

Cagayan Valley Regional Prospects and Energy Development

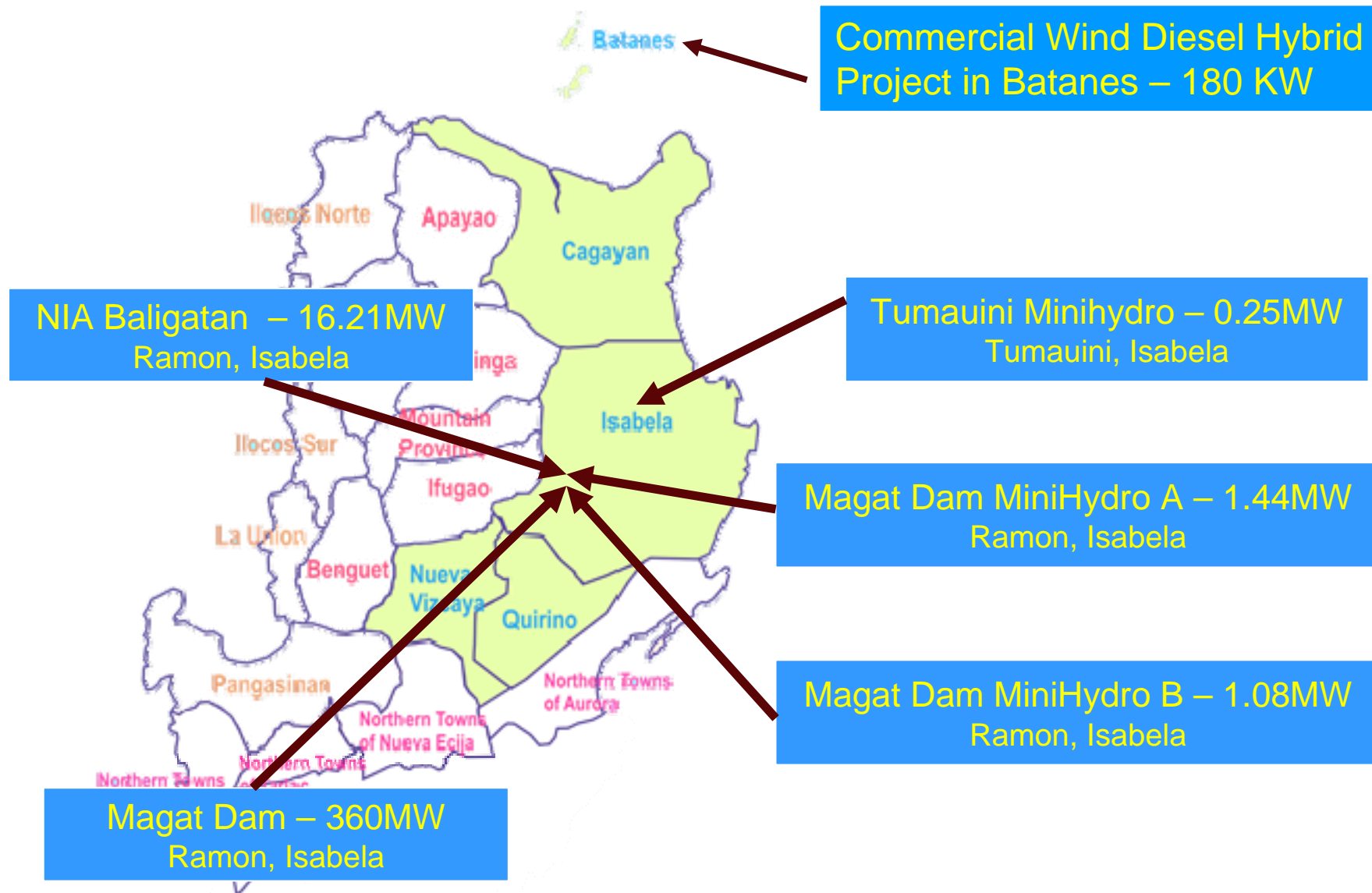
Director Milagros A. Rimando
NEDA-RO2

Economic Significance of the Cagayan Valley Region

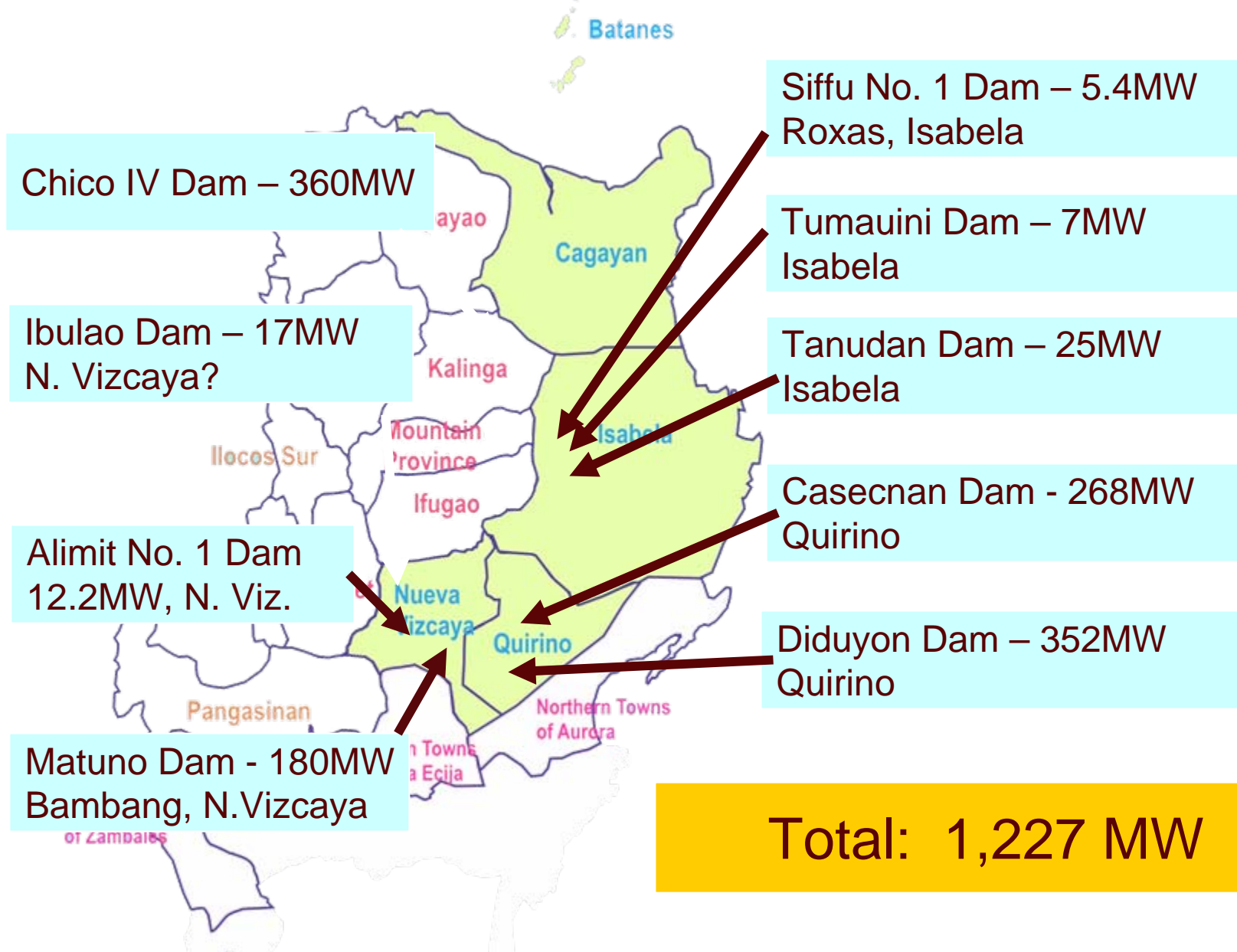
- Major supplier of agricultural products and food basket of the country
- The next trade and industrial hub in South East Asia
- Watershed Haven
- Source of hydropower and other alternative energy sources



