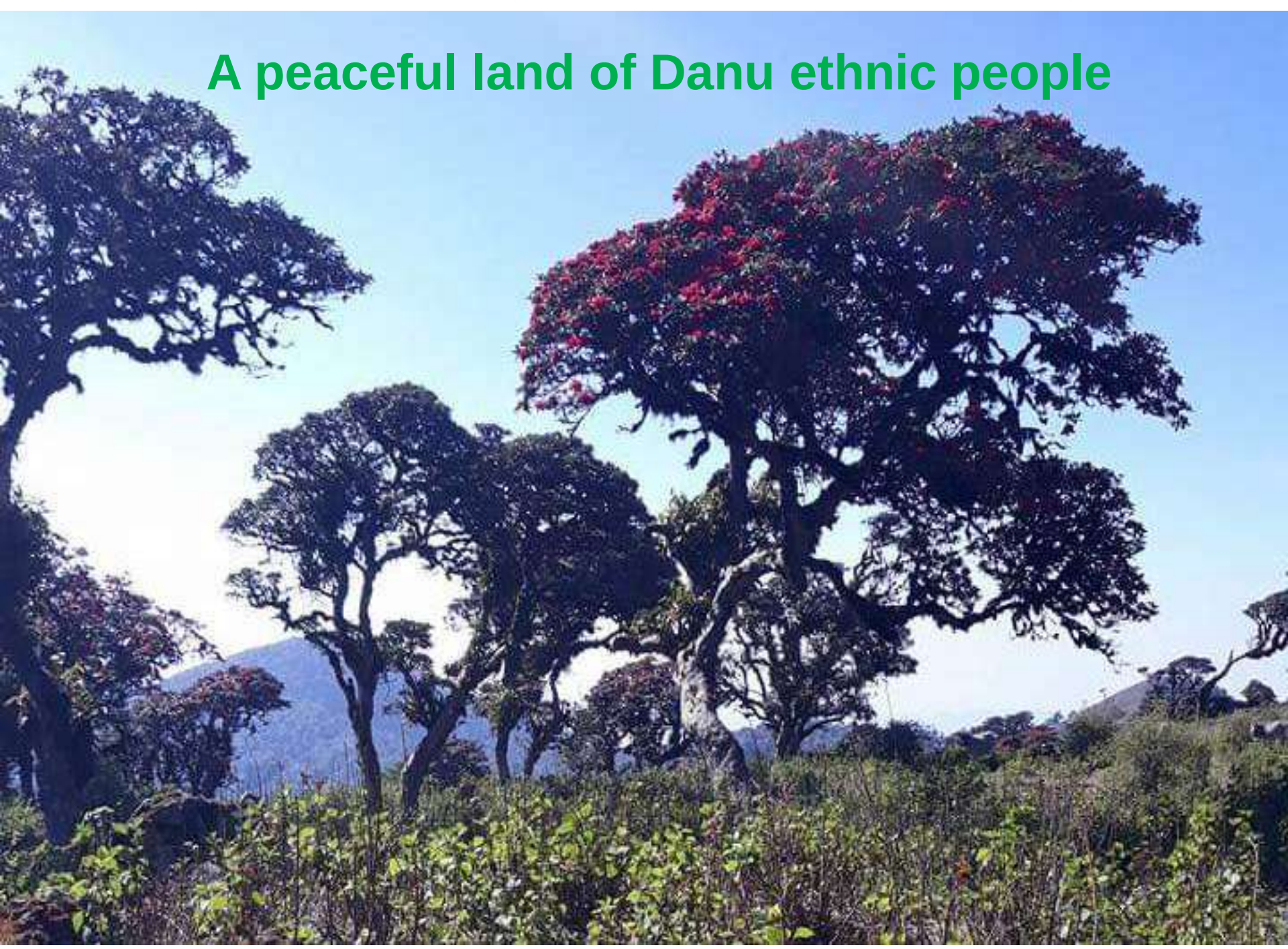
A case of Community-Owned Management on Energy, Water and Forest in Danu self-administrative area Toward Shan State Green Energy Planning

