



# Philippine Experience in Developing Energy Resiliency

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# Presentation Outline

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I	DOE, Philippines
II	Background / Challenges
III	Current Practices
IV	Policy Initiatives
V	Accomplishments
VI	Next Steps



# Role of DOE (Mandate)

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Mandated by RA 7638 (Department of Energy Act of 1992) to **prepare, integrate, coordinate, supervise and control** all plans, programs, projects and activities of the Government relative to energy **exploration, development, utilization, distribution and conservation.**



# Role of DOE (Mission & Vision)

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We, at the Department of Energy, in partnership with our stakeholders, shall **improve the quality of life** of the Filipino by formulating and implementing policies and programs to ensure **sustainable, stable, secure, sufficient, accessible and reasonably-priced energy**.

A globally-competitive DOE powering up Filipino communities through **clean, efficient, robust and sustainable energy systems** that will create **wealth, propel industries and transform the lives** of men and women and the generations to come.





## E-Power Mo!

- A campaign designed to empower consumers by providing them information and options on the intelligent utilization of energy resources
- Aims to provide essential information on the fast-evolving developments in the energy sector, proper energy utilization and energy resiliency.





**KEEP IT SAFE WITH  
EFFICIENT ENERGY USE**



Department of Energy  
*Empowering the Filipino*



**THE SECURITY OF THE  
ENTIRE NATION'S ENERGY  
SYSTEMS AND FACILITIES IS  
WITHIN YOUR GRASP**



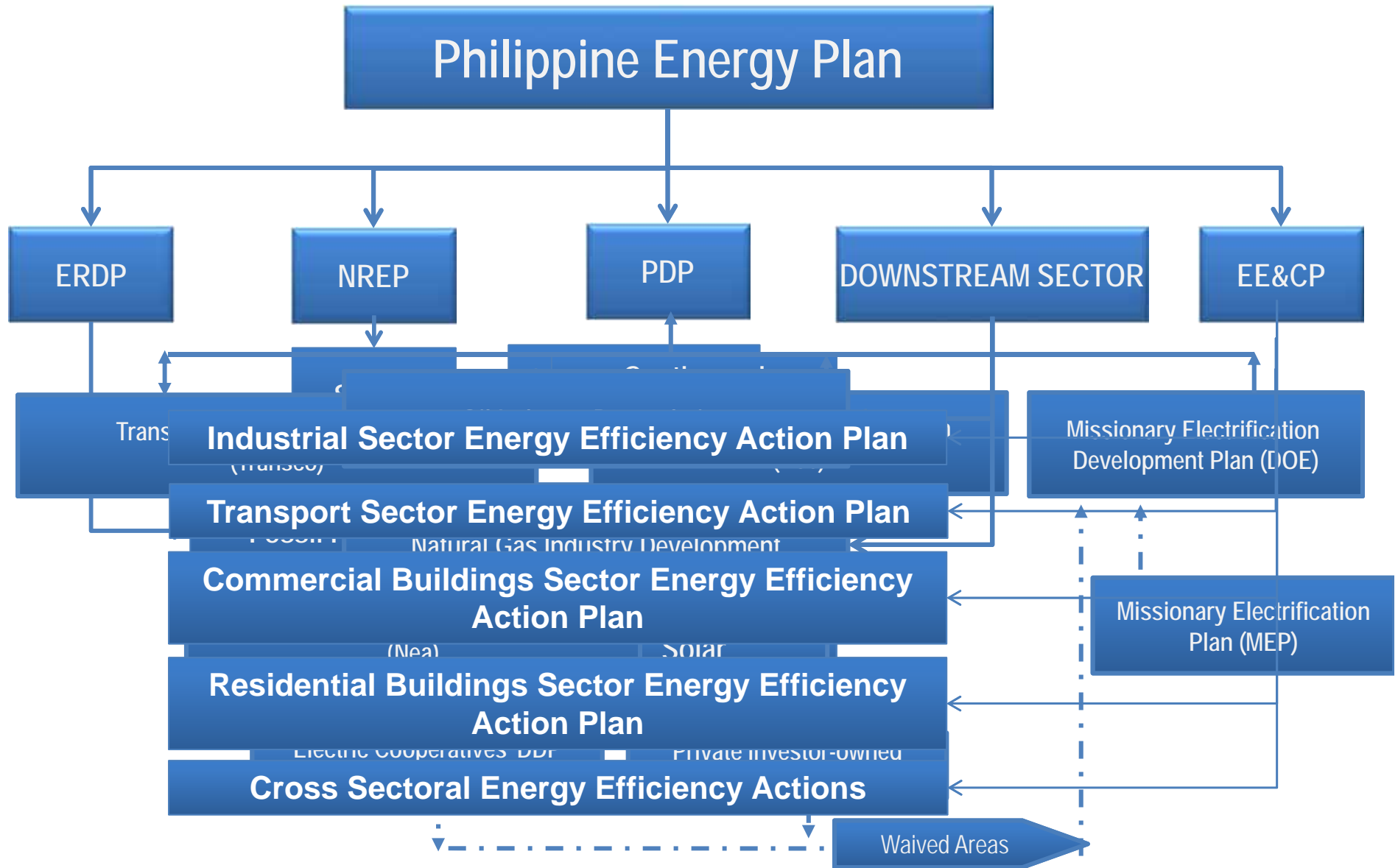


**EXERCISE YOUR POWER OF  
CHOICE AMONG THE AVAILABLE  
ENERGY SOURCES —  
CONVENTIONAL OR RENEWABLE**



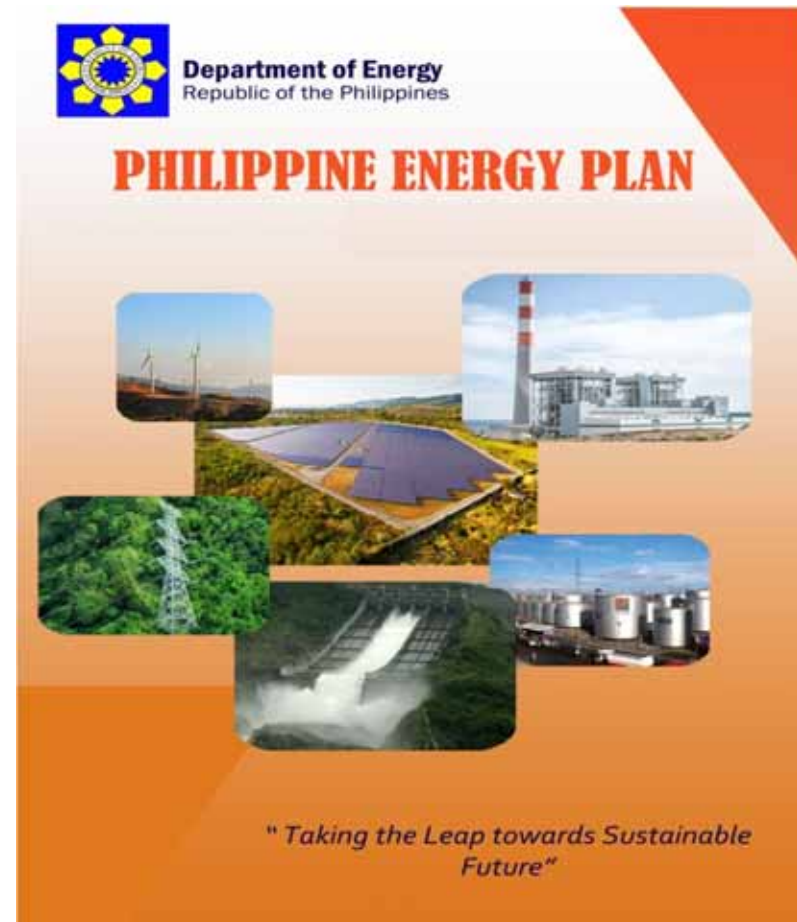


# Philippine Energy Plan



# Philippine Energy Plan (2016-2040)

The Philippine Energy Plan, PEP is a comprehensive roadmap of programs and projects of the energy sector to ensure sustainable, stable, secure, sufficient, accessible and reasonably-priced energy.