Existing Renewable Energy Facilities



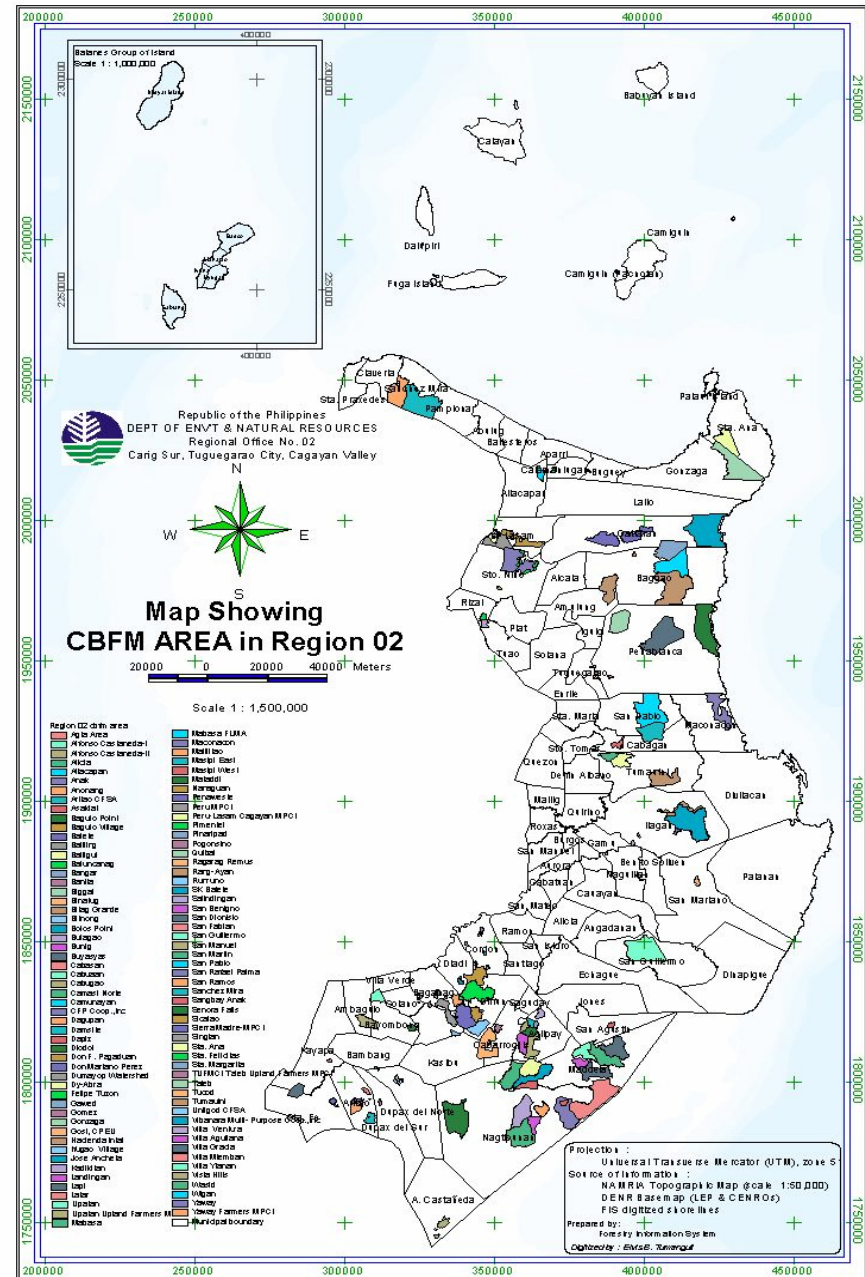
HYDRO POWER POTENTIALS



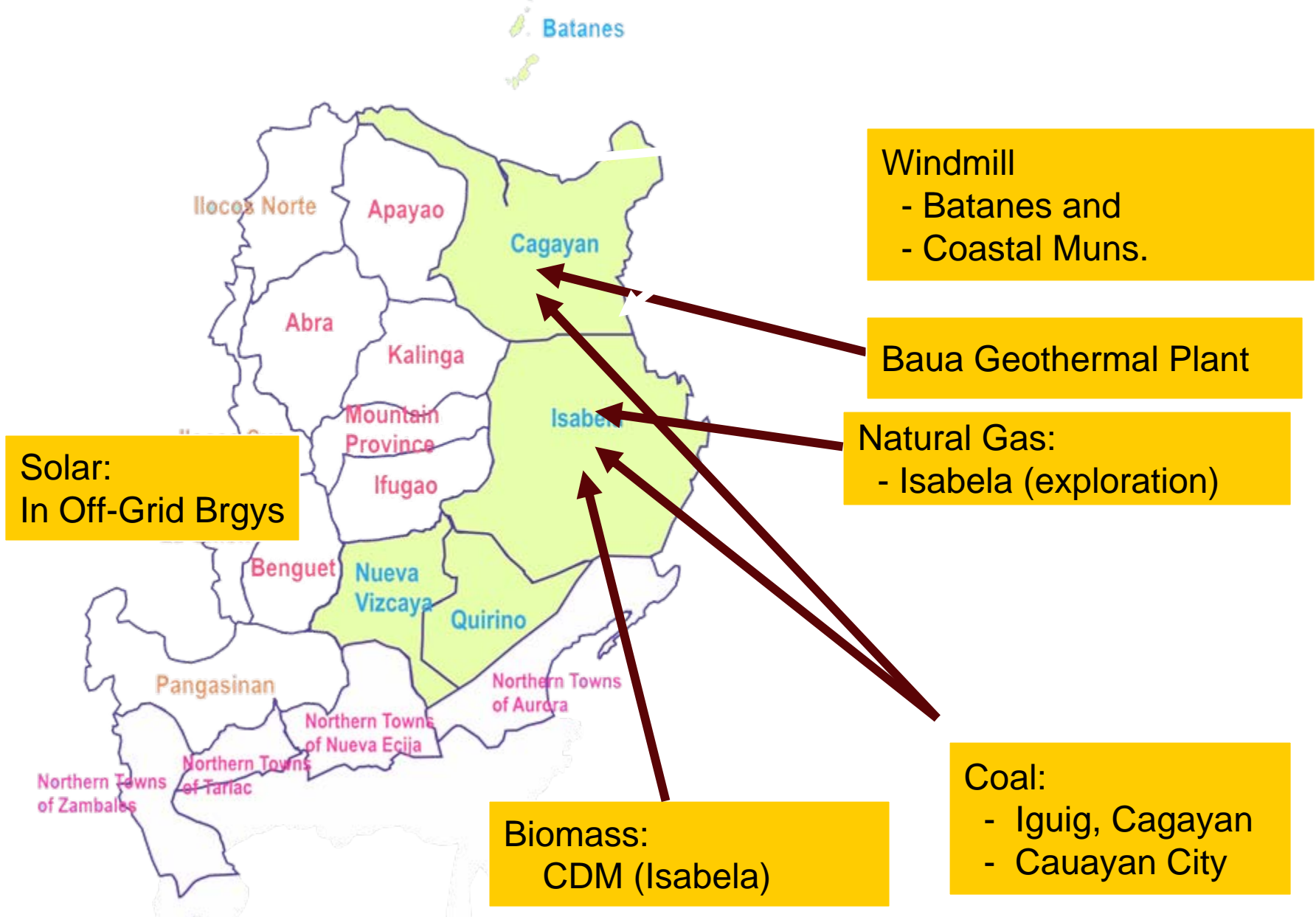
Jatropha and Other Oil-bearing plants in vast marginal areas

CBFM AREAS

Batanes	- - - - -	920.86	has.
