M. ASIF

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Architectural Engineering & Construction Management
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Previous Work Experience

- Associate Professor

Glasgow Caledonian University, UK, 2007-2013

- Visiting Professor

FH Joanneum University, Austria, 2015-2020

- Assistant Professor

Glasgow Caledonian University, UK, 2007-2011

- Project Coordinator

Nor-Dan (Norway)/Edinburgh Napier University (UK), 2005-2007

- Research Associate

Edinburgh Napier University, UK, 2002 - 2005

- Part-time Lecturer

School of Engineering, Edinburgh Napier University, UK, 2000-2006

Education

- PhD: Applied Energy Engineering

Edinburgh Napier University, 2003

- MSc: Advanced Manufacturing Systems & Technology

University of Liverpool, 1999

- BSc: Mechanical Engineering

University of Engineering & Technology Lahore, 1997

- PgC: Enhanced Teaching and Learning

Glasgow Caledonian University, 2012

Professional Affiliations

- Fellow of the Energy Institute, UK
- Chartered Environmentalist, Society for the Environment, UK
- Chartered Engineer, Engineering Council UK
- Certified Energy Manager, Association of Energy Engineers, USA
- Member International Association of Energy Economics
- Fellow, Higher Education Academy, UK
- Member, Engineering Council UK

Awards

- Excellence in Teaching, KFUPM, KSA, 2022
- Best Short Course Award, KFUPM, KSA, 2018
- CIBSE Teaching Award, Chartered Institute of Building Services Engineers, UK, 2011
- PhD Fellowship Award, Nor-Dan, Norway, 2000
- Association of Commonwealth Countries Scholarship for MSc, UK, 1998

Industrial Projects

- Energy Retrofitting of University Campus, GCUNY, New York, 2018-2020
- Building Energy Optimization in Hot Climates, KACARE, KSA, 2015-2018
- Appraisal and Evaluation of Energy Utilization and Efficiency in the Kingdom of Saudi Arabia, Strategic Study under the Industry Collaboration Program of KAUST, KSA, 2013-14
- Two-year strategic study on assessment of existing and future energy trends in residential, industrial and commercial sectors in the KSA and provision of energy saving and renewable energy solutions
- Grameen Shakti Renewable Energy Program – Bangladesh, 2009-2012

Three-year project involved the performance evaluation and optimization of microrenewable systems

- Application of Renewable Energy in SMEs in Scottish Highlands - European Commission Project, 2007-2009
- Two-year project involved site visits, resource assessment and economic assessment of small-scale renewable energy systems
- Value Engineering of Energy Efficient Windows - Nor-Dan (UK & Norway), 2003-2008

The work involved energy and environmental auditing, thermal analysis, accelerated aging and economic assessment

- Micro-Renewable Energy, Cholistan Development Authority, 2007

One-month project involved site surveys, resource assessment and design of solar and wind energy projects for the remote population in the Thar Desert

- Energy Conservation and Management - Space 4, UK, 2006

Six-month project involved energy auditing of newly constructed houses

Funding and Grants

As Principal Investigator

- SAR 98,400 Decarbonization in the Building Sector: Investigation of key socio-technical factors and policy frameworks, KFUPM, 2025-2026
- SAR 38,500 Investigation into Behavioural Aspects of Energy Consumption in KSA's Residential Buildings, KFUPM, 2024-2025
- SAR 85,0000 An integrated techno-economic and environmental assessment of retrofitting for achieving net zero carbon targets for buildings in KSA, KFUPM, 2023-2024
- SAR 238,500 Measurement and Verification of Energy Retrofitting Residential Buildings using a BIM-based Approach, KFUPM, 2020-2022
- SAR 102,200 Development of life cycle analysis framework for building industry, KFUPM, 2019-2020
- SAR 4,800,000, Residential and Commercial Building Energy Modeling in KSA, King Abdullah City for Atomic and Renewable Energy, 2015-2018

- SAR 140,300, Assessment of Green Roof effects on the overall energy consumption of a residential building in hot and humid climate, KFUPM, 2014-2016
- € 75,000, Erasmus Intensive Programme Grant, FP7 Programme, 2009
- £ 25,000, Nor-Dan Research Funding, Norway, 2008-09
- £ 125,000, Micro-generation renewable energy system for small and medium enterprises in Scottish Highlands, European Commission Funding, 2007
- £ 12,000, Carnegie Trust Research Grant, 2008-09