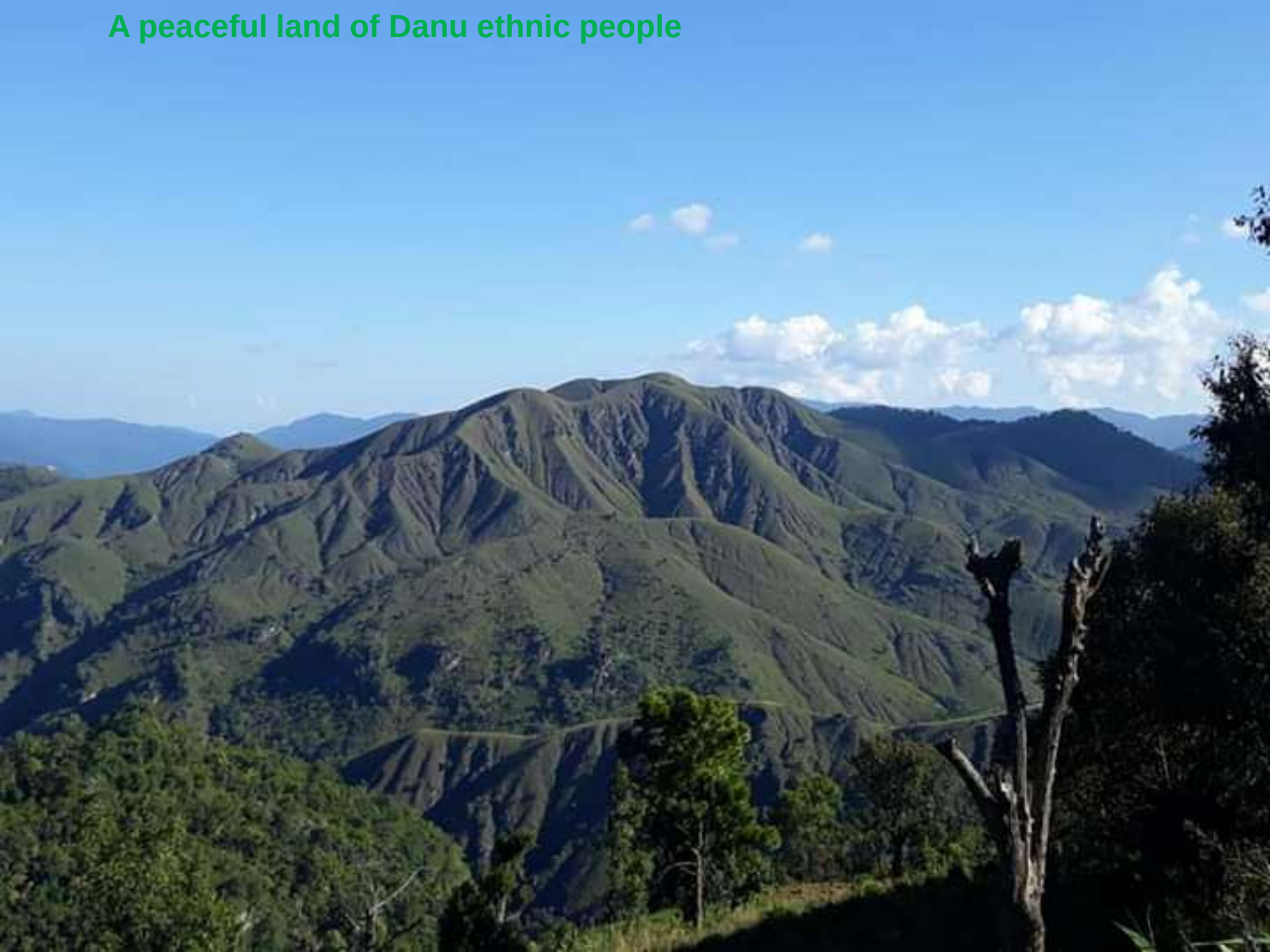
ရပ်ရွာအခြေပြု ရှာငံမြို့နယ်ပန်းလောင်မြစ်ရေဦးရေညာဒေသ ဒွမ်းအင်းရေသယံဇာတနှင့် သစ်တောစီမံခန့်ခွဲမှု

Kyi Phyo
Myanmar Energy and Ecology Net/Foundation for Renewable Energy and Ecology(FREE)

