

5<sup>th</sup> Forum on the Climate – Energy Security Nexus  
Policies and Practices to Enhance Energy Sector  
Resilience

November 4, 2014

International Energy Agency Center  
Paris, France

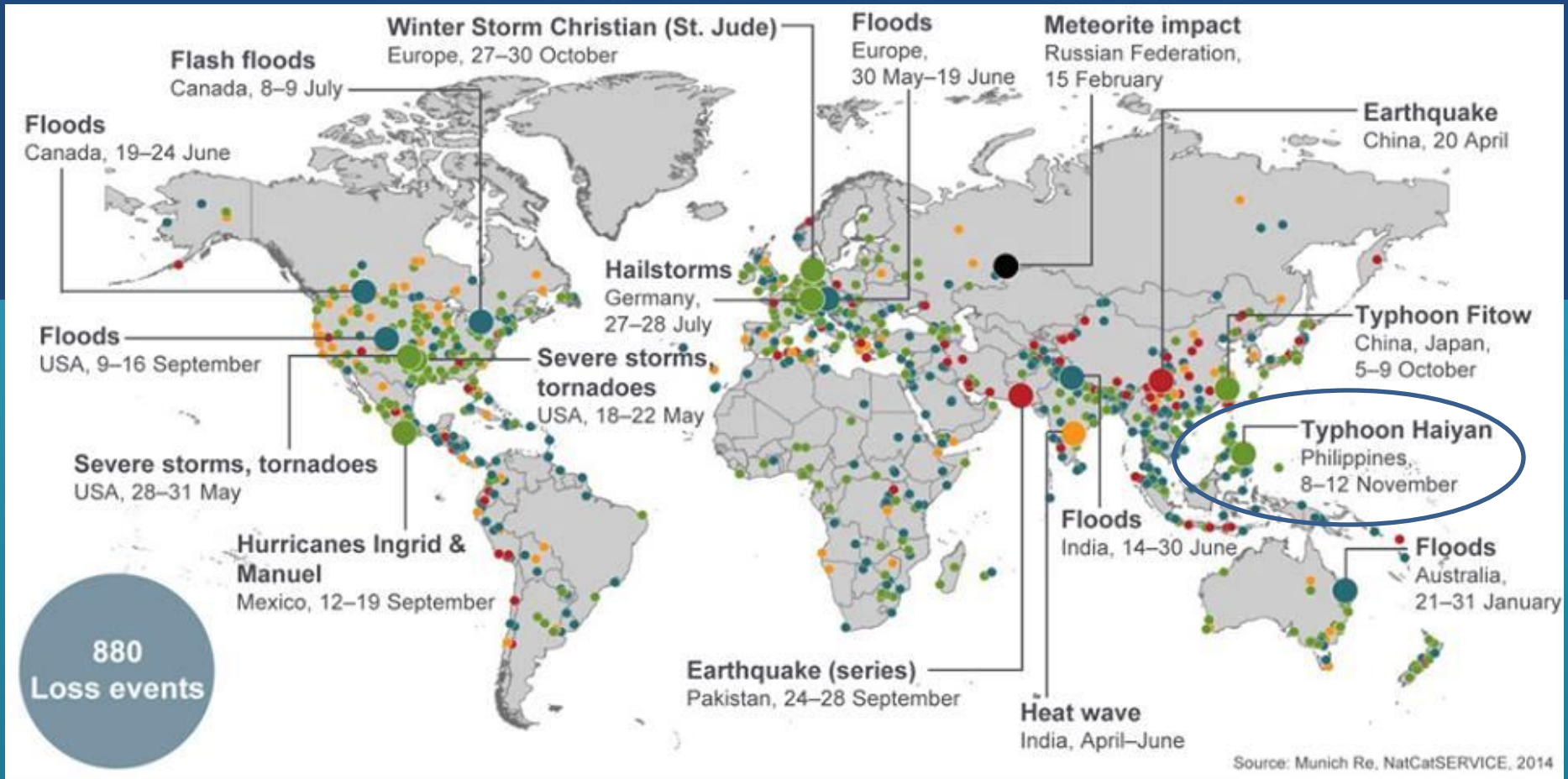
# Policies and Initiatives to Resilient Energy Sector

*Cebu, Philippines Context*

Baltz Tribunalalo Jr.  
Head – Provincial Disaster Risk Reduction and  
Management Office  
Cebu Provincial Government, Philippines