As Co-Investigator

- SAR 64,500, Developing Future Weather Datasets for Urban Energy Modeling in the Gulf Cooperation Council, KFUPM, 2025-2027
- SAR 72,450, Geospatial Life Cycle Assessment of Hydrogen in different regions of KSA, KFUPM, 2025-2026
- SAR 39,680, Investigation of Energy Use Patterns in KSA residential buildings, KFUPM, 2024-2025
- SAR 64,350, Estimating occupants' pattern inside the building using Wi-Fi signal: Study in Saudi Arabia, KFUPM,2024-2026
- SAR 54,000, Life cycle assessment in the Saudi build sector, KFUPM, 2023-2025
- SAR 1,905,500, Development of Building Sustainability Rating System for KSA, National Science, Technology and Innovation Plan, KSA, 2014-2016

Visiting Faculty/Fellowship Roles

Visiting Research Fellow

- Visiting Research Fellow, Institute for Global Sustainability, Boston University, USA, 2025
- Visiting Research Fellow, Oxford Institute of Energy Studies, UK, 2024

Erasmus Visiting Professor

- FH-Joanneum University, Austria, 2014-2019
- University of Granada, Granada, Spain, 2012
- University of Istanbul, Istanbul, Turkey, 2012
- University of Applied Sciences, Berlin, Germany, 2011
- University of Huelva, Huelva, Spain, 2011

Keynote/Plenary Speaker

- Times Higher Education Summit, UAE, Feb 2025
- Workshop on "Challenging the Negative Image of the Energy Transition", Society of Petroleum Engineers and ARAMCO, Khobar, May 2025
- International Conference "Greening the Giga", KAUST, Jan 2025
- 3rd Solar, Wind, and Geothermal Energy Symposium and Exhibition, Damma, April 2025.
- 3rd International Conference on Smart Grid and Green Energy, China, April 2024
- Future of Energy, UNESCO-HSE Workshop, Russia, April 2024
- Retrofitech KSA, Riyadh, October 2023
- Retrofitech KSA, Riyadh, November 2022
- Digitalization towards Net-Zero Emissions, Khobar, October 2022
- Retrofitech KSA, Riyadh, October 2021

- Solar Utilities Network conference, Bahrain, February 2018
- Jubail Energy Management Conference, Jubail, December 2017
- Energy and Water Conference, Mehran UET, Hyderabad, November 2017
- Retrofittech KSA, Riyadh, October 2017
- STEEB Solar Energy Conference, Bahrain, September 2017
- Energy for Sustainable Development Conference, COMSATS, Abbotabad, August 2017
- Bahrain Shanghai Energy conference, Bahrain University, May 2017
- IEP/NED Conference on Energy, Karachi, Pakistan, 2017
- Retrofit Tech KSA, Riyadh, KSA, Oct 2016
- Conference on Innovative Building Technologies, KACST, Riyadh, KSA, 2015
- Conference on 'Social Innovation: Pathways and Alternate Solutions', Glasgow, UK, 2012
- Workshop on 'Integration of Sustainable Infrastructure into the Existing Built Environment', Glasgow, 2012
- Seminar series on South Asia, University of Edinburgh, UK, 2010
- Quarterly meeting of Beckmann Academy, Berlin, 2010

Research Projects Supervision

- PhD: 9
- Masters: Over 50
- Bachelors: over 25

Service on Committees

- Member, KFUPM Research Committee, 2025-
- Chair, Departmental Program and Course Review Committee, 2025-
- Member, Graduate Admission and Research Committee, 2025-
- Chair, PhD Program Development Committee, 2022-2023
- Chair, Masters/MX Program Development Committee, 2019-2022
- Member, Undergraduate Program Revision Committee, 2020-2022
- Chair, ABET Accreditation Committee, 2019-2021
- Member, University Research Committee, 2013-2015
- MSc Program Leader, Glasgow Caledonian University (GCU), 2011-2013
- Member, School/College Research Committee, GCU, 2010-2013

Journal Editorship

- Associate Editor, Journal of Renewable and Sustainable Energy, 2025-
- Editor, Sustainable and Clean Buildings, 2024 –