A peaceful land of Danu ethnic people



A peaceful land of Danu ethnic people



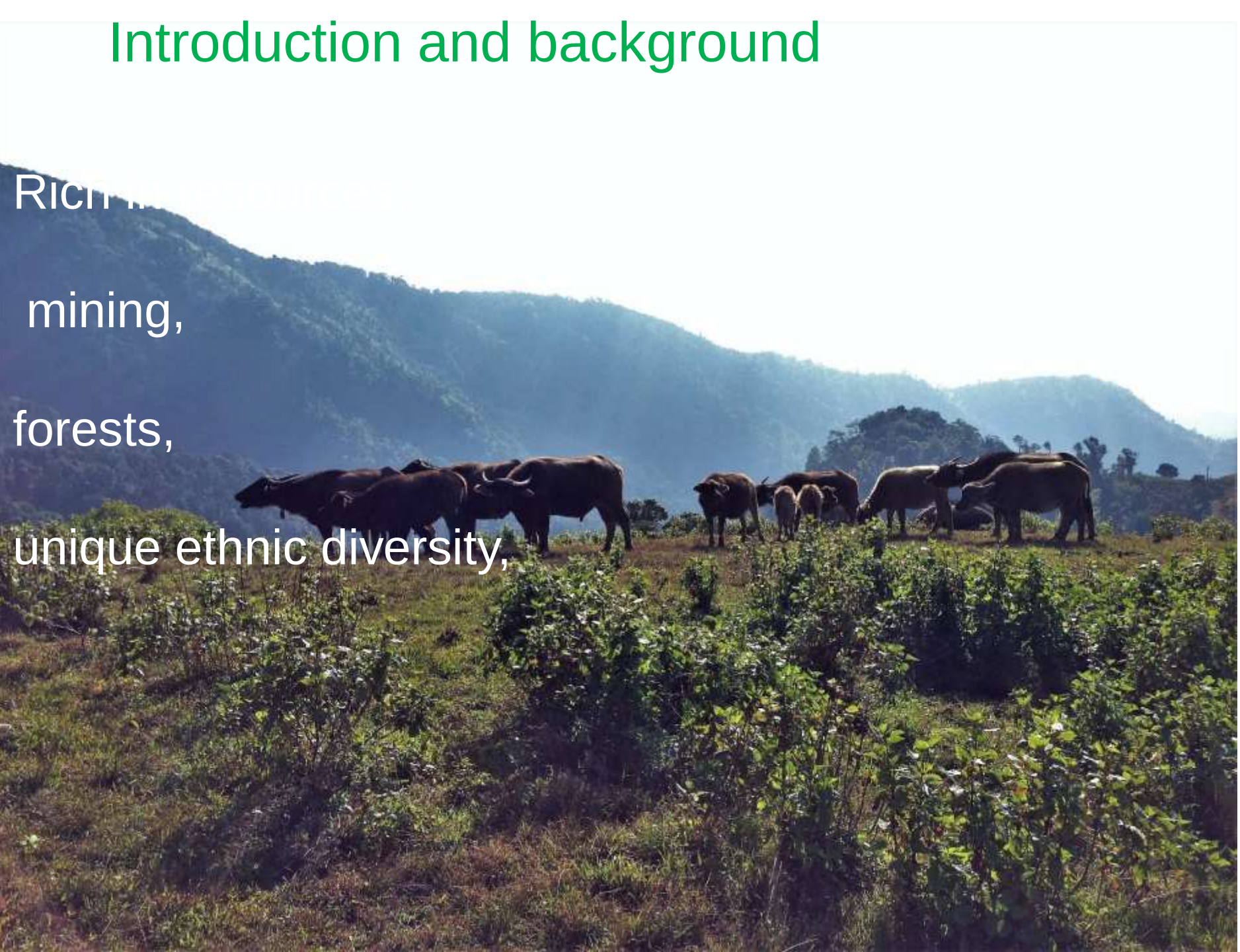
Introduction and background

Rich in resources,

mining,

forests,

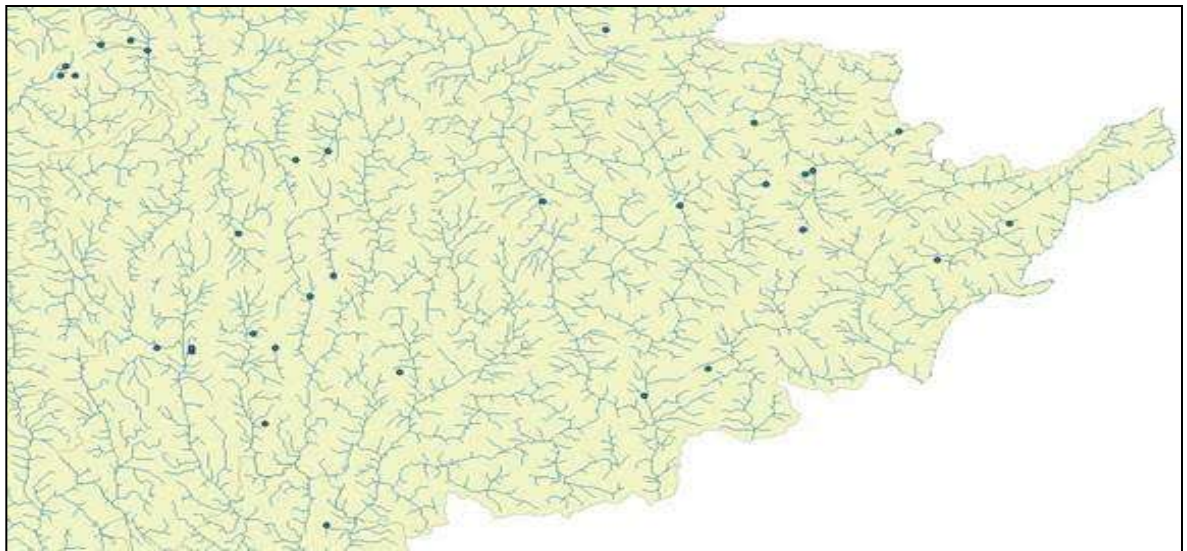
unique ethnic diversity,

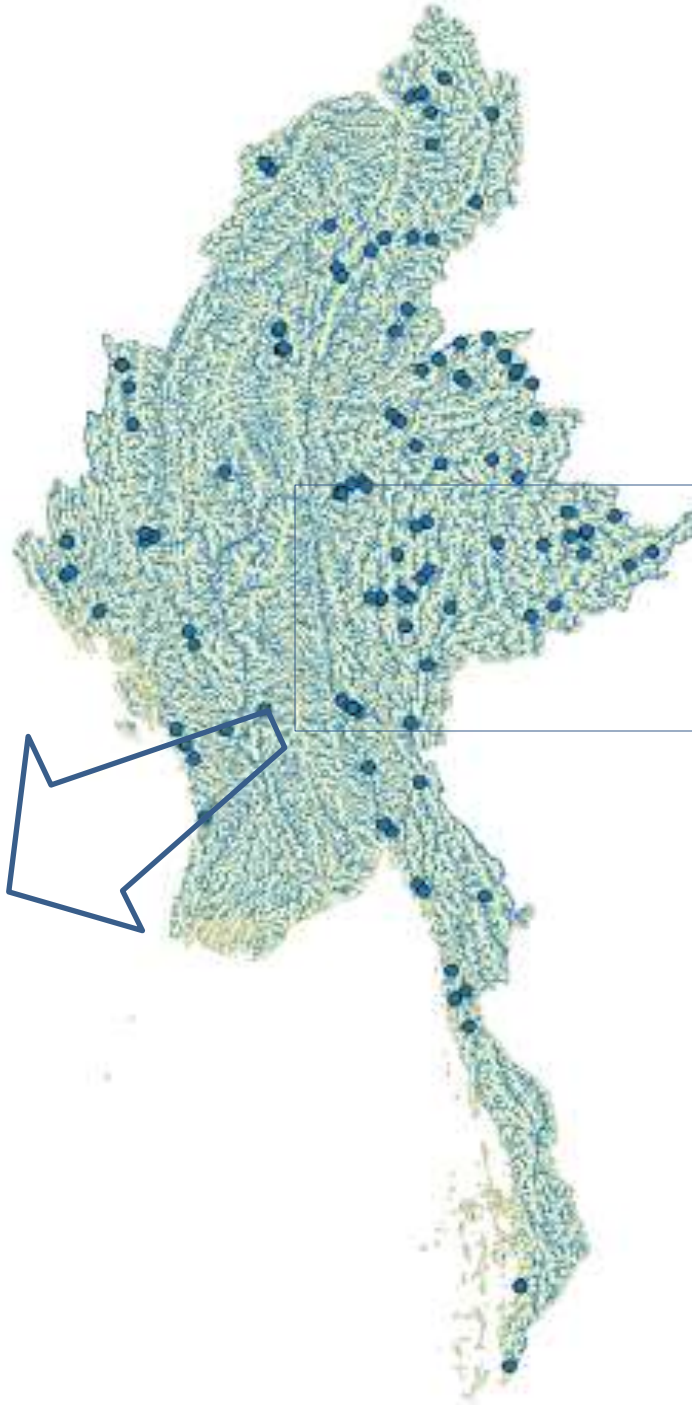


Myanmar Small Hydro potential

ရှမ်းပြည်နယ်သည် အသေးစားရေအား လျှပ်စစ်ဖွံ့ဖြိုးမှုတွင် အလားအလာအကောင်းဆုံးဖြစ်သည်ကို တွေ့ရသည်...

- 100 projects < 1 MW identified