# Philippine DRRM System

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Republic Act 10121

- Strengthens the Philippine Disaster Risk Reduction & Management System



Disaster Relief &  
Response

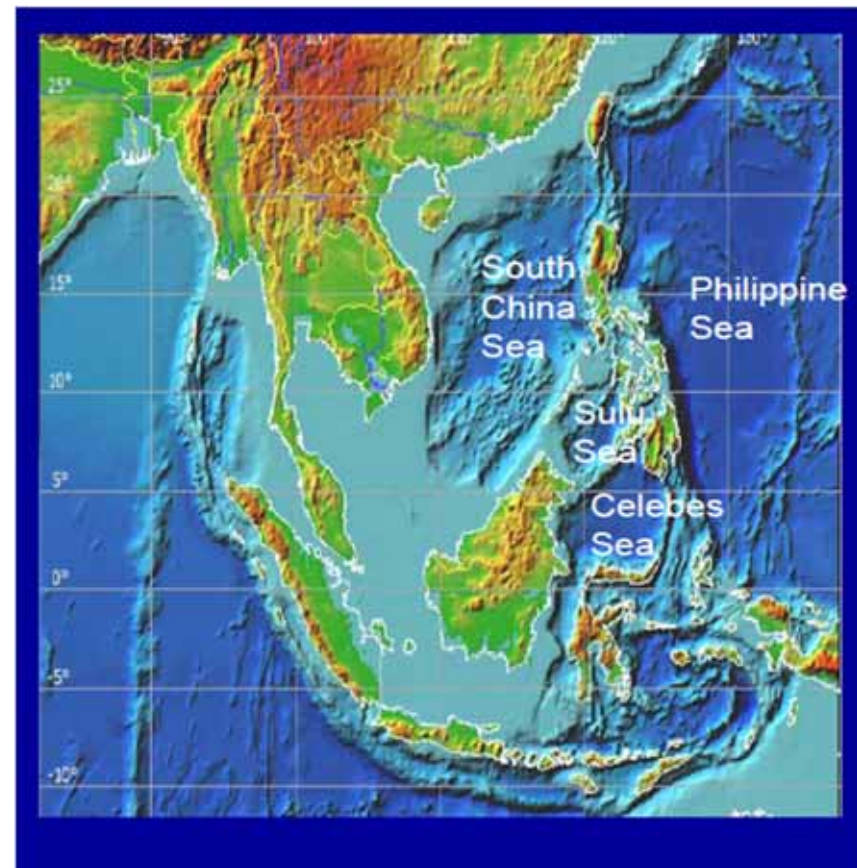


Disaster Risk  
Reduction

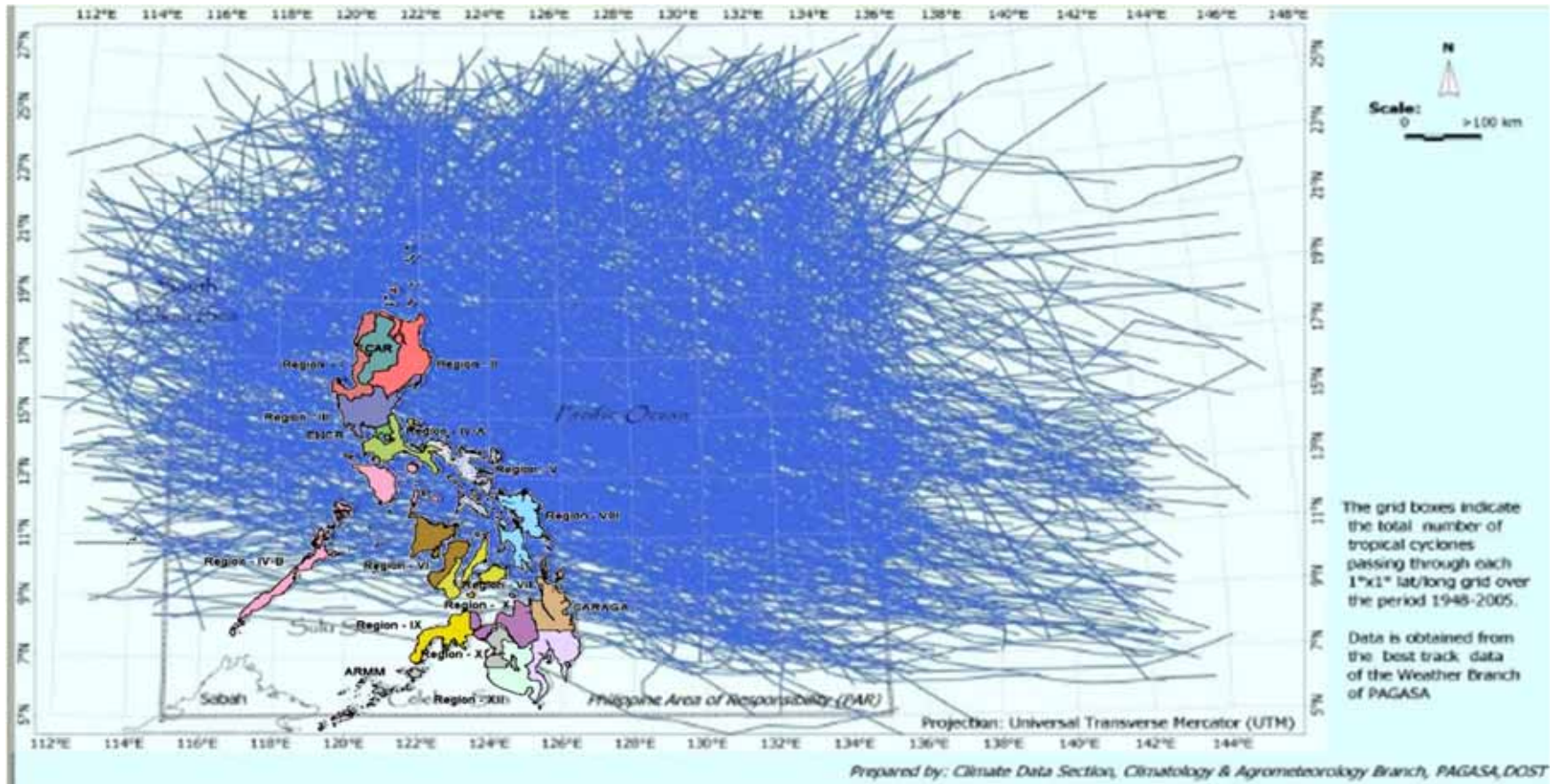


# Natural Hazard Setting in the Philippines

- Bounded by bodies of water
- Part of Ring of Fire
- Part of Earthquake Zone
- Average 20 tropical cyclones per year enter Philippine Area of Responsibility
  - 9 cross the country per year



# Actual Tropical Cyclone Tracks (1948-2010)



With the increase in temperature this could mean much stronger and more intense tropical cyclones



# Natural Hazards

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Tropical Cyclones  
Floods  
Storm Surges  
Earthquakes  
Tsunamis  
Volcanic Eruptions  
Landslides  
Drought



# Super Typhoon “Yolanda” (2013)

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# Leyte Earthquake

Magnitude

6.5

- At around 4:00 PM, 6 July 2017, a magnitude 6.5 earthquake occurred in Jaro, Leyte causing power interruptions in Leyte, Samar and Bohol, Cebu and other areas in Visayas.