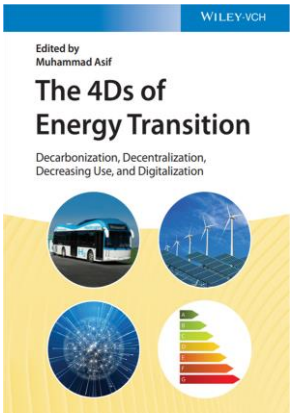
Professional Board Memberships

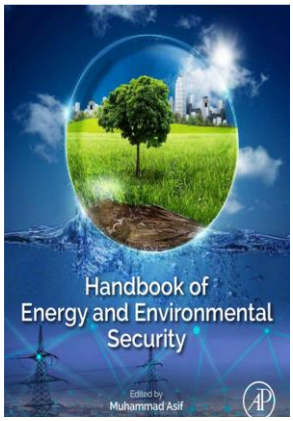
- Member of Energy Institute (UK) Accreditation Board on Professional Memberships, Jan 2015 -2022
- Member of the Higher Education Academy (UK) Energy Advisory Board, Jan 2016 -2019

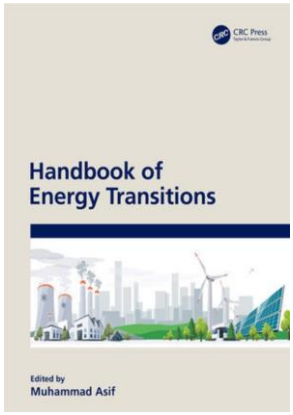
PUBLICATIONS

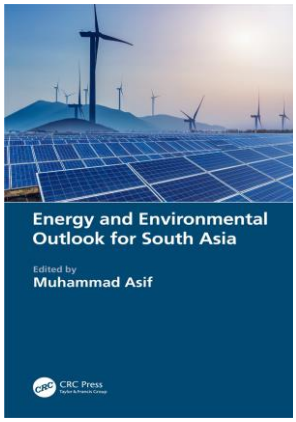
Books

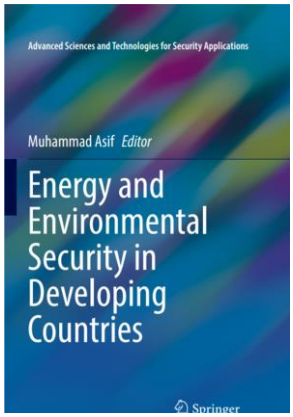
1. M. Asif, G. Sahin, M. Khalid, Handbook of Energy and Environment in the 21st Century: Technology and Policy Dynamics, CRC Press, 978-1032715421, 2024
2. M. Asif, The 4Ds of Energy Transition, Wiley, ISBN: 9783527348824, 2022
3. M. Asif, Handbook of Energy Transitions, CRC Press, ISBN: 978-0-367-68859-2, 2022
4. M. Asif, Handbook of Energy and Environmental Security, Elsevier, ISBN: 9780128240847, 2022
5. M. Asif, *Energy and Environmental Outlook for South Asia*, CRC Press, ISBN: 978-0-367-67343-7, USA, 2021
6. M. Asif, *Energy and Environmental Security in Developing Countries*, Springer, ISBN: 978-3-030-63653-1, 2021
7. H. Qudratullah and M. Asif, *Dynamics of Energy, Environment and Economy: A Sustainability Perspective*, Springer, ISBN: 978-3-030-43578-3, 2020
8. M. Asif, *Energy Crisis in Pakistan: Origins, Challenges and Sustainable Solutions*, ISBN: 978-0-19-547876-1, Oxford University Press, 2011