Cagayan	- - - -	96,012.70	has.
Isabela	- - - - -	52,689.18	has.
N. Vizcaya	- - -	21,918.42	has.
Quirino	- - - - -	86,756.08	has.
Total	- - - - - - -	258, 297.24	has.



OTHER ENERGY POTENTIALS

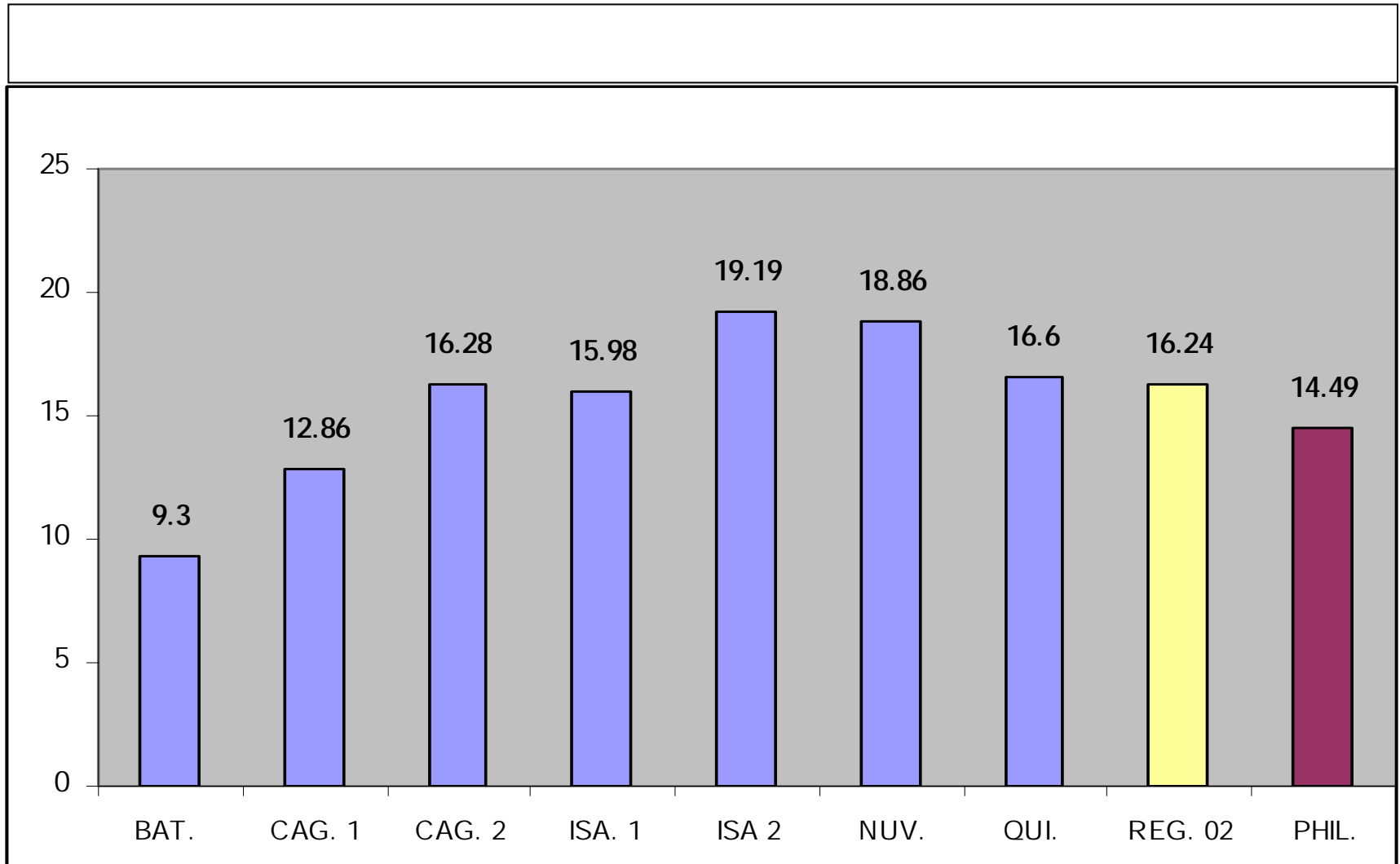


Status of Energization (as of June 2008)

