

S M A R T
G R I D
FORUM

November 29, 2017

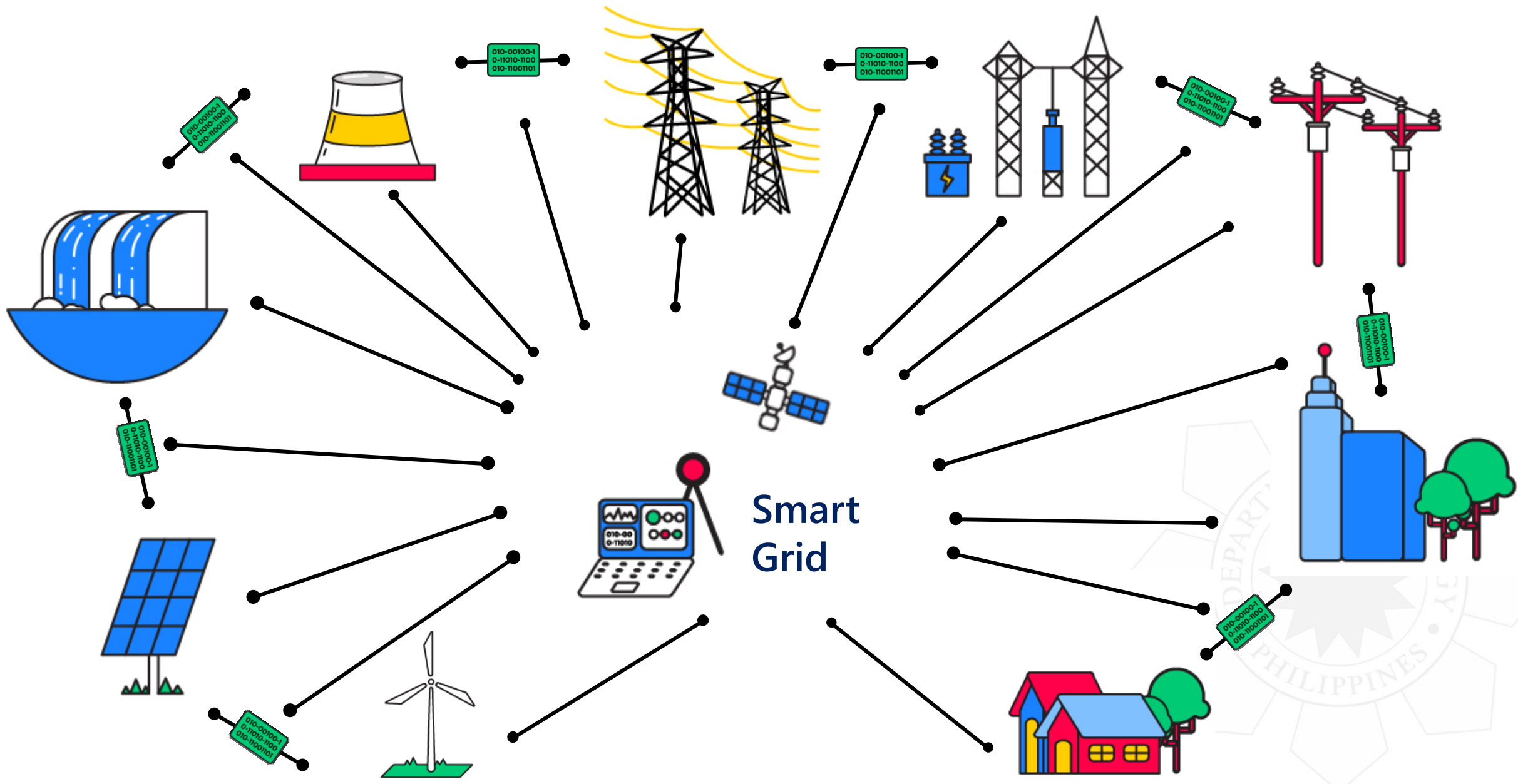


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