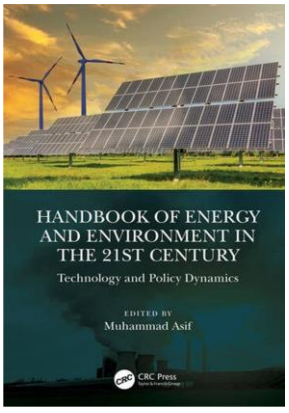


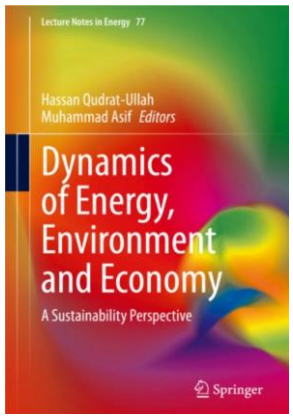


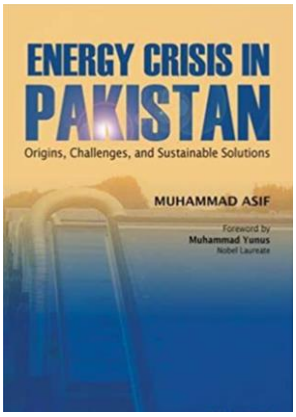












Journal Articles

1. A. Abdirahman, M. Asif, M. Khalid, MI. Khan, A Strategic Analysis of Geothermal Energy for Sustainable Energy Transition: Case Study from Indonesia, Energy Conversion and Management X, 2025, https://doi.org/10.1016/j.ecmx.2025.101303
2. A. Abdirahman, M. Asif, E. Cuce, I. Ahmed, M. Alqahtani, M. Khalid, Optimizing PV systems in high-temperature environments: A SWOT-based analysis of cooling technologies, Energy Strategy Reviews, Volume 61, 2025, 101828, https://doi.org/10.1016/j.esr.2025.101828
3. M. Khan, M. Reshaeel, F. Asfand, S. Al-Ghamdi, F.urqan Tahir, M. Asif, M. Rehan, T. Kurniawan, Concentrated solar power (CSP) driven desalination systems: A techno-economic review, Renewable and Sustainable Energy Reviews, Volume 226, Part B, 2026, 116311, https://doi.org/10.1016/j.rser.2025.116311
4. R. Yussuf, O. Asfour, A. El Fattah, M. Asif, A mixed-method comparative analysis of sustainable roofing solutions for thermal and energy efficiency in residential buildings in Saudi Arabia, Results in Engineering, Volume 28, 2025, 107159, https://doi.org/10.1016/j.rineng.2025.107159
5. W. Ahmed, M. Asif, Life cycle cost analysis of residential energy Retrofits: Achieving near-zero energy homes in desert climates, Journal of Building Engineering, Volume 111, 2025, https://doi.org/10.1016/j.jobe.2025.113316
6. B. Jan, M. Asif, M. Alhazmi, Global energy conservation research: A systematic analysis of thematic areas, methodologies and geographic distribution, Energy Nexus, Volume 19, 2025, 100477, https://doi.org/10.1016/j.nexus.2025.100477
7. M. Asif, R. Sharieff, M. Olawale, M Khan, Unlocking the potential of unregulated rooftops for solar PV on residential buildings: Identifying and addressing key challenges, Energy Nexus, Volume 18, 2025, https://doi.org/10.1016/j.nexus.2025.100447.
8. Z. Moustafa, M. Asif, I. Wuni, Circular economy in the building sector: a systematic review of environmental, economic, and social dimensions, Sustainable Futures, Volume 9, 2025, https://doi.org/10.1016/j.sftr.2025.100690.
9. O. Shamet, M. Sofian, S. Alawad, M. Asif, M. Antar. An Overview of Materials Used in Solar and Wind Power Technologies. Arab Journal of Science and Engineering, 2025, https://doi.org/10.1007/s13369-025-10159-0
10. M. Khan, T. Yasmeen, M. Khan, N. Hadi, M. Asif, M. Farooq, S. Al-Ghamdi, Integrating industry 4.0 for enhanced sustainability: Pathways and prospects, Sustainable Production and Consumption, Volume 54, 2025, https://doi.org/10.1016/j.spc.2024.12.012
11. E. Wijayaa and M. Asif, Technology readiness level assessment on digital technologies for energy efficiency, Transportation Research Procedia 84, 2025, 512–519
12. H. Suberi, H. Eckard, M. Asif, T. Nadeem, Surface transport emission reduction strategy in Bhutan, AIP Advances, 2025, 15, 025036, https://doi.org/10.1063/5.0231197
13. A. Abdirahman, M. Asif, O. Mohsen, Circular economy in the renewable energy sector: A review of growth trends, gaps and future directions, Energy Nexus, Volume 17, 2025, 100395, https://doi.org/10.1016/j.nexus.2025.100395
14. I. Tahir, A. El Fattah, M. Mohammed, M. Asif, O. Almahdy, Evaluating the Performance of Outdoor Shading Devices on Human Thermal Comfort in Hot Humid Climates: A Case Study of Dhahran, Building and Environment, 2025, 112625, https://doi.org/10.1016/j.buildenv.2025.112625.
15. B. Jan, M. Asif, Energy Conservation Research Trajectories: A Systematic Analysis of Methods, Technologies, and Knowledge Gaps, Energy and Buildings, Vol. 330, 1153504, 2025, https://doi.org/10.1016/j.enbuild.2025.115304
16. Z. Al-Absi, M. Asif, M. Hafizal, Numerical investigation and parametric analysis of PCM-based lightweight panels for wall's exterior cladding, Case Studies in Thermal Engineering, Volume 65, 2025, 105654, https://doi.org/10.1016/j.csite.2024.105654