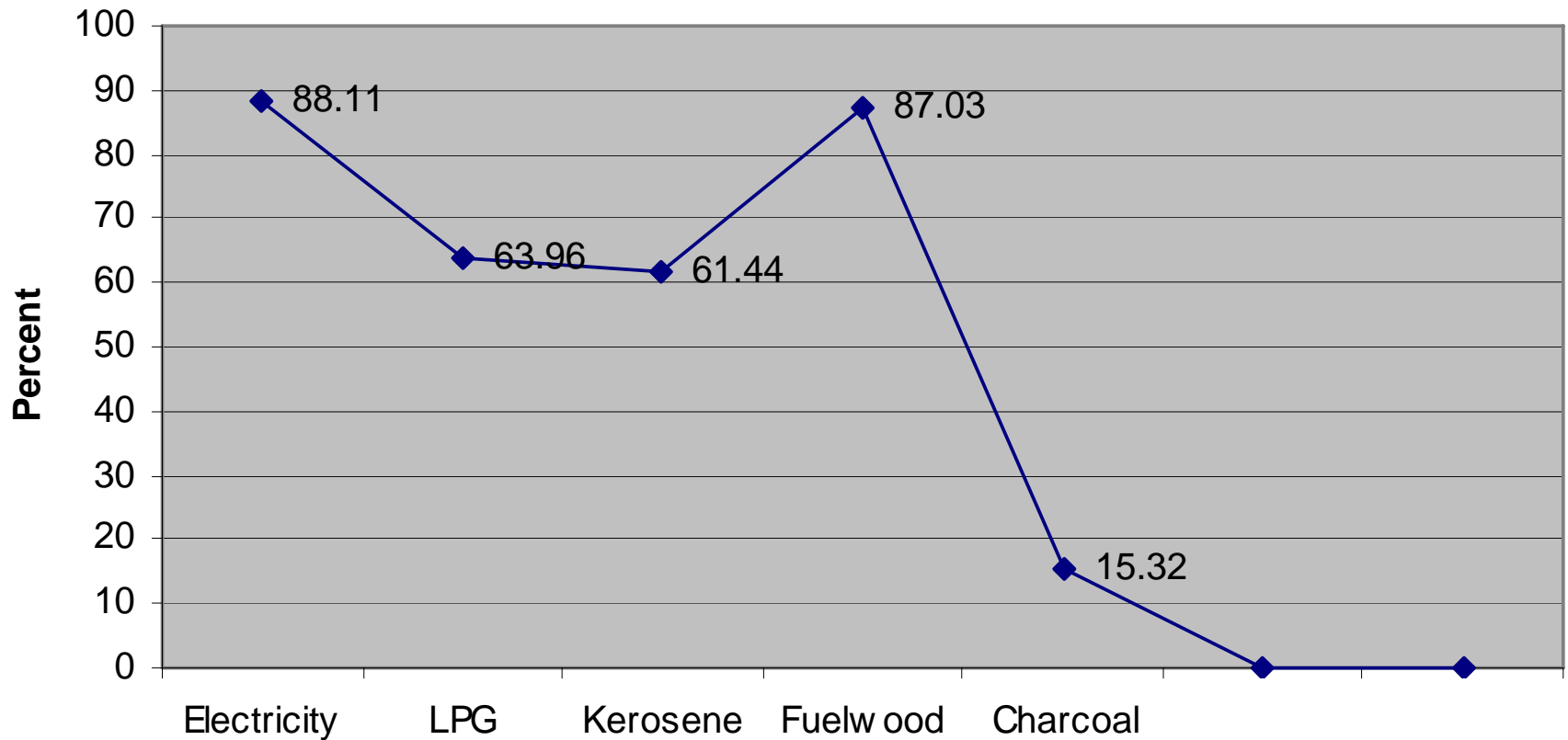
Indicator	Region 02	National	Remarks
Brgy Energization	79%	97%	96 barangays unenergized
Sitio Energization	46%	69%	2 nd lowest coverage nationwide; 855 sitios unenergized
Household Coverage	79%	69%	137,000 HHs without electricity

