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SOUTH ASIA SUBREGIONAL WORKSHOP

INCLUSIVE CLEAN ENERGY TRANSITIONS IN BHUTAN AND NEPAL

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Socio-Technical Energy Systems

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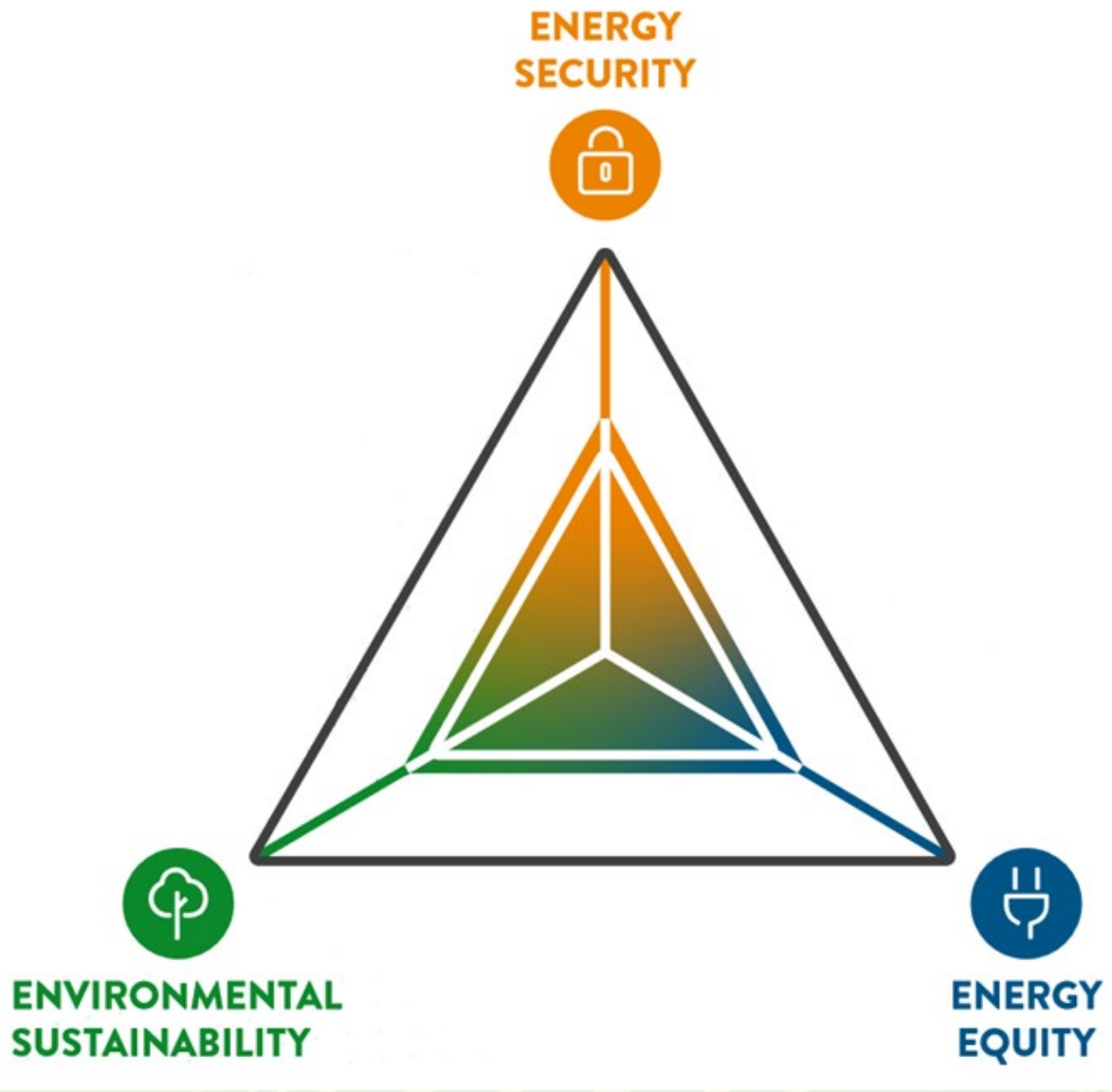
Socio-Technical Energy Systems (STES): A Description