17. M. I. Khan, T. Yasmeen, M. Khan, N. Hadi, M. Asif, M. Farooq, S. Al-Ghamdi, Integrating industry 4.0 for enhanced sustainability: Pathways and prospects, Sustainable Production and Consumption, 2024, https://doi.org/10.1016/j.spc.2024.12.012
18. U. Habiba, I. Ahmed, M. Alqahtani, M. Asif, M. Khalid, The role of energy management technologies for cyber resilient smart homes in sustainable urban development, Energy Strategy Reviews, Volume 56, 2024, 101602, https://doi.org/10.1016/j.esr.2024.101602
19. Z. Al-Absi, M. Asif, M. Hafizal, Optimization study for PCM application in residential buildings under desert climatic conditions, Journal of Energy Storage, Volume 104, Part A,2024,114399, https://doi.org/10.1016/j.est.2024.114399
20. B. Jan, M. Asif, I. Wuni, Energy Use Behavior Research: A Scientometric Evaluation and Critical Synthesis, Energy and Buildings, Volume 325, 15 December 2024, 115033, https://doi.org/10.1016/j.enbuild.2024.115033
21. G. Naeem, M. Asif, M. Khalid, Industry 4.0 digital technologies for the advancement of renewable energy: Functions, applications, potential and challenges, Energy Conversion and Management: X, 2024, 100779, https://doi.org/10.1016/j.ecmx.2024.100779
22. H. Suberi, M. Asif, T. Nadeem, Rooftop solar PV in Bhutan: A systemic analysis of feed-in-tariff program, Energy for Sustainable Development, Volume 83, 2024, 101591, https://doi.org/10.1016/j.esd.2024.101591
23. B. Ghaleb, MI Khan, M. Asif, Application of PV on Commercial Building Façades: An Investigation into the Impact of Architectural and Structural Features, Sustainability, 2024, *16*(20), 9095; https://doi.org/10.3390/su16209095
24. T. Mahmood and M. Asif, Prediction of Energy Efficiency for Residential Buildings Using Supervised Machine Learning Algorithms. *Energies* 2024, *17*, 4965. https://doi.org/10.3390/en17194965
25. Z. Al-Absi, M. Hafizal, M. Asif, M. Ismail, Impacts of installation methods on the thermal performance of lightweight exterior cladding panels incorporating PCM: An experimental evaluation, Building and Environment, Volume 265, 1 November 2024, 111964
26. U. Baig, M. Shaukat, S. Shuja, M. Asif, N. Khan, Development and life cycle assessment (LCA) of super-oleophobic (under water) and super-hydrophilic (in-air) mesh membrane for oily water treatment, Scientific Reports, Nature, 14, 15268 (2024). https://doi.org/10.1038/s41598-024-64803-0
27. T. Nadeem, S. Ali, M. Asif, H. Suberi, Forecasting Daily Solar Radiation: An Evaluation and Comparison of Machine Learning Algorithms, AIP Advances, Vol. 14, Issue 7, 2024, https://doi.org/10.1063/5.0211723
28. MI Khan, Y. Bicer, M. Asif, T. Al-Ansari, M. Khan, S. Al-Ghamdi, T. Kurniawan, The GCC's Path to a Sustainable Future: Navigating the Barriers to the Adoption of Energy Efficiency Measures in the Built Environment, Energy Conversion and Management X, Volume 23, July 2024, 100636, https://doi.org/10.1016/j.ecmx.2024.100636
29. P. Cuce, E. Cuce, D. Mandal, D. Gayen. M. Asif, A Bouabidi, S. Alsharani, C. Parkash, M. Sodager, ANN and CFD driven research on mainperformance characteristics of solarchimney power plants: Impacts of chimney and collector angle, Case Studies in Thermal Engineering, Volume 60, August 2024, 104568, https://doi.org/10.1016/j.csite.2024.104568
30. M. Asif, I. Khan and A. Pandey, Navigating the Inclusive and Sustainable Energy Transitions in South Asia: Progress, Priorities and Stakeholder Perspectives, Energy Conversion & Management, Volume 313, 1 August 2024, 118589
31. J. Garkuwa, A. Abdou, M. Asif, Dynamic Facades for Sustainable Buildings: A Review of Classification, Applications, Prospects and Challenges, Energy Reports, Volume 11, June 2024, Pages 5999-6014