# What happened in the world in 2013?

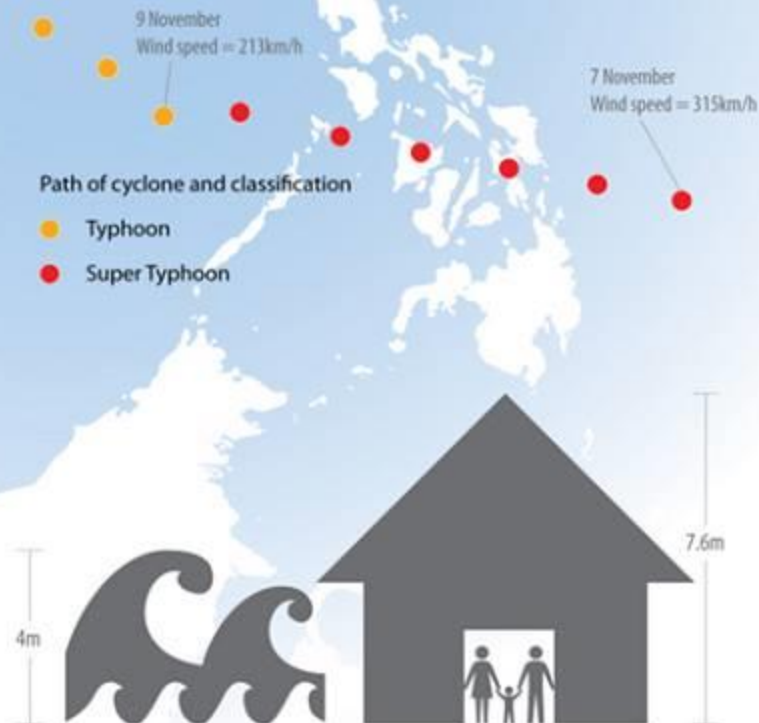


# WE MUST STOP CALLING THESE EVENTS 'NATURAL' DISASTERS...

- Yeb Sano, Philippines' lead negotiator at the UN Climate Change Convention (COP19)

**Science tells us that climate change and the warming of the oceans will mean more intense tropical storms; more destructive events such as super typhoon Haiyan will be the new norm.**

Super typhoon Haiyan has shown that a stronger post-2015 international agreement on disaster risk is needed to reduce both the vulnerability and exposure of people and assets.

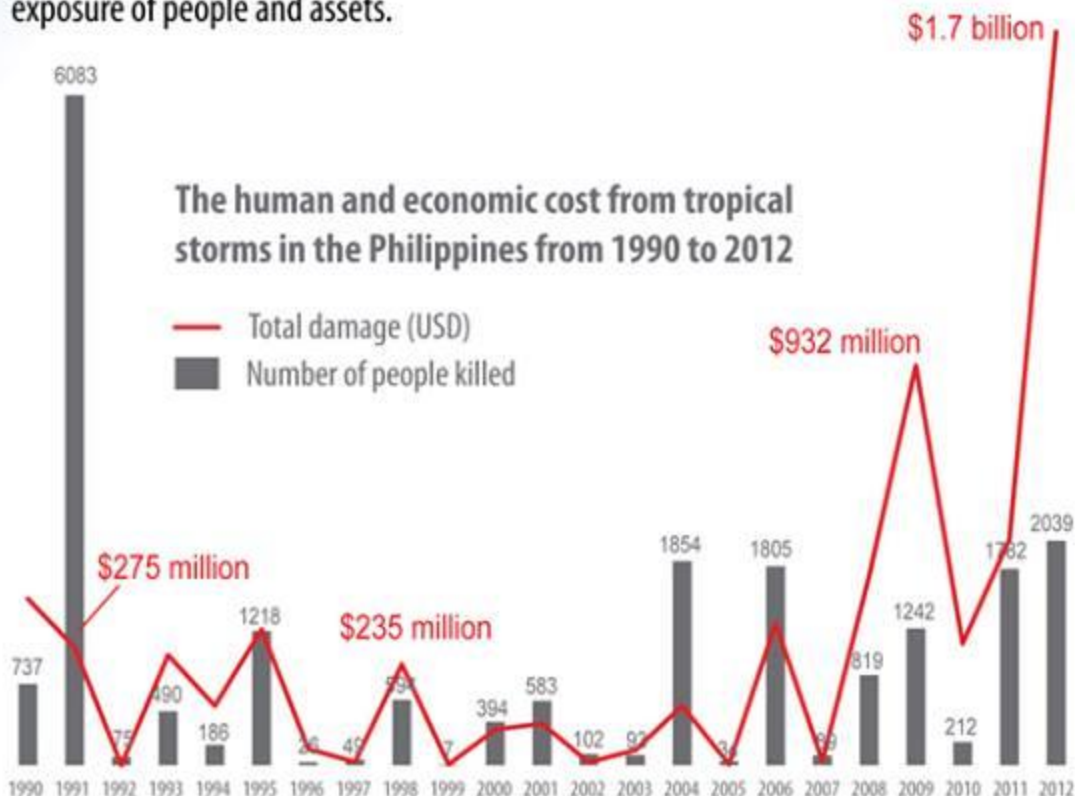


Reported storm surge height vs. average 2-story house

## Top wind speed of cyclones (km/hour)



## The human and economic cost from tropical storms in the Philippines from 1990 to 2012



# **2013** disasters in numbers worldwide



**315** reported disasters

**US\$116** Billions  
economic losses

**22,279** people killed

**95,349,145** total affected

# 2013 Philippines' Rank Worldwide

R A N K	Natural Disaster No. of Death	Data	Rank
1	Philippines Typhoon Haiyan Nov. 8, Bohol Earthquake Oct 1	7, 896 230	1
2	Total No. of Affected People	25, 667, 070	2
4	Total Economic Losses in Billion (US \$)	10.42	4