# Human-induced Hazards

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- Fire
- Maritime Accidents
- Aircraft Crash
- Land Accidents
- Industrial Accidents
- Pollution
- Civil Disturbance
- Terrorism
- Armed Conflict



# Fire Incident in Muntinlupa (2017)

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# Marawi Siege (2017)

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# Effects of Disaster

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- Hampers delivery of services
- Casualties
- Lost of livelihood
- Damage
  - Repair cost
  - Reconstruction cost
- Losses
  - Foregone income
  - Higher operating costs
  - Unexpected expenses
- Impact on macroeconomic, social, environmental and disaster risk



# Effects of Disaster on Power Sector

	Super Typhoon "LAWIN" (i.n. Haima) October	Typhoon "Nina" (i.n. Nock-Ten) December
Affected Electric Cooperatives	14	16
Number of Municipalities/Cities	241	178
No. of Barangays	5,359	5,428
No. of Affected Households	1,252, 076	1,683,012



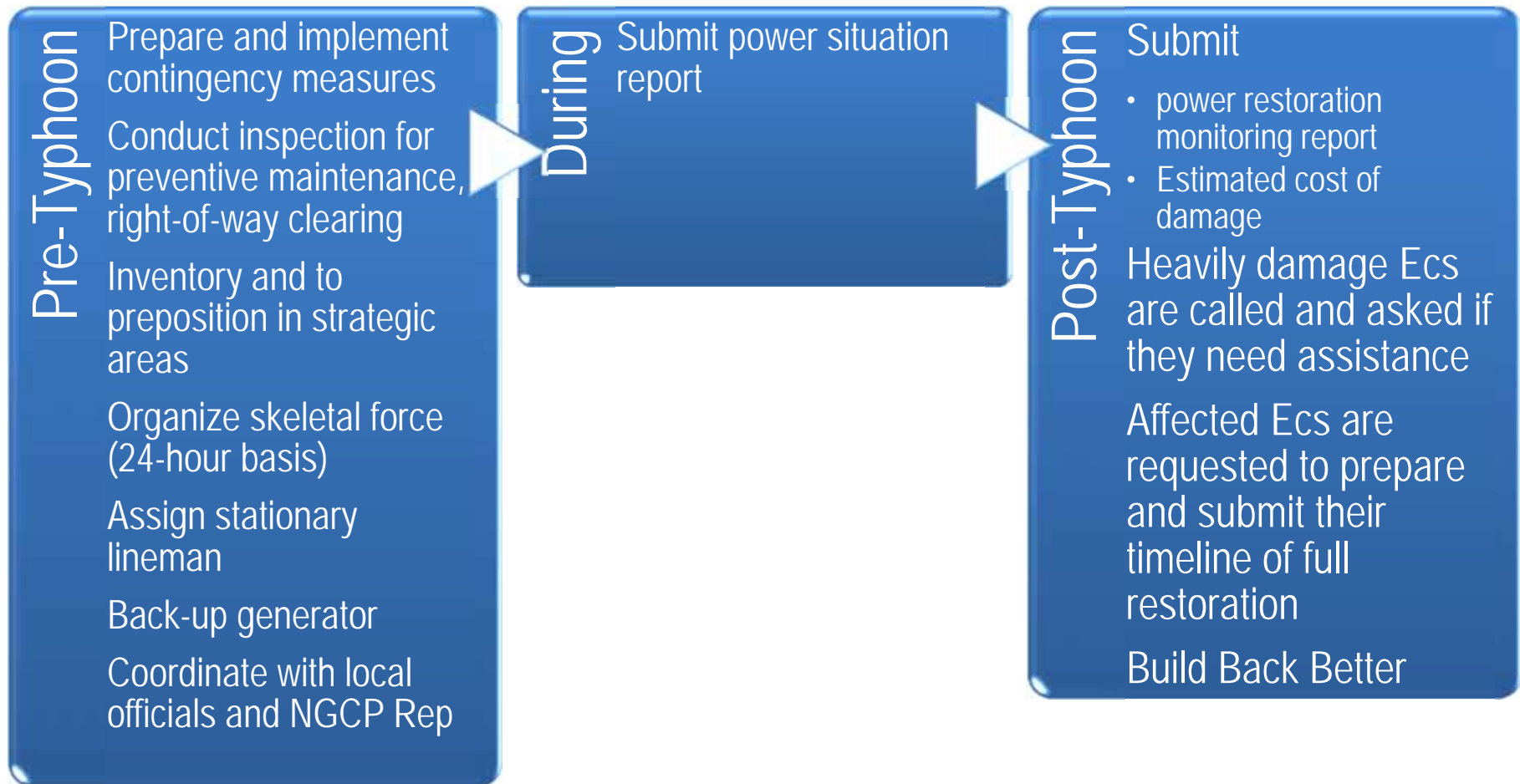
## Task Force “Kapatid” (Brotherhood)