32. MI Khan, R. Gutiérrez-Alvarez, F. Asfand, Y. Bicer, S. Sgouridis, S. Al-Ghamdi, H. Jouhara, M. Asif, T. Kurniawan, M. Abid, A. Pesyridis, M. Farooq, The economics of concentrating solar power (CSP): Assessing cost competitiveness and deployment potential, Renewable and Sustainable Energy Reviews, Volume 200, 2024, 114551
33. A. Bukar and M. Asif, Technology Readiness Level Assessment of Carbon Capture and Storage Technologies, Renewable and Sustainable Energy Reviews, Volume 200, August 2024, 114578
34. U. Habiba, M. Asif, M. Khalid, A Review on Enhancing Energy Efficiency and Adpatability through System Integration for Smart Buildings, Journal of Building Engineering, Volume 89, 15 July 2024, 109354
35. M. Asif, G. Naeem, M. Khalid, Digitalization for Sustainable Buildings: Technologies, Applications, Potential, and Challenges, Journal of Cleaner Production, Vol.450, 141814, 2024,
36. M. Shaukat, S. Shuja, M. Asif, M. Luqman, A Theoretical Framework to Promote LCA in the Construction Industry of Saudia Arabia, Sustainability, *Sustainability* 2024, *16*(9), 3778
37. Wahhaj Ahmed, Baqer Al-Ramadan, Muhammad Asif, Zulfikar Adamu, A GIS-Based Top-Down Approach to Support Energy Retrofitting for Smart Urban Neighborhoods, *Buildings* 2024, *14*(3), 809
38. K. Khan, Md Quamar, F. Al-Qahtani, M. Asif, M. Alqahtani, M. Khalid, Smart Grid Infrastructure and Renewable energy Deployment: A conceptual Review of Saudi Arabia, Energy Strategy Reviews, Volume 50, November 2023, 101247
39. M. Abuhussain, B. Alotaibi, M. Aliero, M. Asif, Mohammad. Alshenaif, Y. Dodo, Adaptive HVAC System Based on Fuzzy Controller Approach, Applied Sciences, 2023, *13*(20), 11354
40. B. Ghaleb, S. Abbasi, M. Asif, Application of solar PV in the building sector: Prospects and barriers in the GCC region, Energy Reports, Volume 9, 2023, Pages 3932-3942
41. T. Nadeem, M. Siddiqui, M. Khalid, M. Asif, Distributed energy systems: A review of classification, technologies, applications, and policies, Energy Strategy Reviews, Volume 48, 2023, 101096, ISSN 2211-467X, https://doi.org/10.1016/j.esr.2023.101096
42. W. Ahmed, A. Alazazmeh, M. Asif, Energy and Water Saving Potential in Commercial Buildings: A Retrofit Case Study, *Sustainability* 2023, *15*(1), 518; https://doi.org/10.3390/su15010518
43. M. Asif, W. Ahmed, A. Alazazmeh, Energy Performance Assessment of a Post-Retrofit Office Building Using Measurement and Verification Protocol: A Case Study from KSA, Energy Reports, Volume 9, December 2023, Pages 1366-1379
44. A. Alazazmeh, A. Ahmed, M. Siddiqui, M. Asif, Real-time data-based performance analysis of a large-scale building applied PV system, Energy Reports, Volume 8, November 2022, Pages 15408-15420
45. M Shaukat, F Ashraf, M Asif, S Pashah, M Makawi, Environmental Impact Analysis of Oil and Gas Pipe Repair Techniques Using Life Cycle Assessment (LCA), Sustainability 14 (15), 9499
46. A. Pandey and M. Asif, Assessment of energy and environmental sustainability in South Asia in the perspective of the Sustainable Development Goals, Renewable and Sustainable Energy Reviews, Volume 165, September 2022, 112492
47. M. Aliero; M. Asif; I. Ghani; M. Pasha; S. Jeong. Systematic Review Analysis on Smart Building: Challenges and Opportunities. *Sustainability* 2022, *14*, 3009. https://doi.org/10.3390/su14053009
48. J. Azhar; M. Gjerde; B. Vale; M. Asif. Perception of Urban Leftover Spaces: A Comparative Study of Built Environment and Non-Built Environment Participants. Architecture 2022, 2, 231-244. https://doi.org/10.3390/architecture2020013
49. B. Ghaleb and M. Asif M, Assessment of solar PV potential in commercial buildings, Renewable Energy (2022), doi: https://doi.org/10.1016/j.renene.2022.01.013.