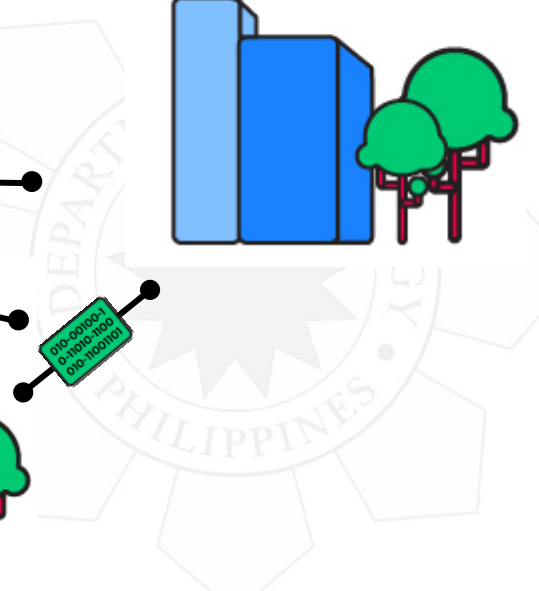




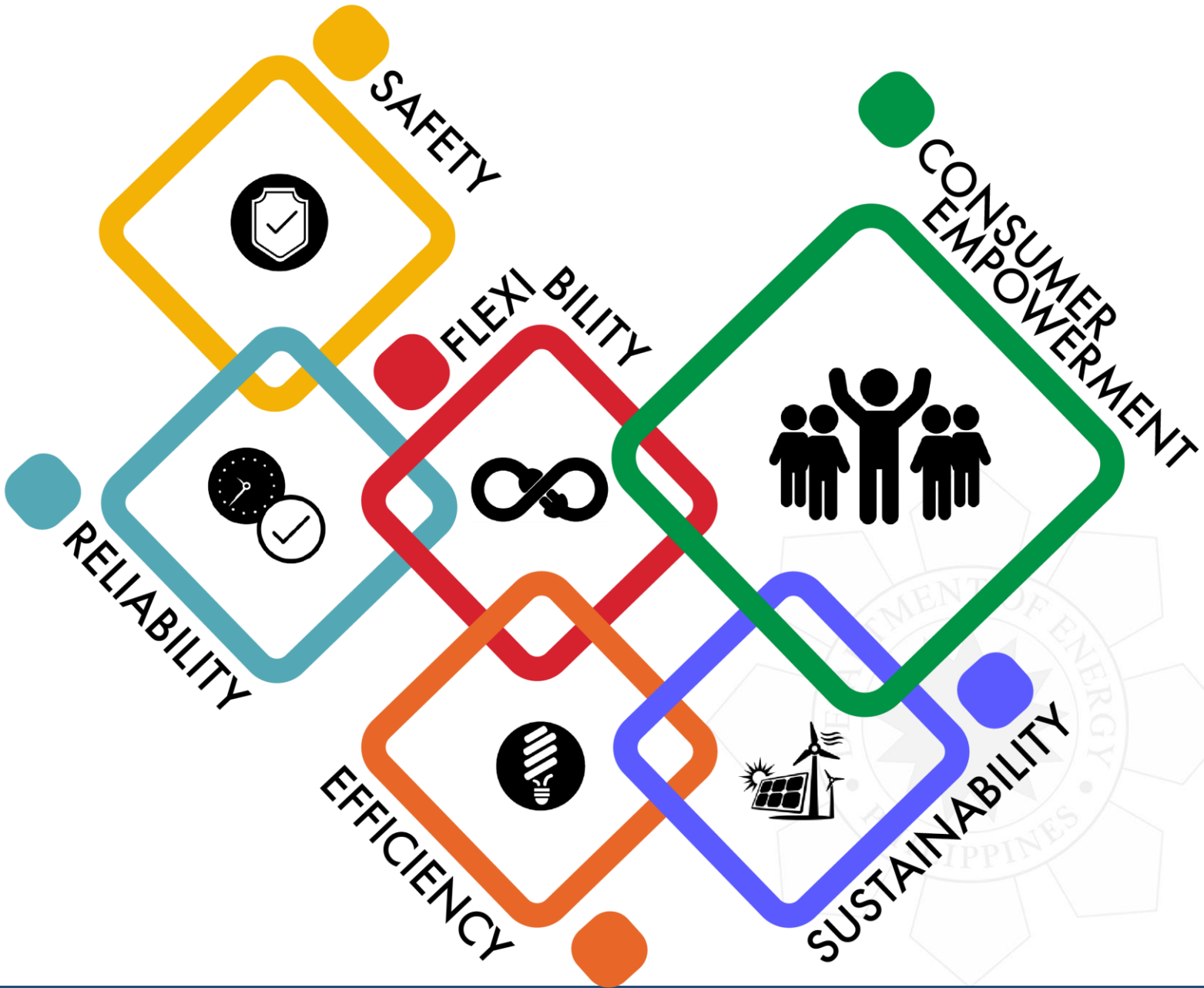
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Aspects of Smart Grid