Most unenergized barangays/sitios are off-grid areas

Systems Losses by Electric Coops

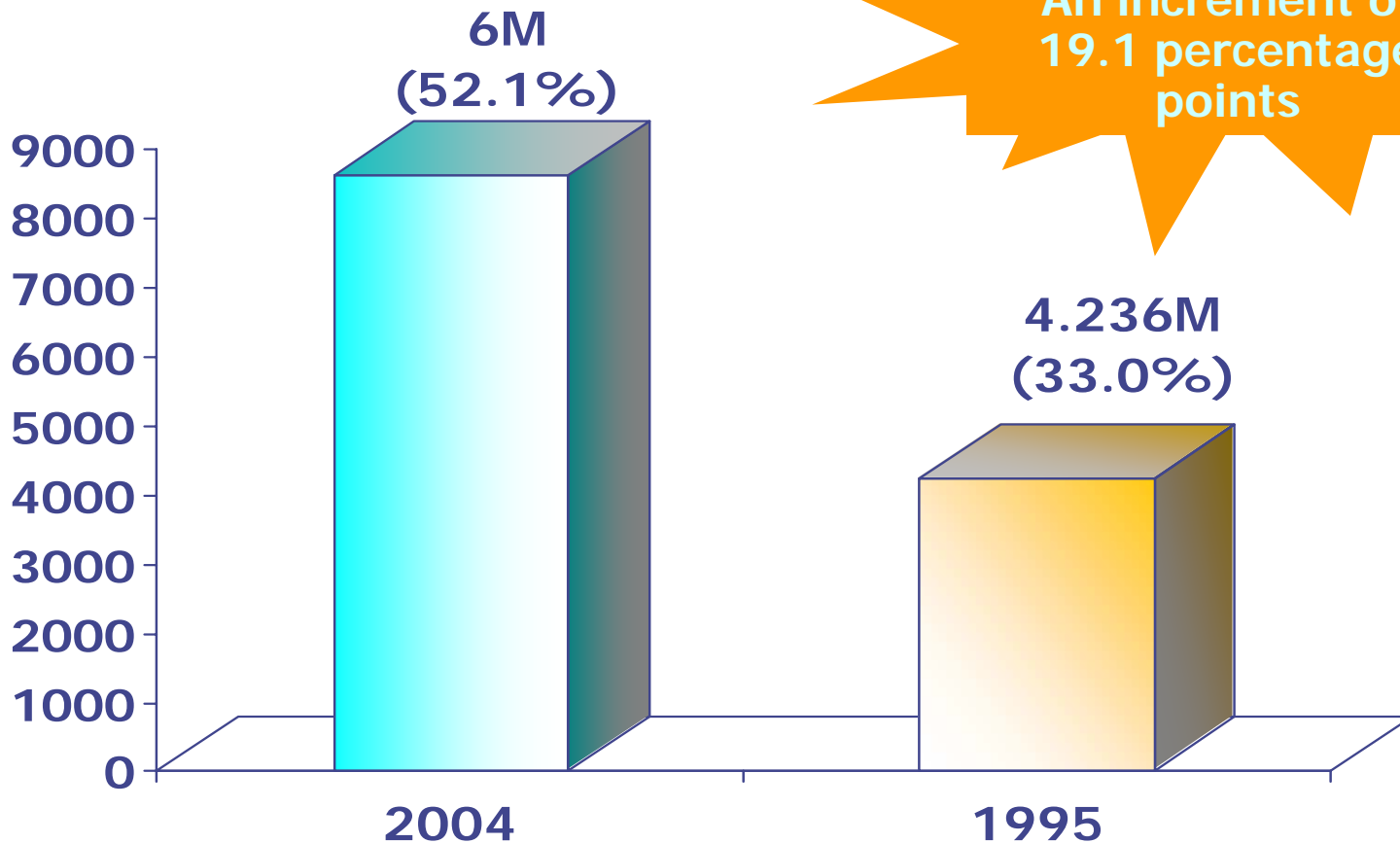


Region 02 Household Energy Consumption 2004 Data



Source: NSO

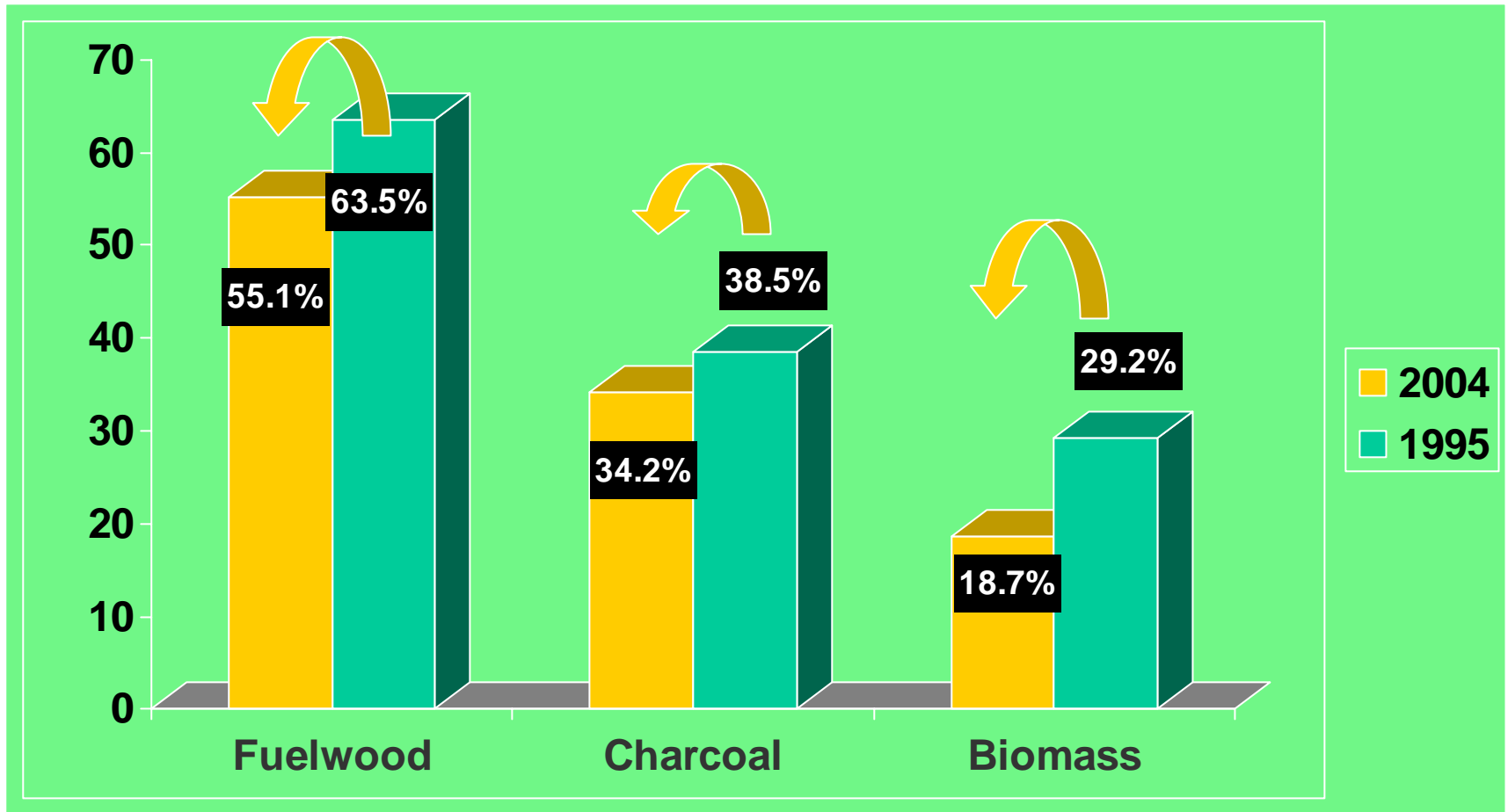
LPG users doubled in number from 1995 to 2004



Source: NSO



renewable energy sources to conventional fuel



Source: NSO

Households used renewable energy sources for...

End-use	Fuelwood	Charcoal	Biomass Residue
Total Households	9.4M	5.8M	3.2M
Cooking	99.6%	88.1%	85.9%
Heating water for bathing	10.5%	6.7%	4.9%
Ironing	-	18.6%	3.0%
Space warming	0.3%	-	-
Others	0.9%	2.5%	13.6%

Households usually obtained fuel from...

◆ Electricity

Utilities	32.7%
Electric cooperatives	41.4%
Industry/business	0.3%
Neighboring households	15.3%

Dry cell battery	61.7%
Generator	0.4%

Households usually obtained fuel from...