- Many more exist, as yet unidentified…

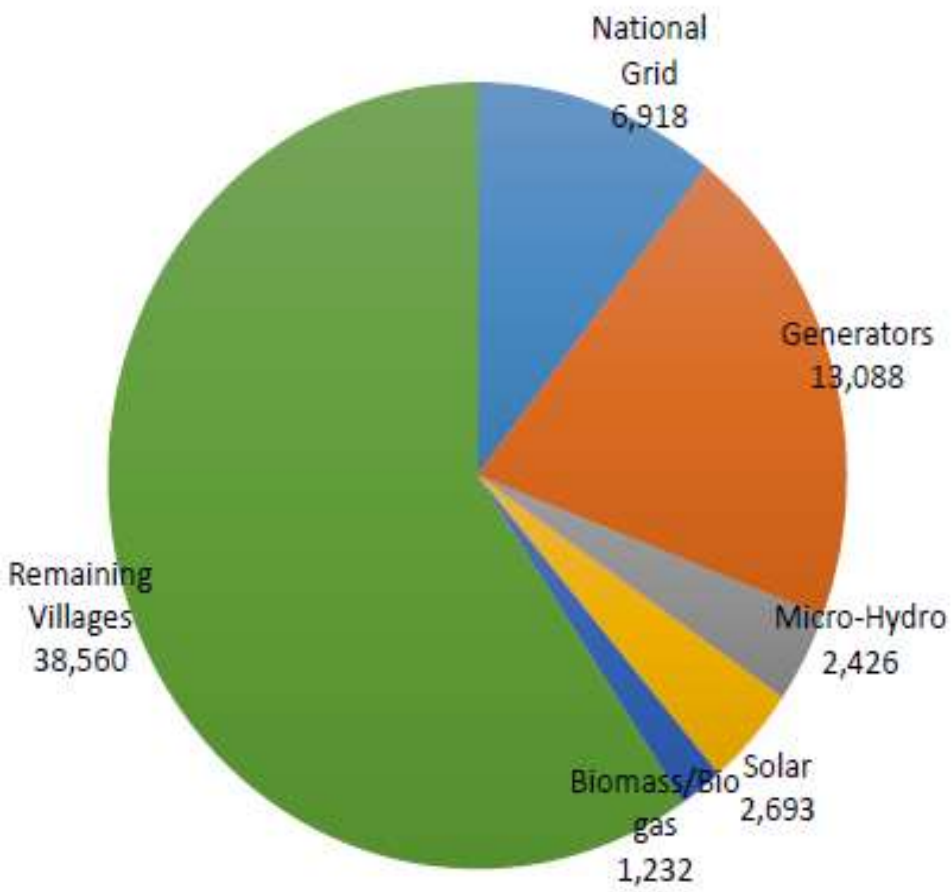




30—year of Experience

Naung Pein Project, Northern Shan State

RE Mini-grids in Myanmar
30-year of Experience



- Micro/mini hydro power
- 6000 units below 1 MW for rural electrification

Empowering Participatory Governance in Ywangan, Danu of self-administrative area: A Community-centered Strategic Research

Energy needs

Who need what energy?