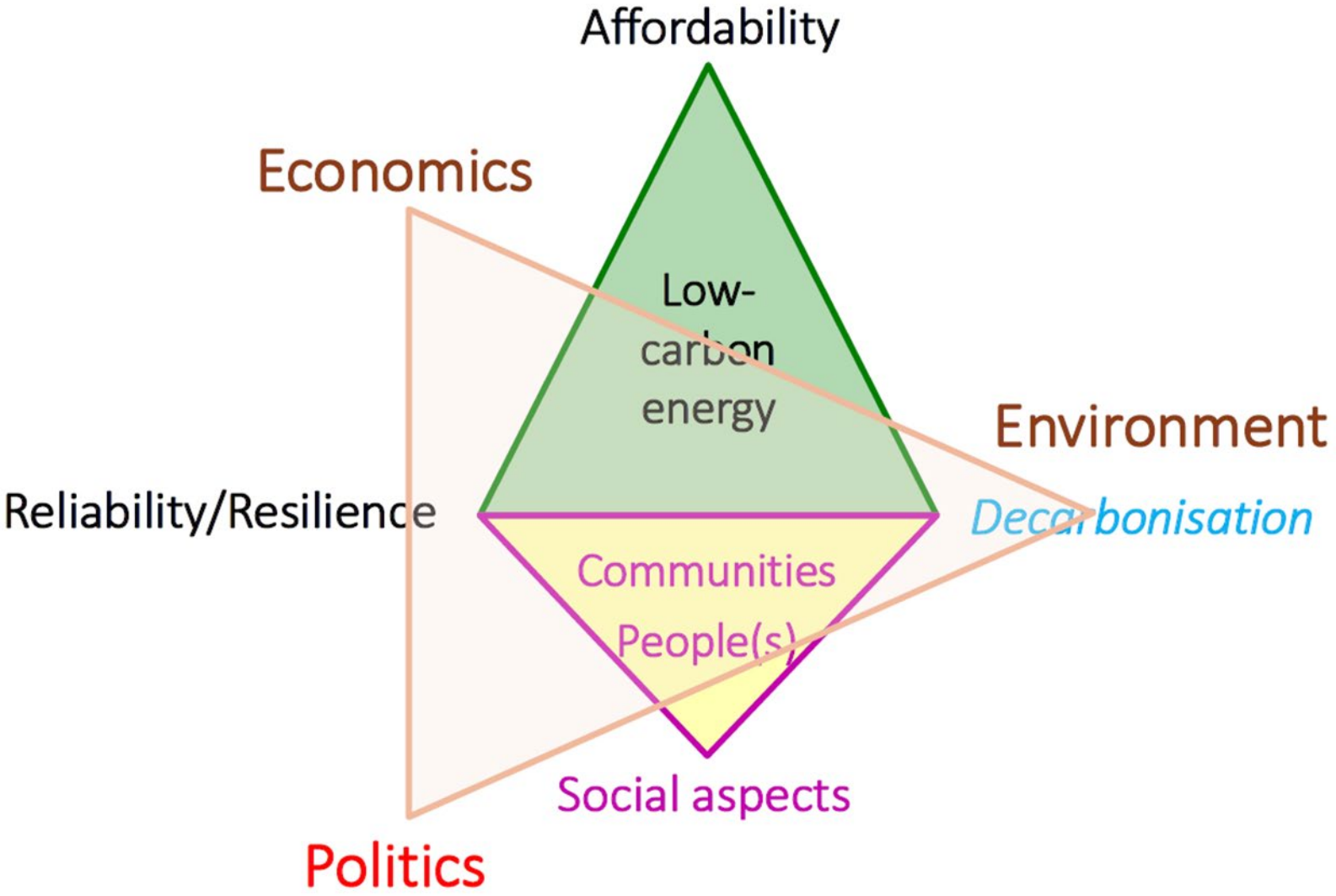
- ***Sociotechnical Energy System (STES) is a framework that recognises energy as being intertwined with societal structures, cultures and human behaviours and not merely as a technical commodity.***
- ***STES recognises that energy solutions are not just technological but deeply embedded within social contexts.***
- ***STES is characterised by complex interdependencies and feedback loops between technical and social dimensions.***
- ***Embracing a sociotechnical perspective can unlock opportunities for innovation and sustainable development within the energy sector.***
- ***This broader SPECIFICATION helps us to understand why simply implementing a technically efficient energy solution might not always lead to widespread adoption or desired sustainable outcomes.***

