fax: (+86/10)<br>65130074 |
|          | Cement            | China<br>Cement<br>Association                                | CCA is a national, industry-based, non-profit social organization voluntarily formed by national cement manufacturing and operating companies, scientific research institutes, universities, social organizations, and units related to the cement industry.  | International<br>Cooperation<br>Department<br>(+86/10) 63425525   |
|          |                   | China<br>Petroleum<br>and Chemical<br>Industry<br>Association | China Petroleum and Chemical Industry Federation is a national and comprehensive social industry organization with services and certain management functions in the petroleum and chemical industries.  | admin@cpcia.cn  |
|          |                   | China<br>Chemical<br>Enterprise<br>Management<br>Association  | It is a national social organization with legal personality formed by chemical enterprises, institutions and individuals in accordance with the principle of equality and voluntariness. It is also a comprehensive management association covering all chemical industries in the national chemical system. Most of the more than 200 member units of the association are key enterprises in the chemical industry, covering various fields such as chemical production, scientific research, and circulation throughout the country, forming a large-scale, wide-ranging, and comprehensive organization network. | Tel:8610-58650276 Fax:8610-58650149   |

|           | Road<br>Transport | China Road<br>Transport<br>Association           | The association has passenger transportation and station branch, urban passenger transportation branch, taxi and car rental branch, freight and logistics branch, dangerous goods transportation branch, container transportation branch, bulk transportation branch, international road transportation branch, motor vehicle driving training branch, 13 branches including the Service Comprehensive Transportation Working Committee, the Automobile After-sales Service Working Committee, the Culture and Brand Building Working Committee, the Road Transportation Equipment and Safety and Energy Saving Working Committee, etc. | International<br>Cooperation<br>Department<br>010 5873 1836<br>gjhzb@crta.org.cn |
|-----------|-------------------|--|---|--|
|           | Aviation          | China Air<br>Transport<br>Association            | Branches include the Aviation Safety Working Committee, the General Aviation Branch, the Air Transport Sales Agency Branch, the Aviation Food Branch, the Aviation Fuel Branch, the Education Training and Cultural Branch, the Cabin Crew Committee, the Legal Committee, the Financial Audit Working Committee, the Revenue Accounting Working Committee, Aviation Environmental Protection Committee, Science and Technology and Information Technology Committee, Aviation Logistics Committee, Cross-Strait Air Transport Exchange Committee, Aviation Logistics Development Fund Management Committee.                            | +86 010-5095 9734 cataxf@cata.org.cn   |
| Buildings |                   | China<br>Construction<br>Industry<br>Association | Housing construction industry, civil engineering construction industry, construction and installation industry, building decoration and decoration and others   | zgjzyxh@163.com<br>+86 010 68118652  |

# **South Africa**

| No. | Name of the organization/ institute   | Focus areas of work  | Contact Person   |
|-----|---|--|--|
| 1   | The Energy Systems Research Group (ESRG), formerly the Energy Research Centre (ERC) at the University of Cape Town, (UCT) | The Energy Systems Research Group at the University of Cape Town combines modelling of energy and economic systems with policy analysis and field-based research, to generate and enhance knowledge of energy systems at sectoral, regional, national and sub-continental scales, focused on South Africa and the SADC region. Such large systems are known to behave counter-intuitively, and modelling helps to study the interaction of multiple components under changing conditions over longer time periods, providing intelligence needed for policy regulation and on optimal capital investment into costly infrastructure. In SATIM, the group holds the only full energy sector model for South Africa, combining electricity and liquid fuels sectors on the supply side with industrial, transportation and residential users on the demand side. A dynamic linking of this energy systems model with a macroeconomic general equilibrium model allows for economic analysis of energy-system decisions and ensures that inputs to SATIM are based in economic forecasts rather than arbitrarily specified. Specialists cover the main industrial sub- sectors, transport, residential, power generation, coal-mining and renewables. In addition, the group has expertise in modelling on a number of other open-source energy systems platforms. The group in its current format evolved out of the 2019 restructuring of UCT's Energy Research Centre and holds a combined experience of over 70 person-years. | Professor Harro Von Blottnitz University of Cape Town harro.vonblottnitz@uct.ac.za |
| 2   | Climate Action<br>Partnership<br>(CAP)  | CAP's objectives are: to raise awareness around climate change and the links between climate change and the conservation of natural habitat; to promote the integrity of climate change projects by promoting the adoption of globally accepted standards, with an emphasis on the Climate, Community and Biodiversity Standards (CCBS); to advise on and support Southern African solutions for mitigation and adaptation to climate change with a biodiversity conservation outcome; to promote cross-sectoral policy that supports climate change mitigation and adaptation activities with a biodiversity conservation outcome; to achieve carbon reductions for the head offices of the CAP partner organizations.  | Only online contacts: http://www.cap.org. za/contact-us/                           |