# 2013 Philippines' Rank Worldwide

**Top 1**

**Natural disaster by number of deaths**

<b>1. Tropical Cyclone Haiyan in November</b>	<b>Philippines</b>	<b>7,986</b>
2. Flood, June	India	6,054
3. Heat wave, July	United Kingdom	750
4. Heat wave, April-May	India	557
5. Earthquake, September	Pakistan	399
6. Heat wave, May-September	Japan	338
7. Cold wave, January	India	249
8. Flood, August	Pakistan	234
9. Flood, July	China	233
10. Earthquake, October	Philippines	230

# 2013 Philippines' Rank Worldwide

## Top 4 Total Economic Losses (In Billion, US\$)

1. China, P. Republic	38.01
2. Germany	17.70
3. United States	14.78
<b>4. Philippines</b>	<b>10.42</b>
5. Canada	5.70
6. Mexico	5.70
7. Indonesia	3.13
8. India	2.37
9. Australia	2.27
10. Pakistan	2.00

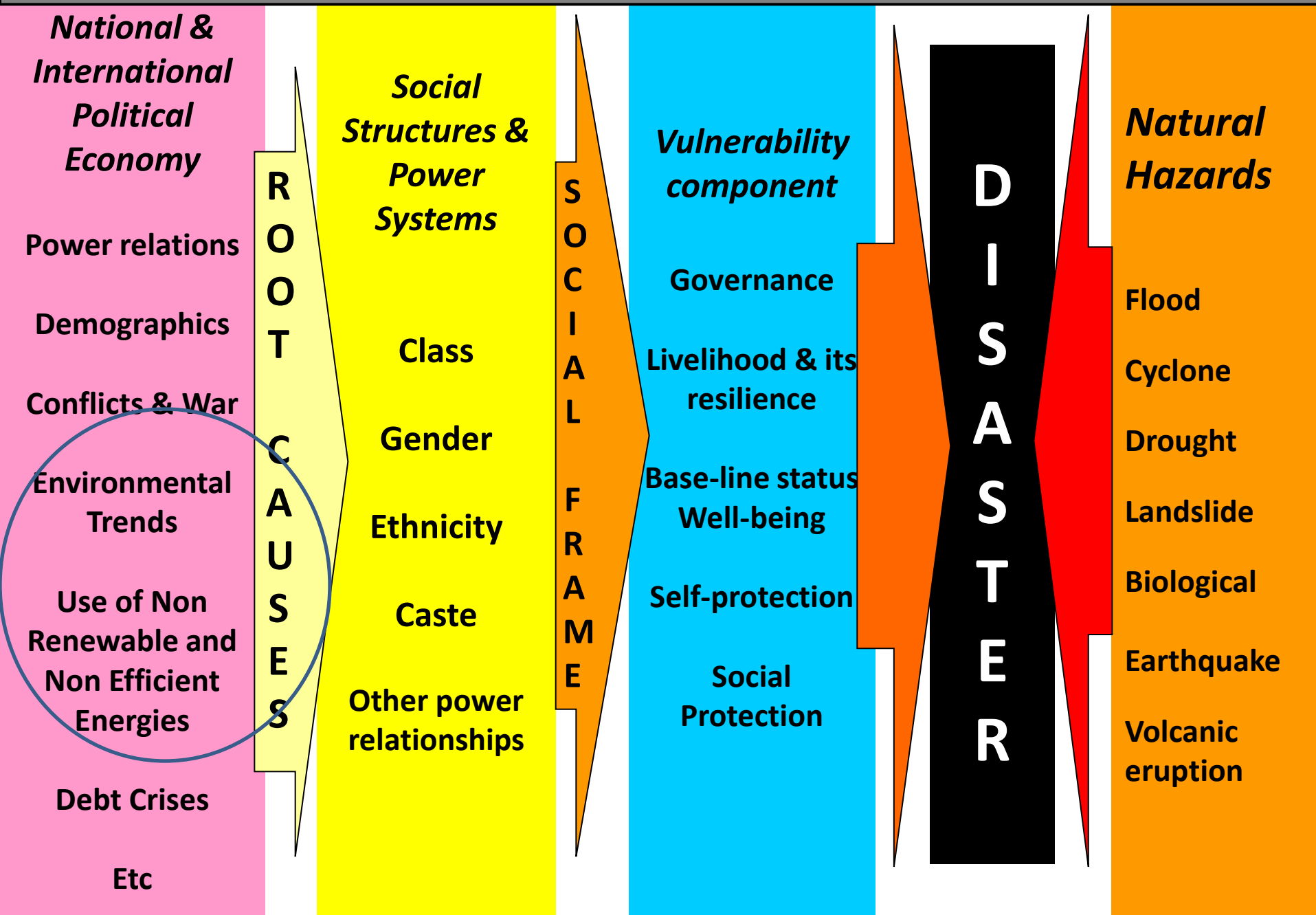
# 2013 Philippines' Rank Worldwide

## Top 2

### Total Affected People

1. China. P. Republic	27,277,070
<b>2. Philippines</b>	<b>25,667,070</b>
3. India	18,708,827
4. Viet Nam	4,129,209
5. Thailand	3,515,254
6. Zimbabwe	2,209,700
7. Israel	2,000,000
8. Pakistan	1,658,756
9. Bangladesh	1,607,207
10. Cambodia	1,500,000

# “Crunch” Pressure and Release (PAR) model



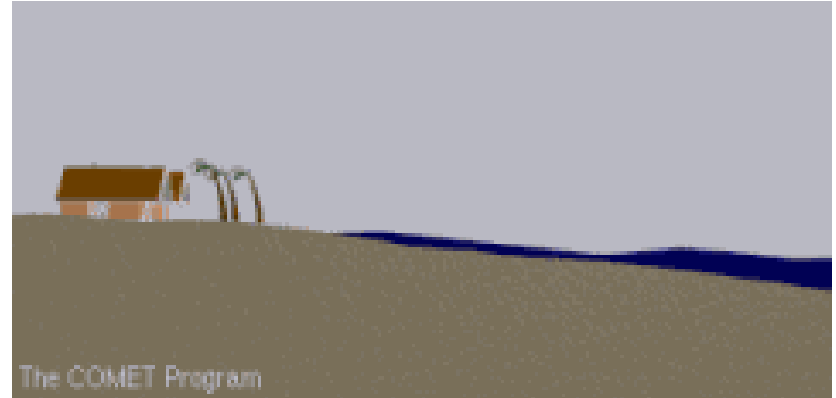
# Storm Surge Animation

The **shape of the coastline** will affect the likelihood of there being a damaging storm surge. The steepness of the shoreline affects the manner in which the waves strike it, as shown on the two animations below