စွမ်းအင်လိုအပ်မှု...

ဘယ်သူတွေလိုတာလဲ၊ ဘယ်လိုစွမ်းအင်မျိုးလဲ...

Community-centered research: mapping for integrated resources management

Resources Management and community participation

Community-led Integrated resource planning and management

Trip to survey upsteam watershed of Ywar Ngan area(အရှေ့မြင်၊အနောက်မြင်တောင် ရေဝေရေလဲ လေ့လာရေး)

Deforestation သစ်တောပြုန်းတီးမှုများအတွက် ဖိအားများ ရှိလာခြင်း

Landslide(မြေပြိုမှုပြဿနာ)

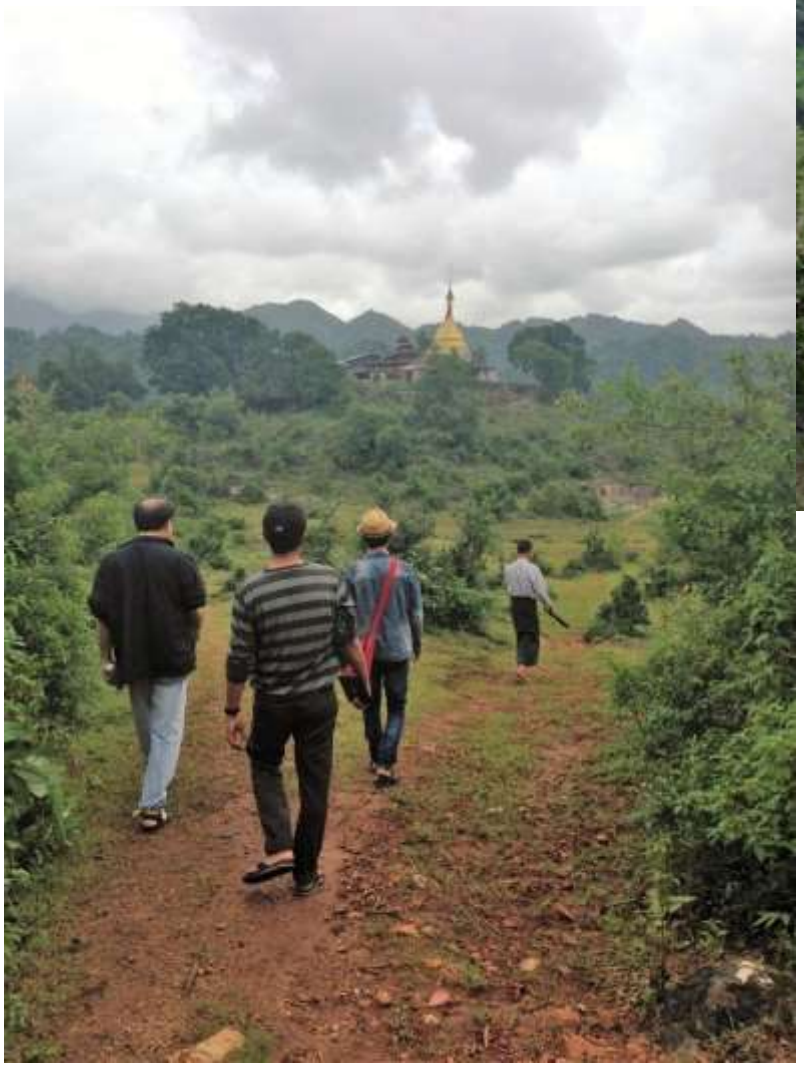
Is there better Solution?

Yes….

Managing energy , water and forest as an integrated resource planning for long –term sustainable solution

သစ်တောရေအရင်းအမြစ်နှင့်စွမ်းအင်ကို ပေါင်းစပ်စီမံခန့်ခွဲခြင်း

Survey of village micro-hydro in Tat Kone in Ywar Ngan area (ဒေသခံများ၏စီမံခန့်ခွဲမှုဖြင့် လုပ်ဆောင်ထားသော ရေအားလျှပ်စစ်အင်ယဉ်စားများလေ့လာမှု)



When the grid arrives at Community –owned energy system …

မဟာဓာတ်အားလိုင်း ရောက်ရှိလာပြီးနောက်…

မဟာဓာတ်အားလိုင်းရောက်လာပြီးနောက်...