| 3 | Council for<br>Scientific<br>and Industrial<br>Research<br>CSIR  | The Council for Scientific and Industrial Research (CSIR) is a leading scientific and technology research organization that researches and develops transformative technologies to accelerate socioeconomic prosperity in South Africa. The CSIR Energy Research Centre provides the fact-base expertise and essential research infrastructure necessary to address South Africa's growing energy needs, and the associated industrialization opportunities for new products and services. The Energy Research Centre provides thought leadership, innovation and capacity building to address the two main energy imperatives of energy efficiency and cleaner energy. The center's growth and impact plan responds directly to the challenges identified in the National Development Plan (NDP) by providing unbiased decision support to solve the long-term sustainable energy needs of South Africa, while concurrently addressing issues such as carbon dioxide (CO2) emissions, water use, uncertainty, localization and regional development. This, in the context of a highly carbon-intensive energy system where coal is the primary energy source. | Dr. Clinton Carter-Brown Head: Energy Centre Tel: +27128413609 Cell: +27036300626 Email: ccarterbrown@csir.co.za       |
|---|--|--|--|
| 4 | African Energy<br>Institute  | The African Energy Institute is an independent think tank dedicated to thorough and insightful thinking around power and energy policies in the African continent.   | The Michelangelo Towers  Address: 8 Maude St, Sandown, Sandton, 2031 +27 11 075 2750 info@ africanenergyinstitute. com |
| 5 | South African National Energy Development Institute, (SANEDI), which is a South African Department of Mineral Resources and Energy, (DMRE) | The National Energy Act, 2008 (Act No. 34 of 2008), Section 7 (2) provides for SANEDI to direct, monitor and conduct energy research and development, as well as undertake measures to promote energy efficiency throughout the economy.   | Barry Bredenkamp CEF House, 150 Ann Crescent, Strathavon, SANDTON, South Africa info@sanedi.org.za                     |

| 6 | University<br>of Pretoria -<br>Energy Data<br>Analysis &<br>Research                                   | The University of Pretoria is a reputable institution in South Africa, often selected to take a lead on energy research in South Africa. The University's research programme, in collaboration with SANEDI, is detailed in the approach undertaken to carry out the implementation of four (4) components, namely: (a) Technical Papers & Publications; (b) Capacity Building; (c) Monitoring & Evaluation System Development (e) Bursary Allocation.  Furthermore, the Centre for New Energy Systems (CNES) is a research centre within the University of Pretoria, with a research focus of energy system Modelling, optimization and control. CNES was the host of South African Hub for the Postgraduate Programme in Energy Efficiency and Demand Side Management.  | Prof. Raj Naidoo<br>HOD, Electrical,<br>Electronic and<br>Computer Eng.   |
|---|--|--|---|
| 7 | Process, Energy & Environmental Technology Station (UJ- PEETS) , University of Johannesburg            | The primary mandate of the University of Johannesburg's Process, Energy and Environmental Technology Station (UJ PEETS) is to contribute towards improving the competitiveness of industry in the green economy through the application of specialized knowledge and technology transfer. UJ PEETS facilitate the interaction between academia, industry (especially SMEs) and government. The focus is on Process Optimization, specifically in the energy and environmental sectors that supports circular, zero-net waste Industry 4.0 business strategies.  In the Energy Sector, UJ-PEETS support R&D related to energy efficiency and renewable energy solutions, waste-to-energy conversion, microgrids and energy storage, supported by data-driven decision making and industry 4.0 business process optimization. Concentrating on initiatives to support the green economy, UJ-PEETS build on multidisciplinary partnerships with researchers at the University of Johannesburg and within the National System of Innovation to support this mandate. | +27 11 559 9080/<br>+27 72 777 3570<br>elmariep@uj.ac.za<br>www.uj.ac.za/faculties/<br>febe/peets<br>Office 8, Old<br>Franks Building,<br>Doornfontein<br>Campus<br>http://bit.ly/2x1er18 |
| 8 | Climate and<br>Development<br>Knowledge<br>Network   | The Climate and Development Knowledge Network works to enhance the quality of life for the poorest and most vulnerable to climate change. We support decision-makers in designing and delivering climate compatible development.   | Only online access:<br>https://cdkn.org/<br>about/?loclang=en_gb  |
| 9 | Centre for<br>Sustainable<br>and Renewable<br>Energy Studies<br>(CRSES),<br>Stellenbosch<br>University | The Centre for Renewable and Sustainable Energy Studies (CRSES) at Stellenbosch University enables a sustainable future for Africa through world-class renewable and sustainable energy research, advisory services, awareness campaigns and training programmes.  | +27 21 808 4069<br><u>crses@sun.ac.za</u><br>021 883 8513   |

With a proud history extending as far back as 1934, MINTEK has become a leading provider of minerals processing and metallurgical engineering products and services to industries world-wide. The objects of Mintek are through research, development and technology transfer, to promote mineral technology, and to foster the establishment and expansion of industries in the field of minerals and products derived therefrom. In view of this, Mintek has recently revised its strategic framework to conduct relevant and applied research and technological innovation and to establish new industries and support & grow existing industries. As a drive to establish new industries in sustaining competitiveness in South Africa, Mintek has a strategic programme on battery materials where the focus is on the 10 MINTEK production of high grade precursor materials for battery components based on commodities that are found in abundance in South Africa and Southern Africa including V, Mn, Co, Ni. Mintek is developing a concept around DC arc furnace gasification of discard coal and coal fines to support the energy sector in South Africa. Mintek is developing expertise in solar thermal heating for application in extractive metallurgy, pyrometallurgical. Furthermore, Mintek plans to also incorporate other renewables in pyrometallurgical processing such as PV electricity for electricity supply for DC arc furnaces. Mintek has developed an energy efficient, new generation MinfurnTM using DRH technology is an ideal solution for activated carbon regeneration to support the ageing gold industry in South Africa.