◆ LPG

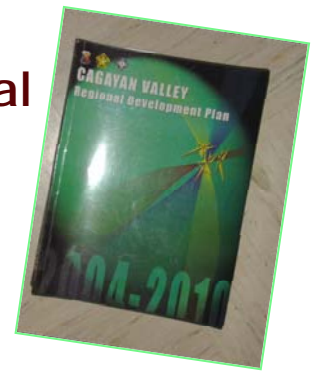
Picked-up from store/dealer	80.3%
Delivered	19.7%

◆ Kerosene

Kerosene agent/dealer (pick-up)	17.6%
Kerosene agent/dealer (delivery)	0.9%
Sari-sari store	79.9%
Kerosene peddler	0.6%
Others	1.0%

Updated RDP Strategies and Targets

- ❖ Accelerating the pace of rural electrification to attain 100% brgy energization by 2010
 - Installation of appropriate NRE for barangays in off-grid areas (15 off-grid barangays)
 - Connection of unenergized barangays to existing power grids
- ❖ Promote energy independence through the Development of renewable and indigenous energy
 - Intensification of NRE research activities and project proposal preparation
- ❖ Strengthening Energy Efficiency
 - Single Digit Average System Loss



Region 2 Initiatives

- **Adoption of the Jatropha Industry Framework Plan**
 - Guide the establishment of a jatropha industry in the region
 - Expression of interest from several investors on Jathropa development
- **Promotion of Sorghum and other sources of Ethanol**
 - ❖ Establishment of Agri-Industrial Ecozone in Lallo, Cagayan for E-Cane Bio-Fuel Project through the The Pampanga Industrial Park Corporation
 - ❖ ISU project on pilot production of ethanol and other intermediary products from sorghum funded through NEDA KR2 Program

Region 2 Initiatives

- **Preparation of Feasibility Studies for new and renewable energy (NRE) of the Project Development Assistance Committee**
 - **Solar Charging Station Project for 4 municipalities of Palanan, Kasibu, Maconacon and San Antonio, Baggao (13 barangays)**
 - **Micro-hydro project for Mun. of Maconacon**

Region 2 Initiatives

- **Conduct of a Study on the power rates in the Region**
 - Region 02 ranks 3rd among regions in electricity cost
 - The average cost of electricity in the region at Php8.66 per KWh is much higher than the national average of Php6.68 per KWh. Region 12 recorded the cheapest electricity at Php4.67 per KWh.
 - Quirino Province registered a cost of Php10.16 per KWH, 2nd highest among provinces in the country next to Ifugao.
 - Except for the province of Batanes (Php6.31/KWh), all provinces registered higher rates than the national average of Php6.68/KWh.

Region 2 Initiatives

- **Promotion of Corn charcoal briquette technology**
 - DENR Training for charcoal makers in Diadi, Nueva Vizcaya'
 - MOA between Department of Environment and Natural Resources (DENR) and Nehemiah Cooperative, Santiago City for the use of DENR equipment
 - Department of Labor and Employment (DOLE) assisting a farmers group in Amulung in charcoal briquetting from corn cobs, coconut husk, rice hull

Region 2 Initiatives

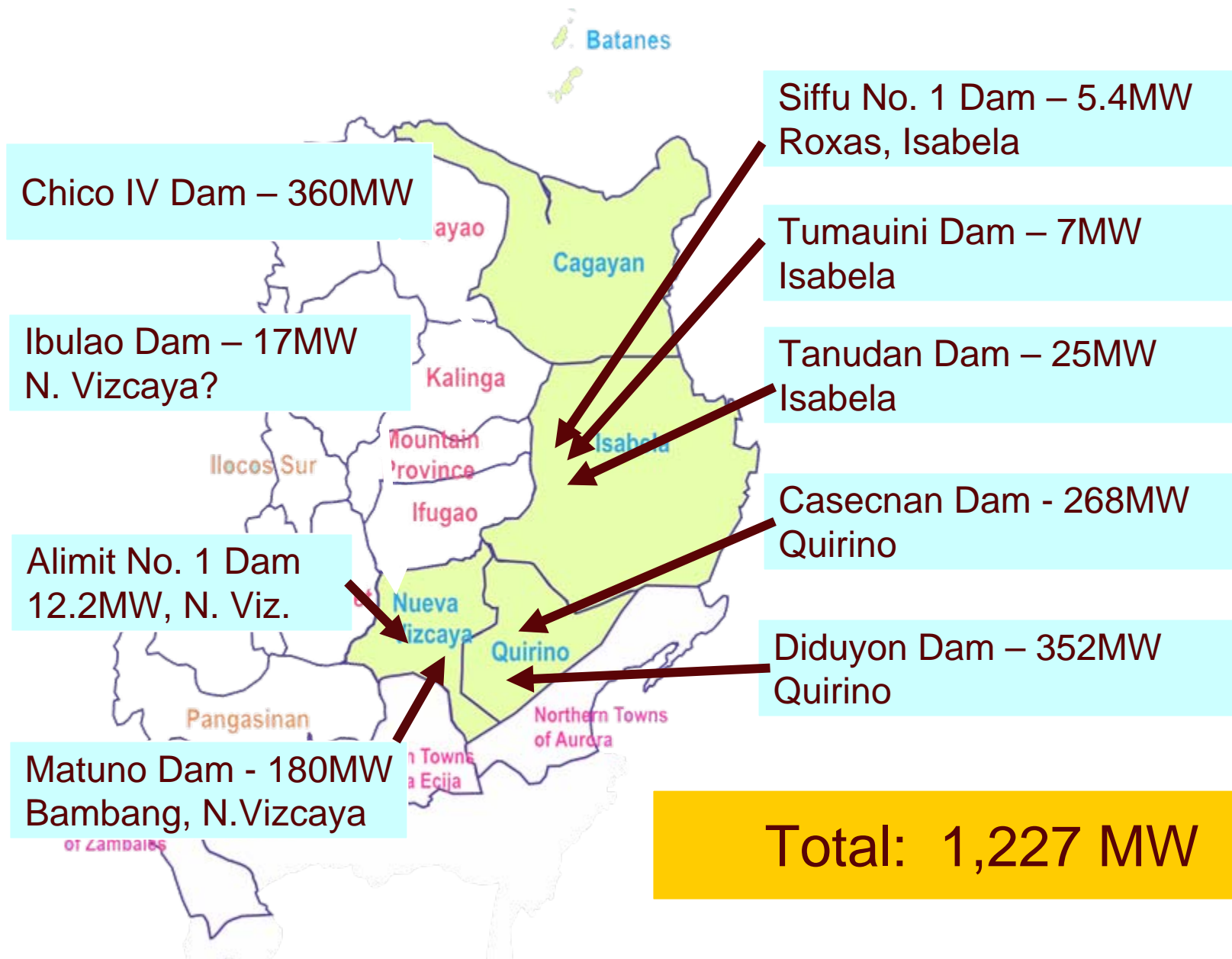
Promotion of Biogas

- Department of Science and Technology (DOST) assisting hog raisers in the generation of biogas
- *One cooperative*
- *2 individuals*
- *5 LGUs: Sanchez Mira, Baggao, Claveria, Amulung, Jones*