Sociotechnical Energy Systems → Term

STES METHODOLOGIES: World Energy Council Energy Trilemma

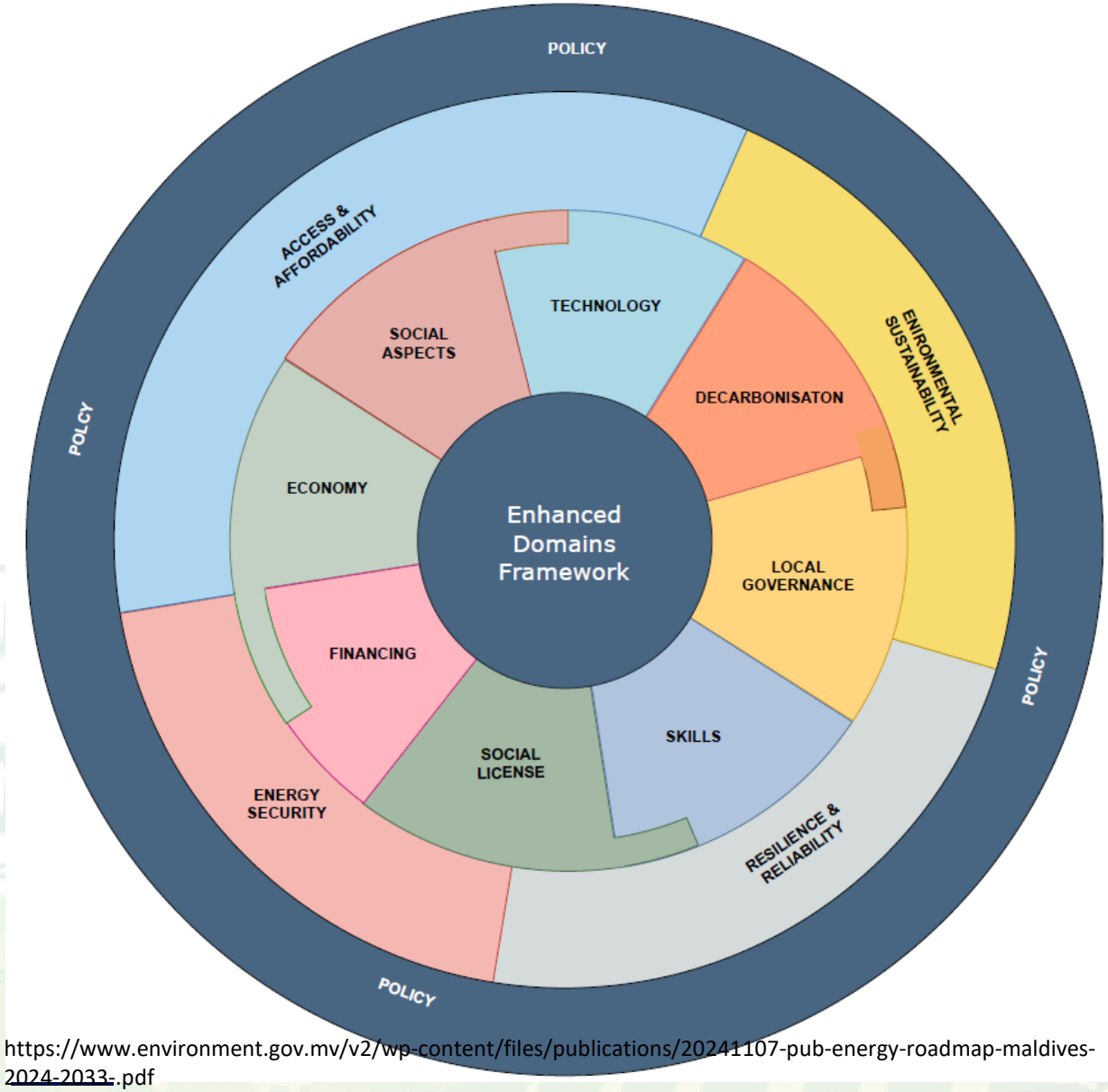


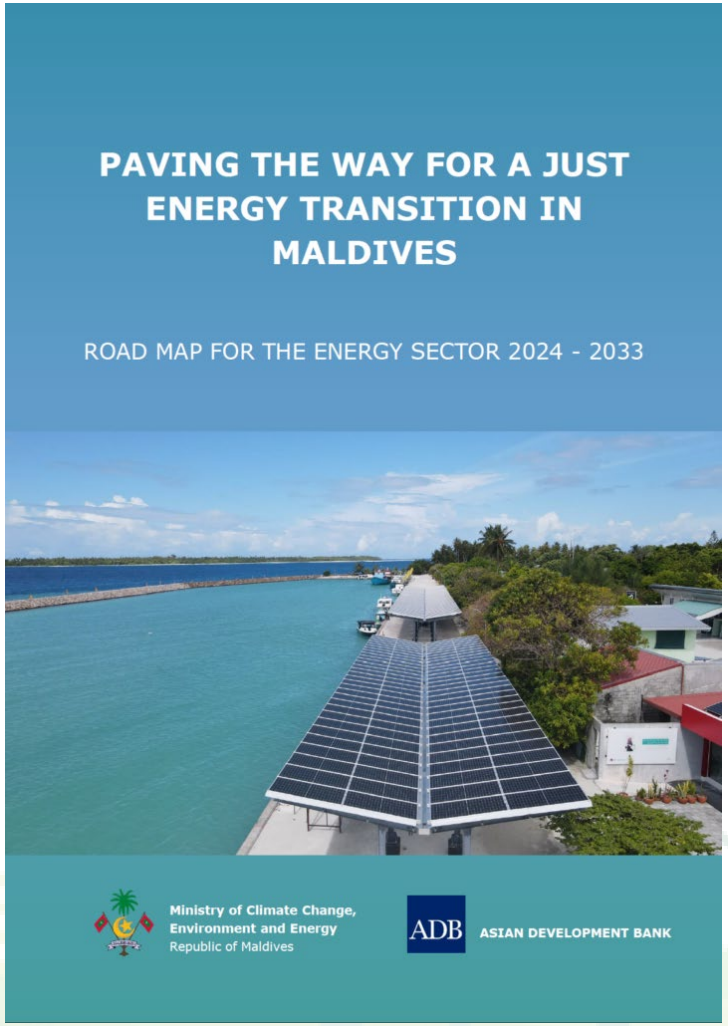
‘Political Trilemma’ Facing Governments



P. Mancarella - The University of Melbourne. "Energy Transition Challenges," ADB Regional Conference, May 2024.

Integrated & Inclusive JET Domains Framework





https://www.environment.gov.mv/v2/wp-content/files/publications/20241107-pub-energy-roadmap-maldives-2024-2033-.pdf

P3564

Recommended Practice for Implementation of Gender Equity and Social Inclusion Considerations in Low Carbon Energy Transition Programs

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This recommended practice provides a framework for implementing Gender Equity and Social

IEEE SA P3564 ‘Pioneering’ Universal STES-GESI Standards

- **The practice guidelines have a global scope of focus, nuanced, taking into consideration geographic, political, legal/governance, cultural, social, technology maturity, development, environmental, and ethical factors.**
- This recommended practice provides a framework for implementing Gender Equity and Social Inclusion (GESI) considerations including and measurable well-being outcomes into industry practices within power and energy projects and operations, primarily for the Low Carbon Energy Industry.
- The recommended practice scope:
  (1) for how projects supporting the Low Carbon Energy transition can accommodate GESI considerations
  (2) to address GESI considerations for both the transition phase as well as the business-as-usual phase after the transition phase has concluded