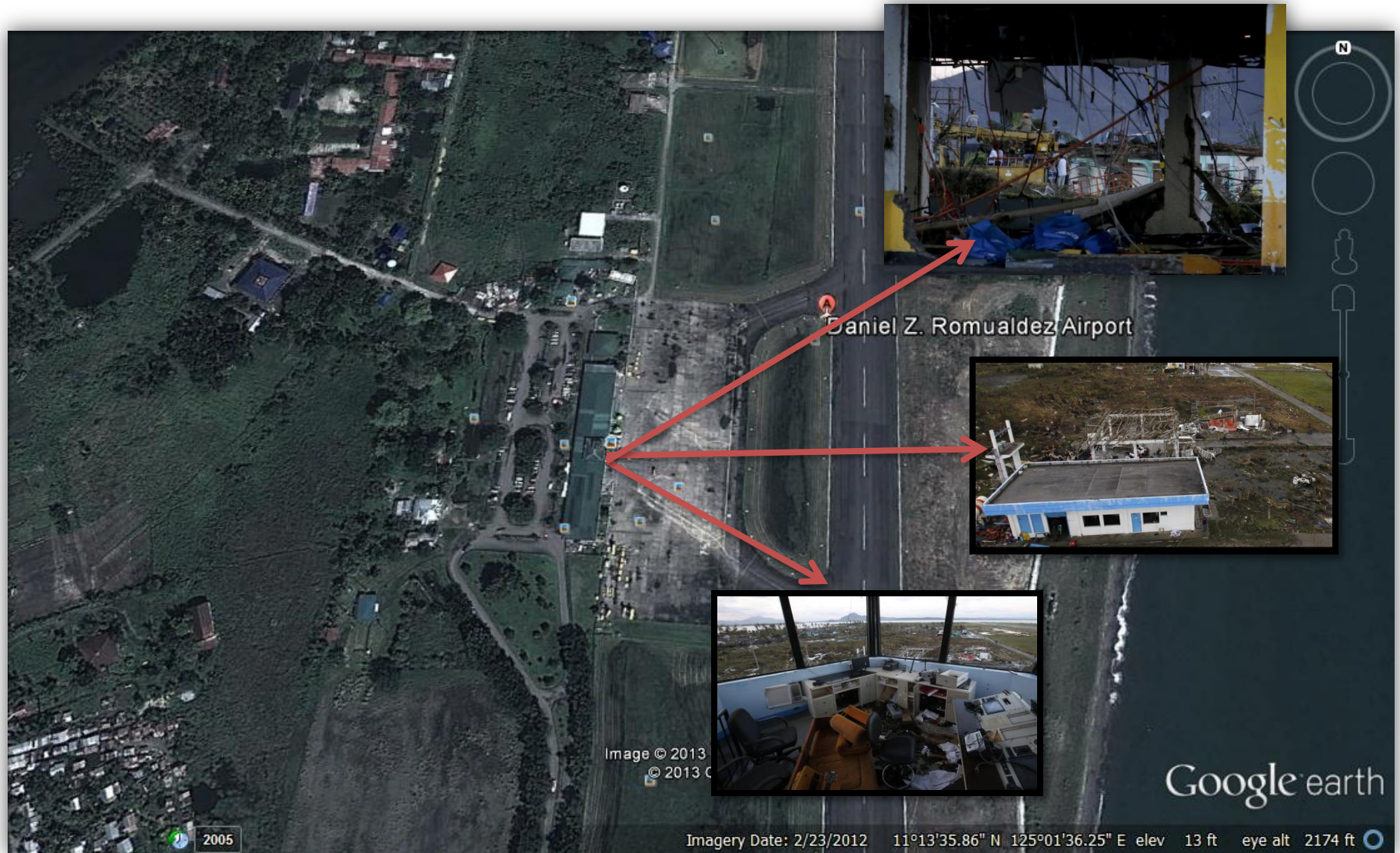
Deep water coastline



Shallow water coastline



# Tacloban Airport Terminal, San Jose, Tacloban City, Eastern Visayas



Disasters occur when social, environmental, economic, and even political factors profoundly intersect with hazards

$$\text{Risk} = \frac{\text{Exposure (Hazard)} \times \text{Vulnerability}}{\text{Capacity}}$$

# WANTED!



**1**

**Sound Policies that Promote  
Climate Change Adaptation and  
Mitigation – Risk Proofing**

**2**

**Implementation and  
Reinforcement prioritizing the  
most vulnerable groups**

**3**

**Appreciation of Practices and  
Climate Change Local Financing  
turn into Progressive Investment**

Risk  
Rights  
Resilience

# Paradigm shift

Top-down and centralized disaster management

Disasters as merely a function of physical hazard

Focus on disaster response and anticipation

Bottom-up and participatory disaster risk reduction

*Disaster mainly a reflection of people's vulnerability.*

Integrated approach to genuine social and human development to reduce *disaster risk*

# Basis of RA 10121

## The Hyogo Framework for Action (HFA) 2005 – 2015

“Building the resilience of nations and communities to disasters, and reducing vulnerabilities and risks to hazards”.

### 5 Priorities for Action:



# THE NATIONAL DRRM PLAN 2011-2028

## **DRRM Priority Areas and Long-Term Goals:**

### **Disaster Prevention and Mitigation**

Avoid hazards and mitigate their potential impacts by reducing vulnerabilities and exposure and enhancing capacities of communities