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Smart Grids for Consumer Empowerment and Energy Efficiency

Standardization (Distribution and Transmission)

Summary Status:

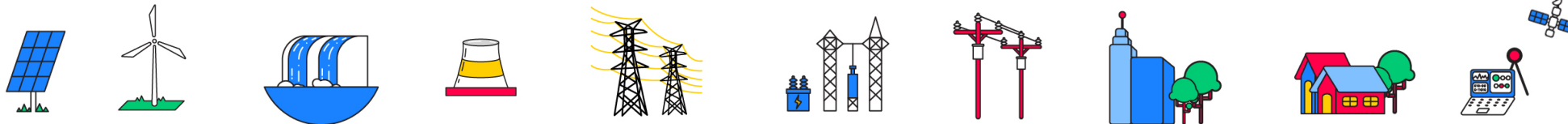
Partial implementation of Smart Grid technologies

Issues

- Communication protocols are not harmonized
- Different (information) standards exist among: Generation, Transmission, Distribution
- Technical and Operational risks of communication systems being used

Recommendations

- Perform assessment of existing facilities of energy stakeholders
- Messaging and data structure should comply with Communication Information Management (CIM)
- Establish platform wherein Distribution Utilities (DU) can exchange readable data with the System/Market Operator and vice versa



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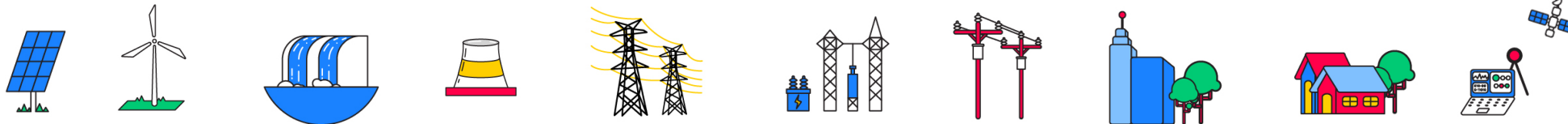
Partial implementation of Smart Grid technologies

Issues

- Communication protocols are not harmonized
- Different (information) standards exist among: Generation, Transmission, Distribution
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Recommendations

- Standardize information used by meter – ease of communication & interoperability
 - Implement AMI
- Mandate the use of smart meters
 - Support and encourage local manufacturing of smart meters



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Standardization (Regulation and Policy)

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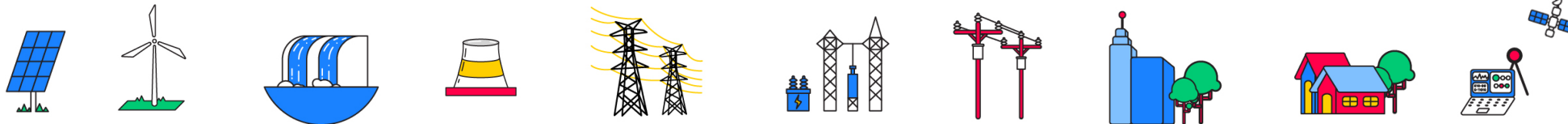
Inadequate policy, rules, and guidelines on Smart Grid initiatives