Myaing village hydro

Danu: taking a key role as a provider of natural sources; water, energy and forest to the dry zone area in Myanmar

ဓနဒေသသည်
သဘာဝအရင်းအမြစ်အထောက်အပံ့ပေးရာ
အတွက်သာမက
မြန်မာပြည်အလယ်ပိုင်းအတွက်
ရေအရင်းအမြစ်ထောက်ပံ့ရာတွင်လည်း
အဓိက ကျလေသည်...

Pressure of centralization and militarization in Danu Autonomy Area

- Sovereign rights and related issues are potential to be happened in Danu autonomy areas in the future…
- On Land
- Water
- Forest
- Electricity

Why not decentralized cleaner and green energy?

Shan State and Green Energy Plan

Objectives of the draft law

- Legal & regulatory structure governing electricity sector that is consistent with federal system of government
- A set of fundamental principles guiding energy policy, activities
- Integration of environmental & social objectives in management of electricity sector (e.g. sustainability, self-reliance, equity, etc.)
- Improved governance (transparency, accountability, participation)

Fundamental principles

- Rights of ecosystems
- UN Declaration of Rights of Indigenous People
- Customary rights & traditional practices
- Holistic approach to development
- Electricity as a basic public service

Assumptions of the draft law

- State-level law based on **the federal system of government**
  - Shan State has sovereignty to manage and control activities that take place within its territory
  - Activities whose primary purpose is to deliver electricity across the state and country boundaries are subject to regulation by the Union government (MOEE) but still need Shan State's permission

3 Levels & 3 systems of governance

Small-scale	State-level	Union-level
1 MW or smaller	> 1 MW	All Transmission
Generation & Distribution	All Distribution	Generation mainly to deliver electricity across state/country boundaries
Self-regulation by Communities	Generation for consumption in Shan State	
Subject to “Grid-interconnection Permit” if wants to connect to the grid	Licensing by State Ministry	Licensing by Union MOEE
	Subject to “Grid-interconnection Permit”	Subject to “State Administrative Permit”