### **Disaster Preparedness**

Establish and strengthen capacities of communities to anticipate, cope and recover from the negative impacts of emergency occurrences and disasters

**Safer,  
adaptive and  
disaster  
resilient  
Filipino  
communities  
towards  
sustainable  
development**

### **Disaster Response**

Provide life preservation and meet the basic subsistence needs of affected population based on acceptable standards during or immediately after a disaster

### **Disaster Rehabilitation and Recovery**

Restore and improve facilities, livelihood and living conditions and organizational capacities of affected communities, and reduced disaster risks in accordance with the "building back better" principle

# National Framework Strategy on Climate Change

**CLIMATE CHANGE**

- Increasing temperatures
- Changing rainfall patterns
- Sea level rise
- Extreme weather events

**IMPACTS AND VULNERABILITY**

- Ecosystems (River Basins, Coastal & Marine, Biodiversity)
- Food security
- Water resources
- Human health
- Infrastructure
- Energy
- Human society

**SUSTAINABLE DEVELOPMENT**

Goal: To build the adaptive capacity of communities and increase the resilience of natural ecosystems to climate change, and optimize mitigation opportunities towards sustainable development.

A Venn diagram with three overlapping circles: a blue circle labeled 'SOCIETY', a red circle labeled 'ENVIRONMENT', and a yellow circle labeled 'ECONOMY'. The intersections of two circles are shaded in purple, green, and orange, while the central intersection of all three is white.