Issues

- Constraints on implementation of Smart grid initiatives or investments
 - Lack of Compliance guidelines
 - Verification of compliance to existing ERC AMI rules
 - Capability of stakeholders to comply to regulations
- No standards on minimum requirement for technology/systems for smart grid initiatives
- Compliance to and enforcement of information sharing policy

Recommendations

- Develop policy on smart grid standards or technical process rules for standards for Framework, Scoping, Benchmarking
- Formation of stakeholder working group to support government initiatives towards smart grid integration



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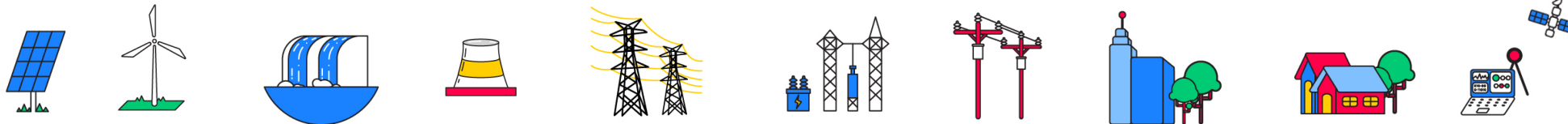
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Recommendations

- Phasing in of requirements for smart grid integration through a modular approach



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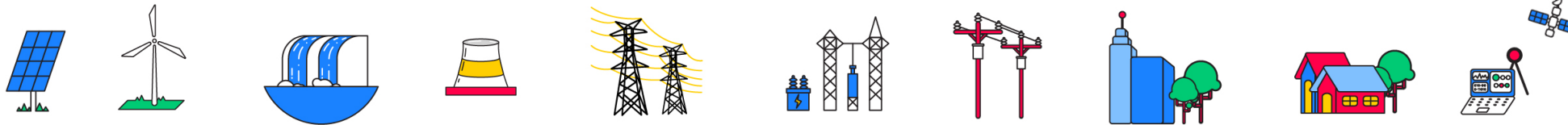
Inadequate policy, rules, and guidelines on Smart Grid initiatives

Issues

Recommendations

- Insufficient financial capability of distribution utilities to implement smart grid initiatives
- Lack of technically competent service providers (e.g. contractors to install AMI)

- ADMS software should be made affordable through aggregation, bundling, government intervention
- Encourage and support entry of technically competent manufacturers and service providers to ensure quality and reliability of integrated smart grid technologies.



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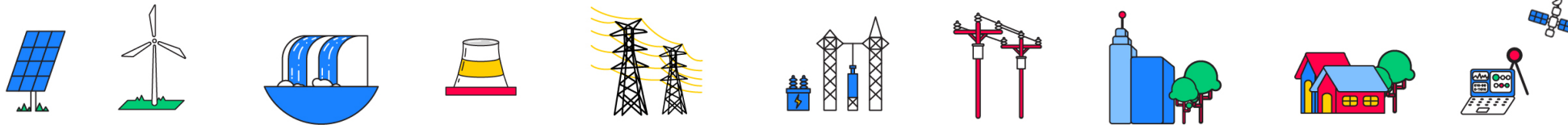
Inadequate policy, rules, and guidelines on Smart Grid initiatives

Issues

- Integration of Variable Renewable Energy Systems into the system
- Lack of policy guidelines and rules for integration of Electric vehicles and battery storage systems

Recommendations

- Implementation of Distributed Energy Resource Management System (DERMS) – Renewable integration, smart innovation, energy storage
- Develop or adopt standards for e-vehicle and battery systems to ensure proper integration



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