  (3) on how to monitor and to evaluate the effectiveness of GESI considerations in industry practices.
- The requirements are complemented with indicators and metrics to evaluate progress and outcomes.
- This recommended practice encourages and helps engineers, scientists, technologists, and other professionals in the power industry to consider GESI factors in their practice and to create a clear record of the outcomes of those considerations in their projects.

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Take Aways

KEY STES – P3564 OUTCOMES TO STRIVE FOR

- **Access and Quality of Access:** Generation and distribution side impacts; understand the context of social, economic and gender-based power relations; incorporate user knowledge and understanding of new technologies.
- **Affordability**: Social Inclusion, especially for low-income groups; Short-term cost increase planning and mitigation; network infrastructure cost planning, including off-grid
- **Enabling policy environment**: Holistic GESI policies that consider impacted communities; social license to operate; incorporate local and indigenous knowledge; social protection to mitigate impact of job losses.
- **Develop the GESI Inclusive Workforce and Livelihoods (Micro, Small and Medium Enterprises)**: Address gender disparity in employment and wages in the energy sector; establishing skills development programs to create livelihood (MSME) and green and decent employment.
- **Metrics**: Quantitative and qualitative metrics for reporting and evaluating GESI impacts of the energy transition, including uptake, affordability and workforce composition.

Get Involved!

THANK YOU!

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