**MITIGATION**

- Energy Efficiency & Conservation
- Renewable Energy
- Environmentally-Sustainable Transport
- Sustainable Infrastructure
- National REDD+ Strategy
- Waste Management

**ADAPTATION**

- Enhanced Vulnerability and Adaptation Assessments
- Integrated Ecosystem-Based Management
- Climate-Responsive Agriculture
- Water Governance & Management
- Climate-Responsive Health Sector
- Disaster Risk Reduction & Management

Capacity Development    Knowledge Management    IEC and Advocacy    Gender Mainstreaming    Research and Development Technology Transfer

**CROSS-CUTTING STRATEGIES**

Multi-stakeholder Partnerships    Financing    Valuation    Policy, Planning and Mainstreaming

**MEANS OF IMPLEMENTATION**

# Cap Dev and Strategic Knowledge

The following are the key issues that should be addressed under strategic knowledge:

- Having access to relevant information and **localizing** it from the Philippine perspective
  - Creating a good data management and reporting system
  - Disseminating relevant information





# Frameworks and Outcome of Local Climate Change Action Plan

## Intermediate Outcomes

Ecological and  
Environmental  
Stability

Human  
Security

Climate-Smart  
Industries and  
Services

Sustainable  
Energy

Knowledge and  
Capacity  
Development

Water  
Sufficiency

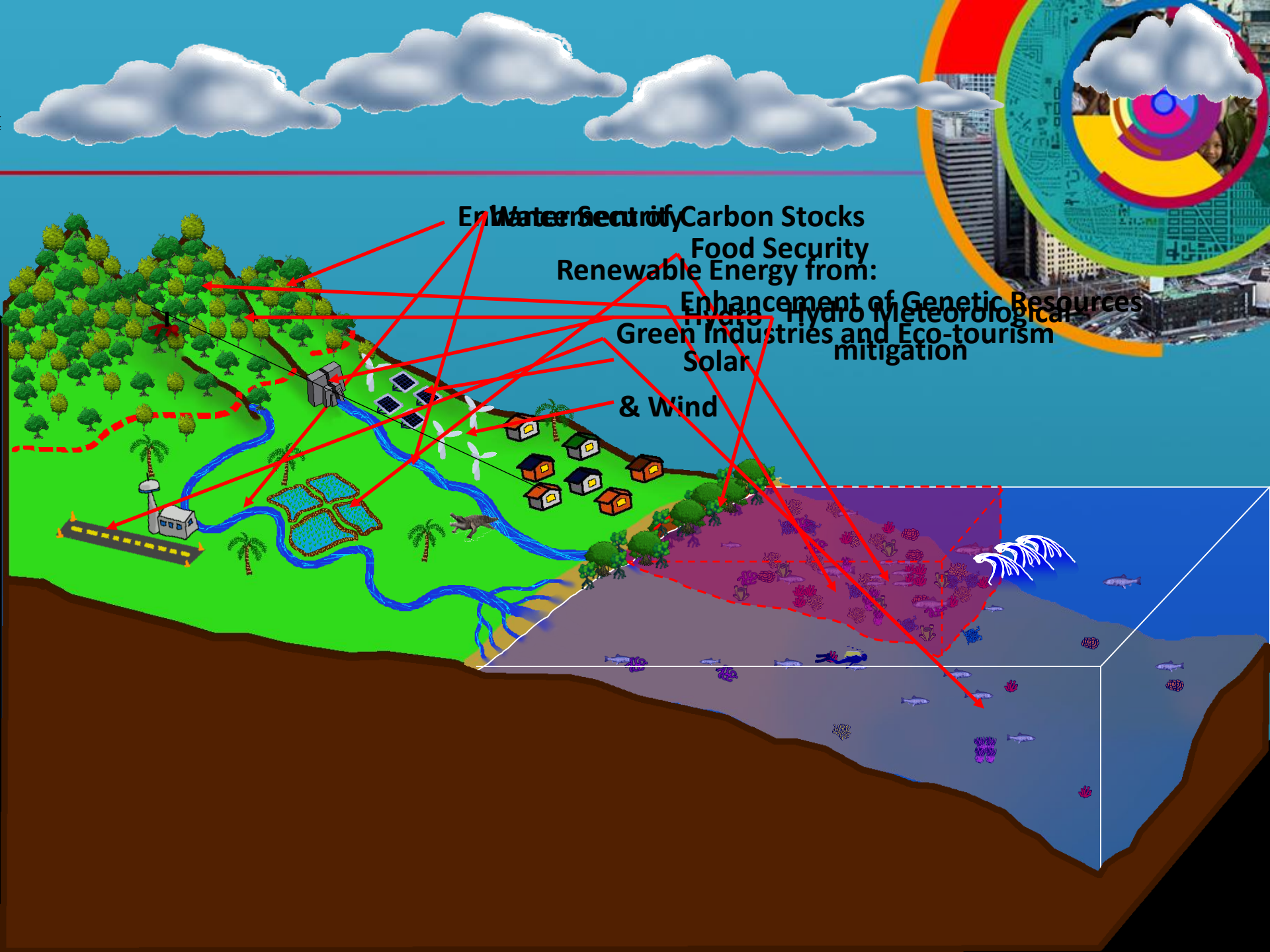
Food Security

Enhanced adaptive capacity of  
communities, resilience of  
natural ecosystems, and  
sustainability of built  
environment to climate change.

Successful  
transition  
towards  
climate-smart  
development.