- Pools together volunteers from different ECs to render free service to other ECs which need help
- Mobilizes and deploys engineers, electricians, linemen and foremen to calamity-hit ECs



# Task Force “Kapatid” (Brotherhood)







# Ensuring Oil Supply (Minimum Inventory Requirement for Commercial Stocks)

## Executive Order

# 134

- o Requiring Oil Companies and Bulk Suppliers to Maintain a Sufficient Minimum Inventory of Petroleum, for Purpose of Ensuring Continuity, Adequacy and Stability of Crude and Fuel Supply

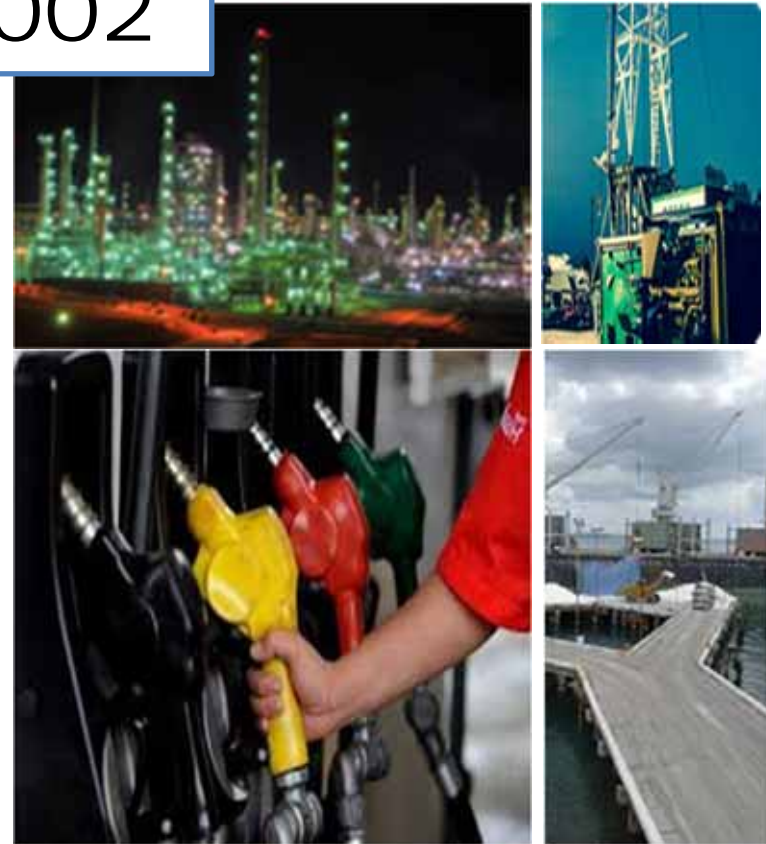


# Ensuring Oil Supply (Minimum Inventory Requirement for Commercial Stocks)

Department Circular

2003-03-002

- – Relaxation of the Minimum Inventory Requirements
  - Refiners – 15 days in-country stocks of crude and petroleum products
  - Bulk Suppliers – 7 days in-country stocks of petroleum products
  - LPG Importers – 7 days in-country stocks of LPG