State “**Ministry**” = Shan State Ministry of Electricity and Energy

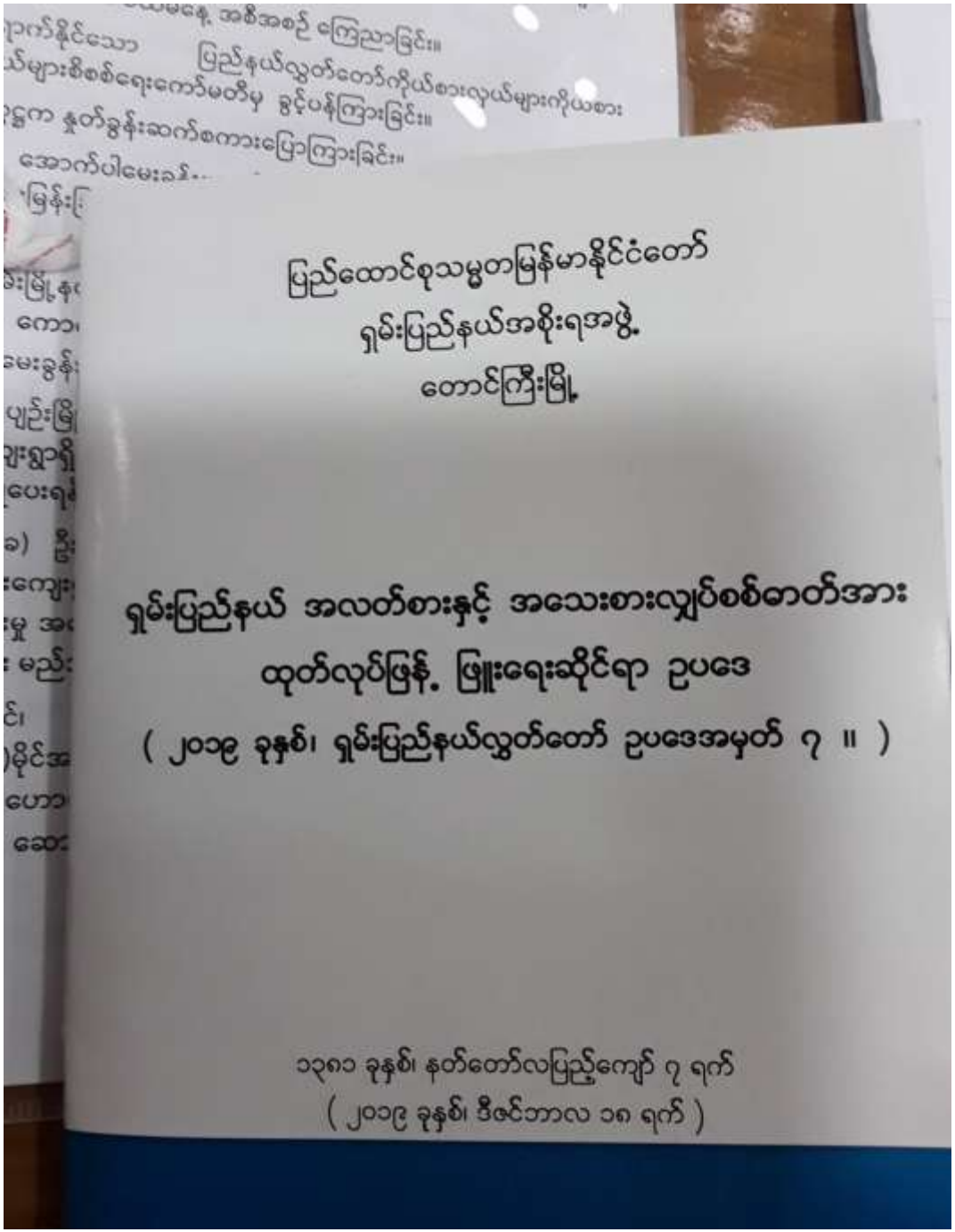
“Small-scale projects” 1 MW or smaller

Current arrangement (Electricity Law 2014)

- State government to issue license
- Only for projects not connected to main grid
- No regulations for allowing mini-grids to connect to main grid

Proposed arrangement (draft state law for SNLD)

- Self-regulation by relevant communities
- To connect to main grid, Grid-interconnection Permit is required
- Inter-connection allowed if mini-grid is built to standards



ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်

ရှမ်းပြည်နယ်အစိုးရအဖွဲ့.

တောင်ကြီးမြို့.

ရှမ်းပြည်နယ် အလတ်စားနှင့် အသေးစားလျှပ်စစ်ဓာတ်အား ထုတ်လုပ်ဖြန့်. ဖြူးရေးဆိုင်ရာ ဥပဒေ

(၂၀၁၉ ခုနှစ်၊ ရှမ်းပြည်နယ်လွှတ်တော် ဥပဒေအမှတ် ၇ ။)

၁၃၈၁ ခုနှစ်၊ နတ်တော်လပြည့်ကျော် ၇ ရက်

(၂၀၁၉ ခုနှစ်၊ ဒီဇင်ဘာလ ၁၈ ရက်)

DO WE NEED MYITSONE, SALWEEN MEGA DAMS AND COAL-FIRED POWER PLANTS TO KEEP THE LIGHTS ON BEYOND 2030?

No,

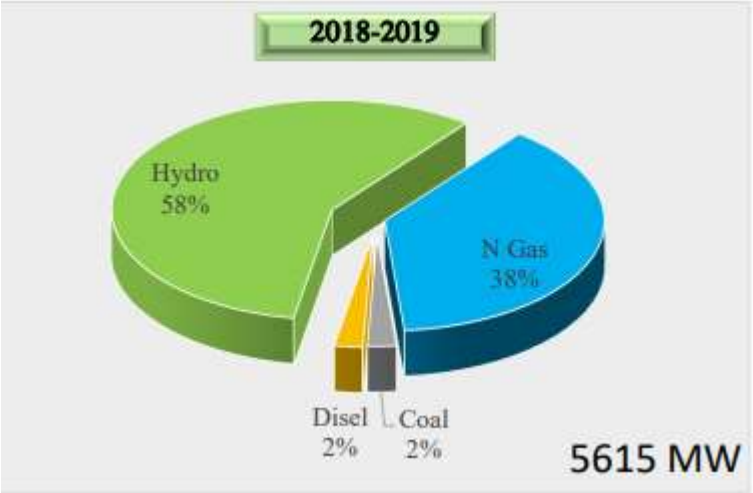
there is enough electricity to last through at least 2030.

...

- 2019:

Current peak demand: 3900 MW

Existing capacity: 5615 MW



Source: U Ye Myint Htun, MOEE, "The The Role of Hydropower in National Electrification" presentation at World Water Day, 5 Mar 2019

- 2030:

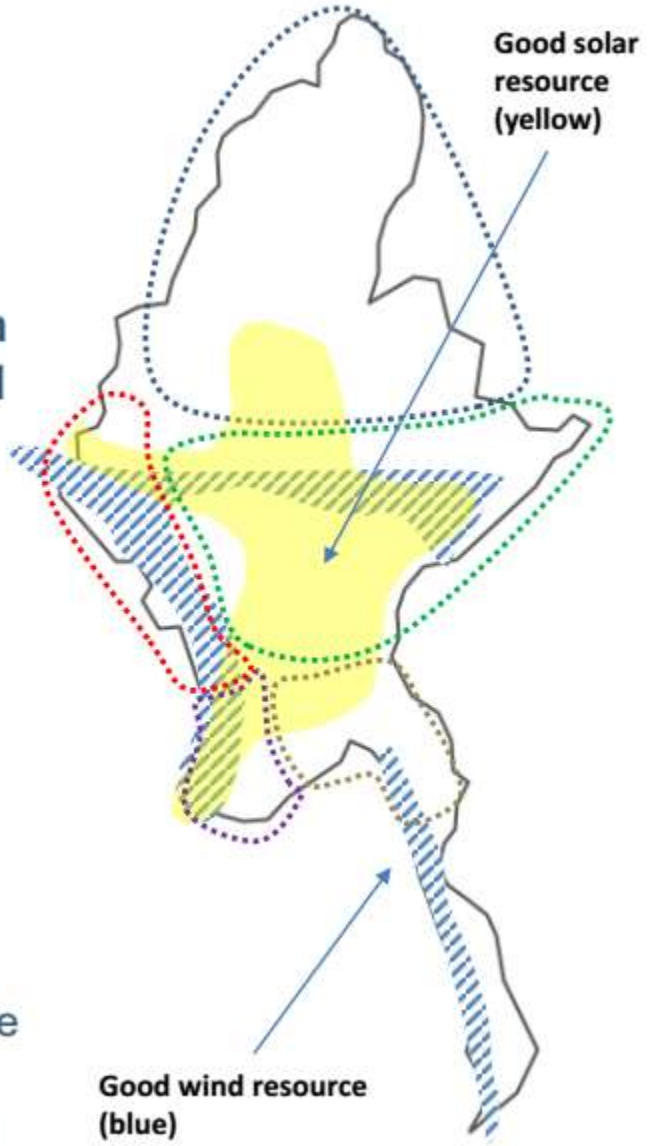
Projected demand increase: 5100 MW (low case) -10642 MW (high case)