## Ultimate Outcomes





Enhancement of Genetic Resources  
Green Industries and Eco-tourism  
mitigation  
Solar  
& Wind  
Renewable Energy from:  
Hydro  
Carbon Stocks  
Food Security  
Water Security  
En

# Public and Private Partnerships including Banks and other Financial Institutions



## About Energy SMART

It is a private sector led initiative that aims to identify, implement and share best practices on energy management programs that encourage energy efficiency and sustainability



# Link partnerships to Local CSO's and Communities towards local resilience



## Another lesson learned:

Invest in partnerships and choose your partner well!



# Visayan Electric Company

## Net Metering Program

16 October 2014

- 1 Solar Benefits
- 2 Financial Model
- 3 Metering Set-up
- 4 Status of applications
- 5 Requirements
- 6 Promotions





# Energy Crisis in the Philippines

**Philippines need 400 – 800 MW in 2015**

**JEC**



## JEC Philippines Energy Efficiency Solutions

**ENERGY AUDIT**

**INSTALLATION**

**OPERATION & MAINTENANCE**

Audit

Technical,  
Financial  
& Viability  
Proposal

Cooling  
Systems

Motors

Lighting

Water  
Heating

Building  
Automation

Sensors

Testing  
& System  
Optimization

Ongoing  
Maintenance

A photograph of a family, including a woman and two children, gathered around a table in a dimly lit room. They are cooking or preparing food, with a single lit candle providing the primary light source. Several bowls and a pot are on the table.

# **Energy Crisis in the Philippines**

**Philippines need 400 – 800 MW in 2015**

A photograph of several high-voltage electrical transmission towers and power lines stretching across the frame. The background shows a bright, hazy sky, likely at sunrise or sunset.

## **What is our role?**

propose initiatives to recover the country's predicament with energy supply

**Further energy efficiency**

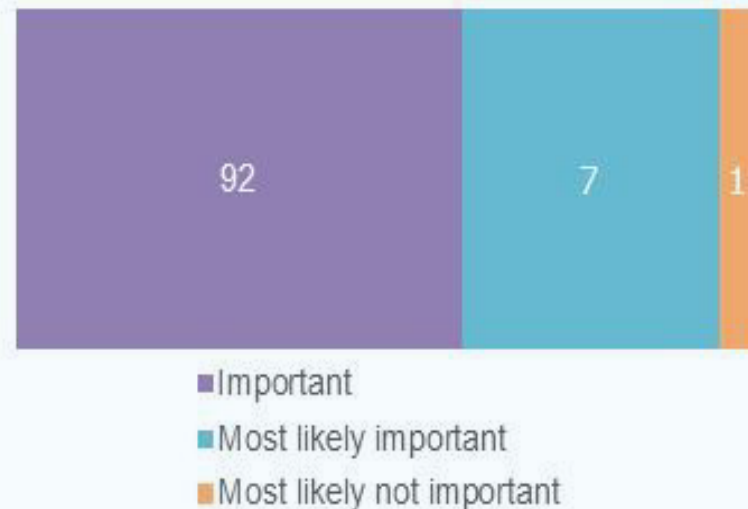


# Myth: Lack of Awareness?

Philippine Survey:

**9 out of 10**

Companies believe that reducing energy use is “very important”



# From Awareness to Action



Philippine Survey:

**5 out of 10**

Companies have designed and implemented an EE Plan



- An energy efficiency plan has been designed and implemented
- There is no developed plan, but some measures are being undertaken
- A plan has been developed, but is not being implemented
- There is no plan and no measures are being undertaken
- Do not know / no answer



Make the best happen.