Priority Regional Programs and Projects Proposed for inclusion in the PEP

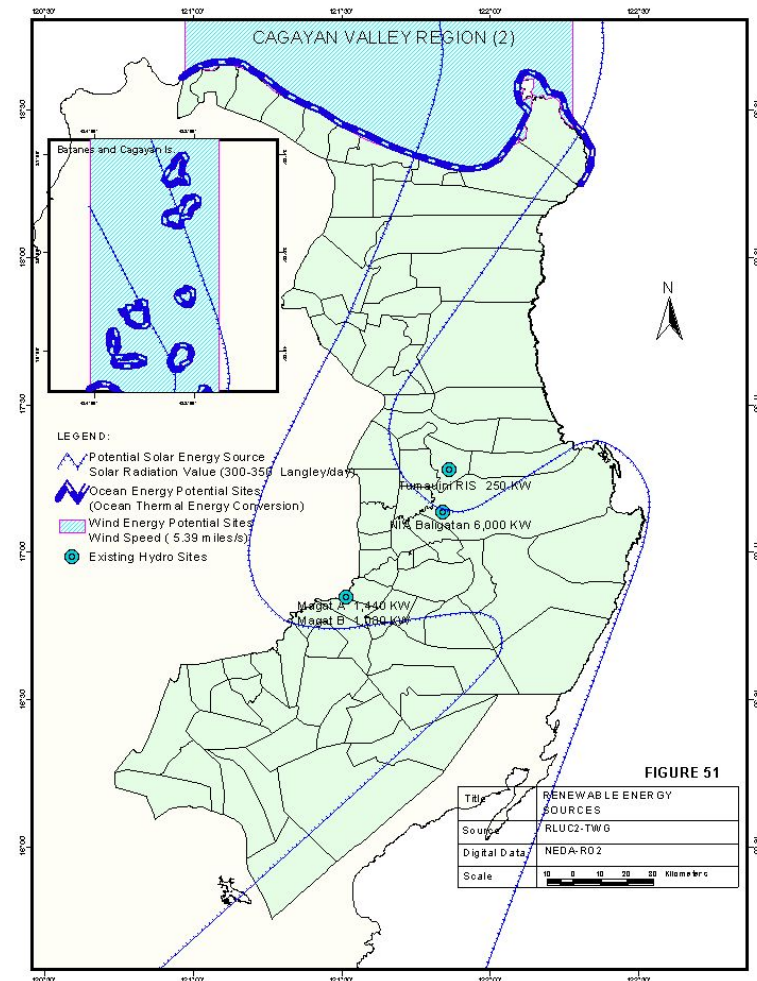
Priority Regional Programs and Projects for inclusion in the PEP

- **Renewable and Indigenous Energy Resource Development**
 - ❖ **Coal Power Plants in Cagayan and Isabela**
 - ❖ **Northern Luzon Wind Power Project in the coastal towns of Cagayan and Batanes Province**
 - ❖ **Commercial Wind Diesel Hybrid Project in Batanes**
 - ❖ **Regionwide Micro-Hydro Plants for Upland Dwellers in potential areas of the region**
 - ❖ **Micro-Solar Home Projects in off-grid communities**
- **Rural Electrification Program**
- **Energy Efficiency and Conservation Program**
 - ❖ **Electric Cooperatives Systems Loss Reduction**
 - ❖ **Fuel Efficiency and Energy Conservation**



Development of wind energy in the island and coastal municipalities

❖ Northern Luzon Wind Power Project in the coastal towns of Cagayan and Batanes Province



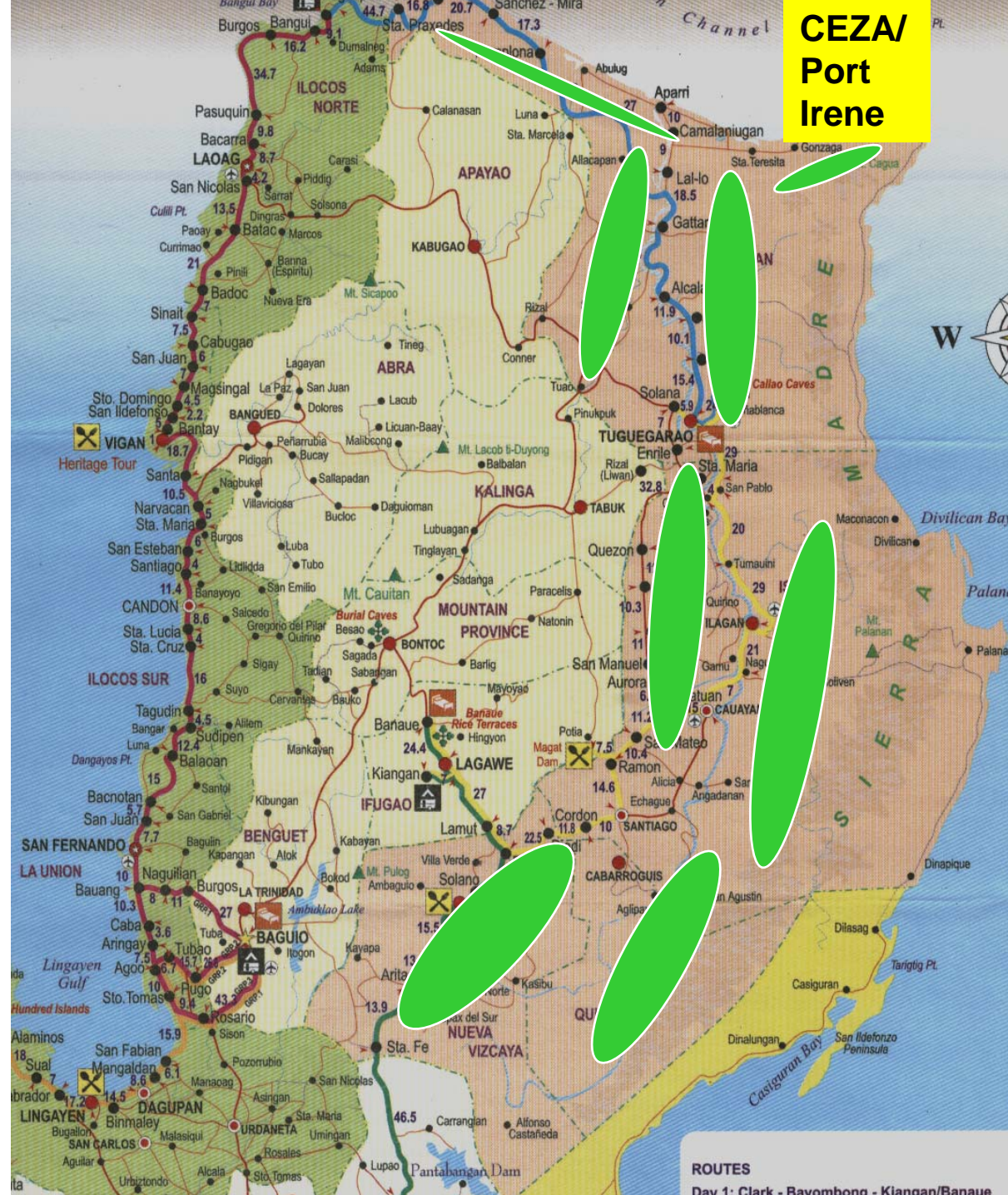
NRE Projects in Off-Grid Barangays and Sitios