50. B. Ghaleb and M. Asif, Application of solar PV in commercial buildings: Utilizability of rooftops, Energy and Buildings, Volume 257, 15 February 2022, 111774, https://doi.org/10.1016/j.enbuild.2021.111774
51. W. Ahmed and M. Asif, A critical review of energy retrofitting trends in residential buildings with particular focus on the GCC countries, Renewable and Sustainable Energy Reviews, Vol. 144, Jul 2021, 111000, https://doi.org/10.1016/j.rser.2021.111000
52. A. Alazameh and M. Asif, Commercial Building Retrofitting: Assessment of Improvements in Energy Performance and Indoor Air Quality, Case Studies in Thermal Engineering, https://doi.org/10.1016/j.csite.2021.100946
53. M. Asif, Role of Energy Conservation and Management in the 4D Sustainable Energy Transition, Sustainability 2020, 12, 10006; https://doi:10.3390/su122310006
54. M. Hamida, W. Ahmed, M. Asif, F. Almaziad, Techno-economic Assessment of Energy Retrofitting Educational, Sustainability, *Sustainability* 2021, *13*(1), 179; https://doi.org/10.3390/su13010179
55. A. Dehwah, M. Asif, I. Budaiwi and A. Alshibani, Techno-Economic Assessment of Rooftop PV Systems in Residential Buildings in Hot–Humid Climates. *Sustainability* 2020, *12*, 10060. https://doi.org/10.3390/su122310060
56. W. Ahmed and M. Asif, BIM-based techno-economic assessment of energy retrofitting residential buildings in hot humid climate, Energy and Buildings, Volume 227, 110406, https://doi.org/10.1016/j.enbuild.2020.110406
57. W. Ahmed, M. Asif and F. Alrashed, *Application of Building Performance Simulation to Design Energy-Efficient Homes: Case Study from Saudi Arabia*, Sustainability *2019,* 11*(21), 6048;* https://doi.org/10.3390/su11216048
58. M. Asif, *An empirical study on life cycle assessment of double-glazed aluminium-clad timber windows*, International Journal of Building Pathology and Adaptation, Vol. 37 No. 5, pp. 547-564. https://doi.org/10.1108/IJBPA-01-2019-0001
59. J. AlQawasmi, M. Asif, A.ElFattah, M. Babsail, *Water Efficiency and Management in Sustainable Building Rating Systems: Examining Variation in Criteria Usage*, Sustainability 2019, *11*(8), 2416; https://doi.org/10.3390/su11082416
60. Rami Alawneh, Farid E.Mohamed Ghazali, Hikmat Ali and Muhammad Asif, *A new index for assessing the contribution of energy efficiency in LEED certified green buildings to achieving UN sustainable development goals in Jordan*, International Journal of Green Energy, 6, 2019, pp 490-499, https://doi.org/10.1080/15435075.2019.1584104
61. M. Asif, H. Swalha, M Hassanain and K Nahiduzzaman, *Techno-Economic Assessment of Application of Solar PV in building sector-A case study from Saudi Arabia*, Smart and Sustainable Built Environment, Vol. 8 Issue: 1, pp.34-52
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