# Executive Order No. 30

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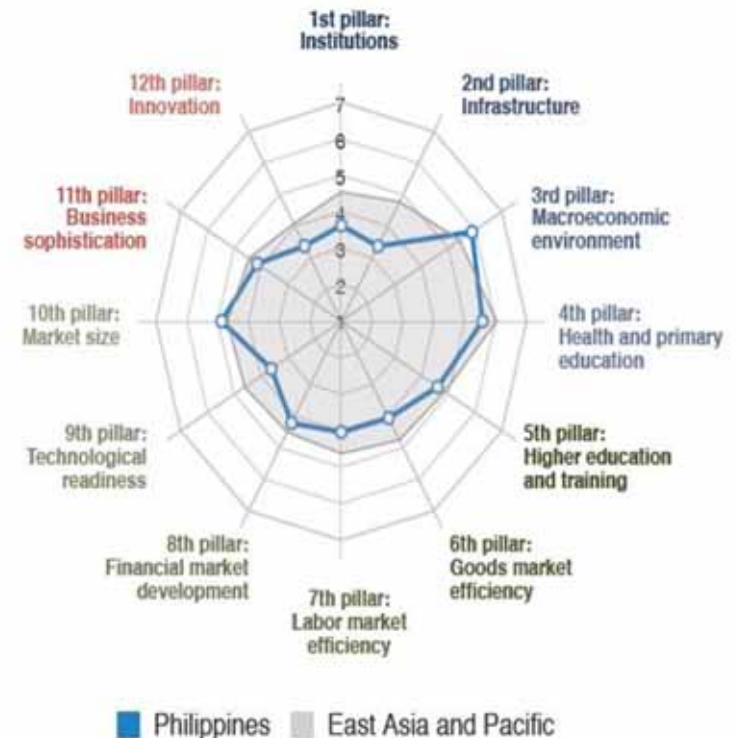
“Creating the Energy Investment Coordinating Council (EICC) in Order to Streamline the Regulatory Procedures Affecting Energy Projects”



# Impact of Delay to the National Economy

## Effects on the energy supply planning / programming

- ❑ Delay in commissioning of power projects
- ❑ Deficiency in power supply
- ❑ Insufficient and inefficient delivery of energy services
- ❑ Discourages potential investors
- ❑ Delay in economic expansion