- ❖ **Micro-Hydro Plants
for Upland Dwellers,
Island Communities**
- ❖ **Solar Home Systems**

**Coal Power Plants in Cagayan
and Isabela**

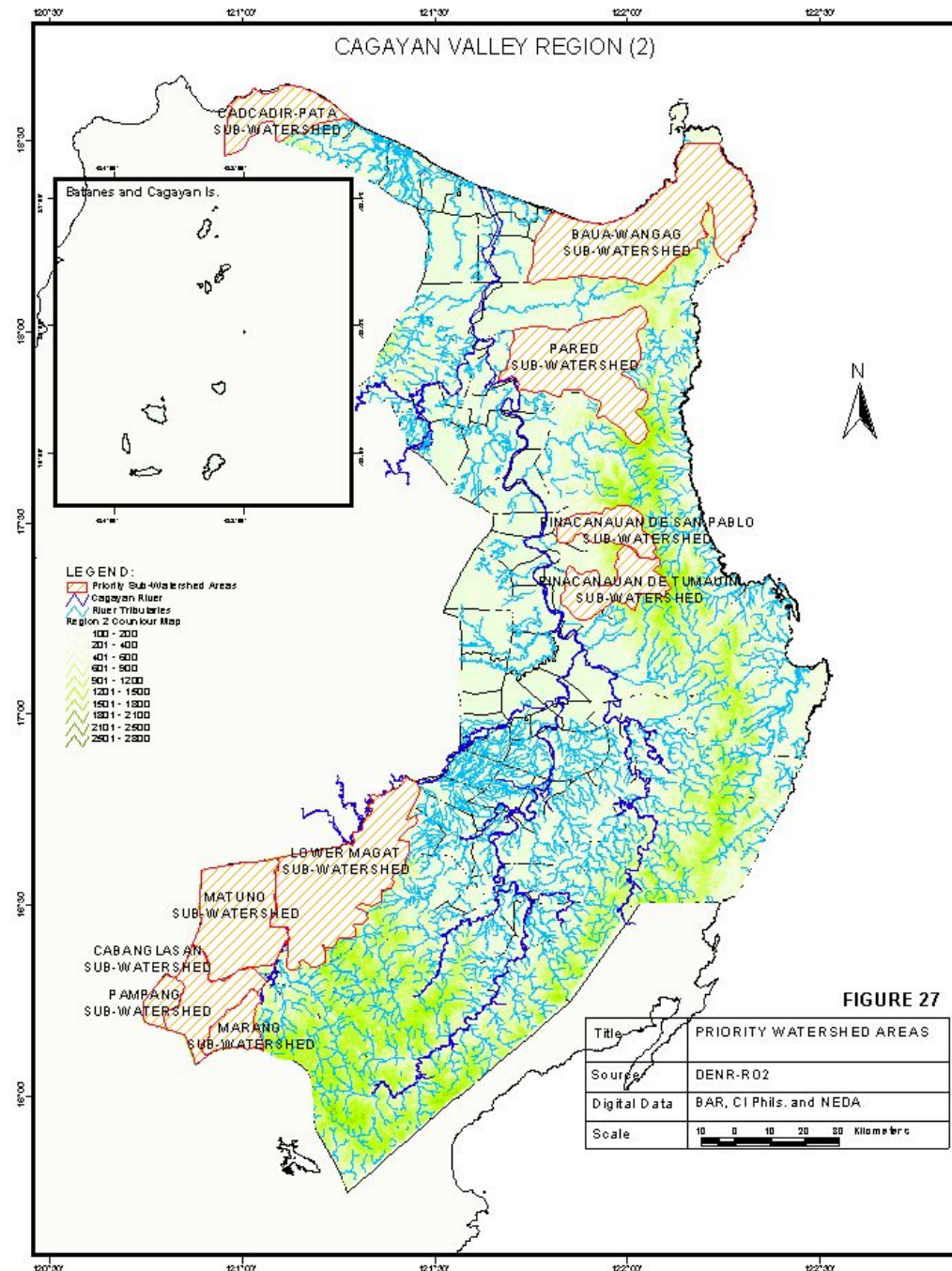
Baua Geothermal Plant, Cagayan

Development of Jatropha potential areas in untenured public lands, vast grasslands and marginal areas in the region.



➤ Preservation of watershed areas in support to hydropower generating facilities

➤ Reforestation of other critical watersheds



Regional Issues and Concerns

1. Relatively high cost of electricity in the region (2nd highest among all regions in the country)
2. The regional average power generation cost is highest in the country.
3. High and increasing cost of electricity
4. High cost of gasoline

Regional Issues and Concerns

5. Inefficiency of electric cooperatives
 - a. frequent unscheduled power interruptions
 - b. high systems loss
6. The region has not significantly benefited from its being host to two (2) major low-cost sources of power
7. Need to facilitate the claim of local governments in N. Vizcaya for their share in the use of national wealth arising from the operation of the Casecnan Multi-Purpose Power and Irrigation

Regional Issues and Concerns

8. Need to accelerate rural energization to cover 96 barangays and reach 100% energization rate by 2010.
9. Unsure market for Jathropa
10. Exclusion of the Bataan Nuclear Power Plant in the 2006 Philippine Energy Plan
11. Unsustainable electricity services in remote barangays