## BPI Sustainable Energy Finance (Financing Viable Energy Efficiency Projects)

16 October 2014 | Radisson Blu Hotel, Cebu City



A resort in Palawan saves P5M/year



A cold storage facility saves  
P13M/year



A bottling facility saves P83M/year



A hospital from Makati saves  
P2M/year



A bank in Makati saved over P14M

# Some works on Renewable Energies in the Philippines funded by Banks

**Be part of the solution**

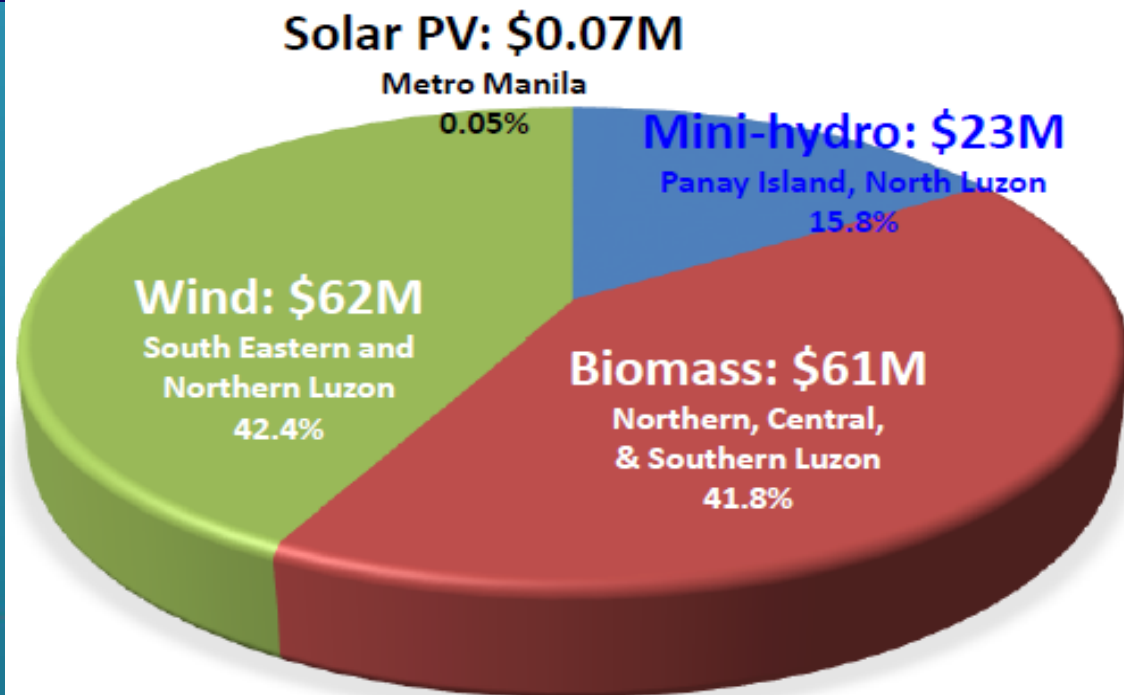


**BDO****Sustainable Energy Finance  
Program**

Financing Renewable Energy Projects



## Under the BDO/IFC SEF Program

**\$ 147.05 M total approvals**

# Incentives and Awards Systems

## Sustainable Energy Finance Awards

**Sustainability &  
Commitment**

**Financial  
Innovation**

**Potential for  
Replication**



- Overcoming barriers
- Good business case for proponents and banks
- Neither hard nor impossible to do
- Top management commitment



## ENERGY EFFICIENCY THROUGH ENERGY MANAGEMENT SYSTEM THROUGH ISO 50001 CERTIFICATION

# The Seal of Good Local Governance



Good financial  
housekeeping



Disaster  
preparedness



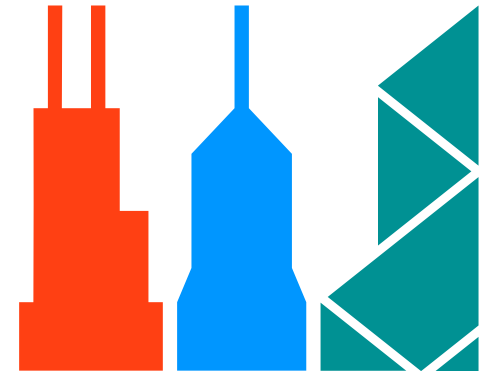
Social protection



Peace and order



Environmental  
management



Business-friendliness  
and competitiveness

# What does it mean for us in Cebu Province?

## Vision

Safer, adaptive, disaster resilient and empowered Cebuano communities towards sustainable development.



# What does it mean for us in Cebu Province?

## MISSION

We, competent, dynamic and humble public servants, commit and ensure to institutionalize climate-smart disaster risk management programs that will result in safer, adaptive, disaster resilient and empowered Cebuano communities through convergence and strong collaboration with civil society organizations, businesses and other stakeholders towards sustainable development.



# Pres. Aquino's Social Contract with the Filipino People (PDP 2010—2016)



## **KEY RESULT AREAS**

1. Transparent, accountable and participatory government
2. Poverty reduction and employment of the poor and vulnerable
3. Rapid, inclusive and sustained economic growth
4. Just and lasting peace and the rule of law
5. Integrity of the environment and climate change adaptation and mitigation

## 6 - Star AGENDA of Cebu Province with Governor Hilario P. Davide III



1. Health and Social Services
  - Better Health Care/ Upgraded Facilities
  - Professionalization of Medical Personnel
2. Countryside Development
  - Agri-Fisheries, Livelihood, Cooperative Development, Economic Zones, Business Opportunities
3. Education and Technical and Vocational Training
  - Classrooms and Learning Materials, Jobs Generation
4. **Environmental Protection, Climate Change and DRRM**
5. Infrastructure Development and Private Sector Partnership
  - Tourism, Utilities, Regional/ Provincial Development Planning, International Airport and Seaport
6. Law and Order
  - Anti-Illegal Drugs, Peaceful Communities, Rule of law

**“Invest to prevent Disasters”** in  
order to build resilient community  
and save lives.

- Kofi Annan former  
Secretary-General of the United Nations