# Resiliency Policy

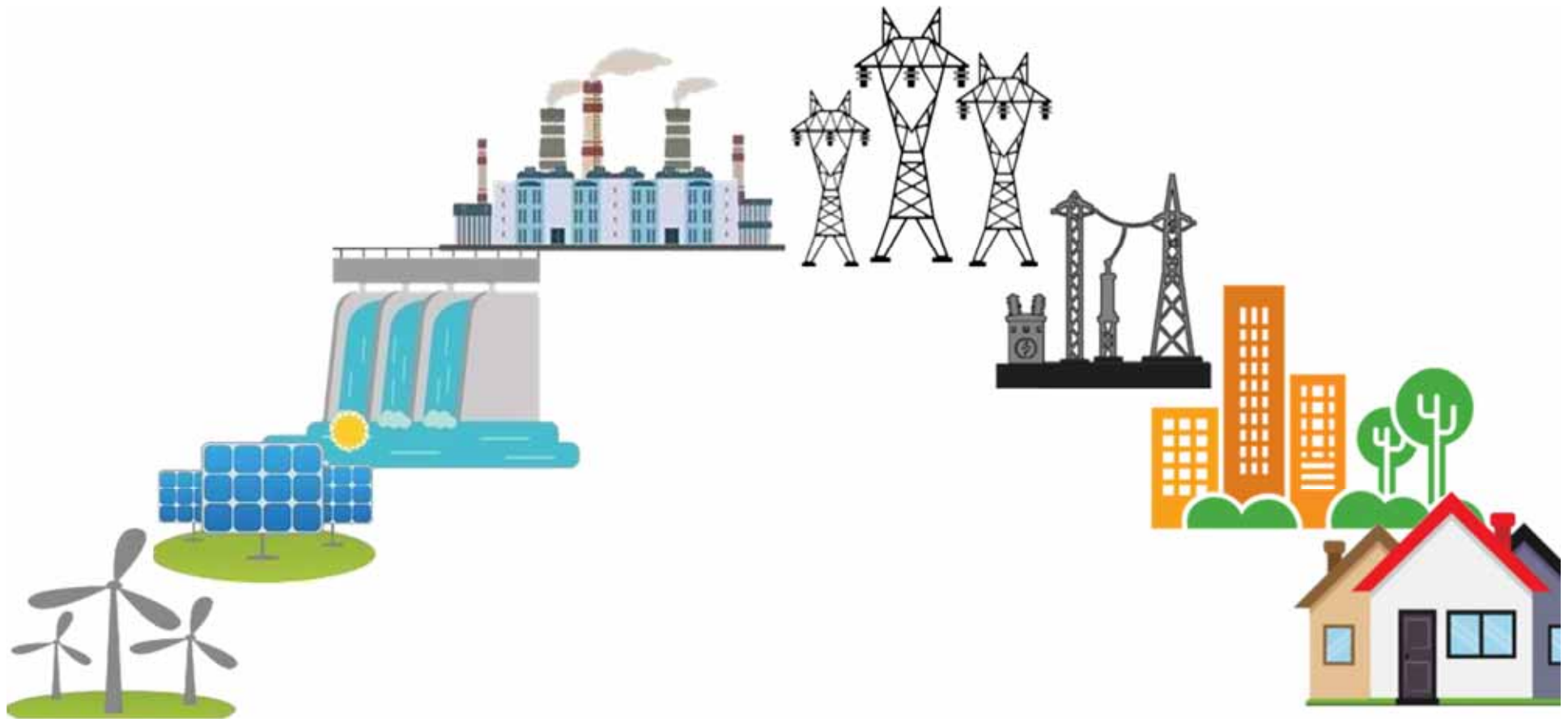
## Promotion of Energy Resiliency

- ❑ Policy on the adoption of resiliency planning and program in the energy industry to mitigate the adverse effects brought about by the disaster



# Resiliency Policy (Scope)

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# Resiliency Policy

## Policies and Principles

1. Strengthen existing infrastructure facilities;
2. Incorporate mitigation improvements into the reconstruction and rehabilitation of infrastructure in accordance to the Build Back Better principle;
3. Improve operational and maintenance standards and practices to ensure expeditious restoration of energy supply; and
4. Develop resiliency standards for future construction of energy facilities to ensure minimal damage and adoption of measures in place for timely recovery and restoration of energy supply.



# Resiliency Policy: Resiliency Compliance Programs (RCP)

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Contains adaptation measures which includes engineering and non-engineering options, to gauge infrastructure and human resource preparedness during and in the aftermath of disruptive events.

The RCP shall be divided into:



Strengthening  
Infrastructure



Stockpiling



Systems



Response and  
recovery





# Resiliency Policy: RCP Template

Stronger Projects & Programs	Name	Description	Benefit	Start Date	Completion Date	Total Cost	Yearly Disbursement
Facility							
System							
Stockpiling							
Response and Recovery							



## Partnerships



### Emergency Preparedness and Disaster Response

- One Meralco Foundation lends Meralco's experience and resources in emergency and disaster preparedness to support other utilities and communities. This sharing of expertise and resources aims to further harness response to major emergency situations, natural calamities and disasters.



# Next Steps

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- Updating of the National Energy Contingency Plan
- Improvement and development of Disaster Protocols
- Revision of specification, design and construction standards
- Adoption of best practices
- Sharing of information on energy infrastructure technology advancements and innovations





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# Thank You!



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