Projects in MOEE's pipeline: 6400 MW

Projects in Feasibility stage: > 6000 MW

Solar and Wind potential

- **Solar PV resources are concentrated in the central "dry zone" of Myanmar**
- **Attractive wind resources are located in coastal areas of Rakhine, Ayeryarwaddy, Mon and Tanintyari, the western portion of Central Region and scattered areas of eastern Shan**
- **Renewable projects to model include**
  - "Scheduled" new entry: several advanced solar PV projects that already have PPAs, as well as promising solar PV and wind projects
  - "Candidate" new entry: hypothetical wind and solar projects entering on plausible parts of the grid, given underlying resource locations and other factors
  - wind projects were deemed to be a year or two behind solar PV, given need to collect and analyze meteorological tower data; therefore, not much wind enters by the target year of analysis (2020)



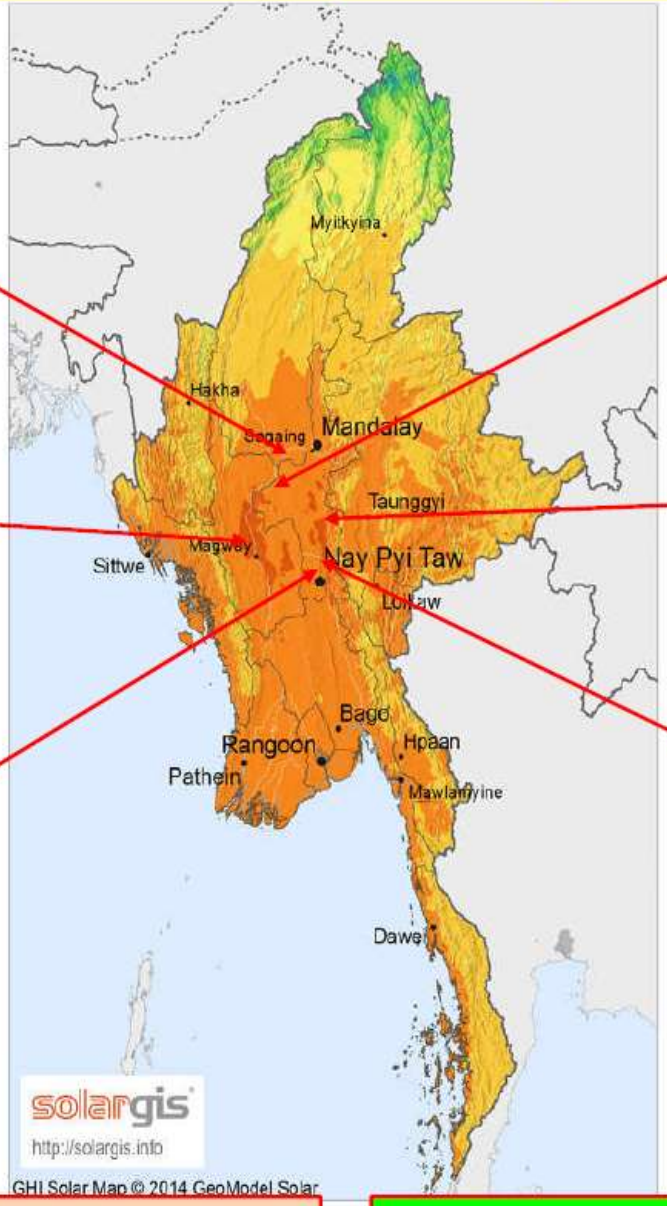
Source: USTDA study "Renewables Grid Impact Assessment" 2017

Solar Power Projects in Myanmar

Sagaing, Mandalay
880 MW
Asia Ecoenergy Development, Primus

Min Bu
170 MW
Green Earth Power (Myanmar) Co., Ltd.

Thapyaysan
100 MW
Jewoo Lightech + Investconsult Group & New Energy GmbH



Nabuaing (Myingyan)
150 MW
Convalt Energy Myanmar Co., Ltd.

Wundwin(Meikgtila)
150 MW
Convalt Energy Myanmar Co., Ltd.

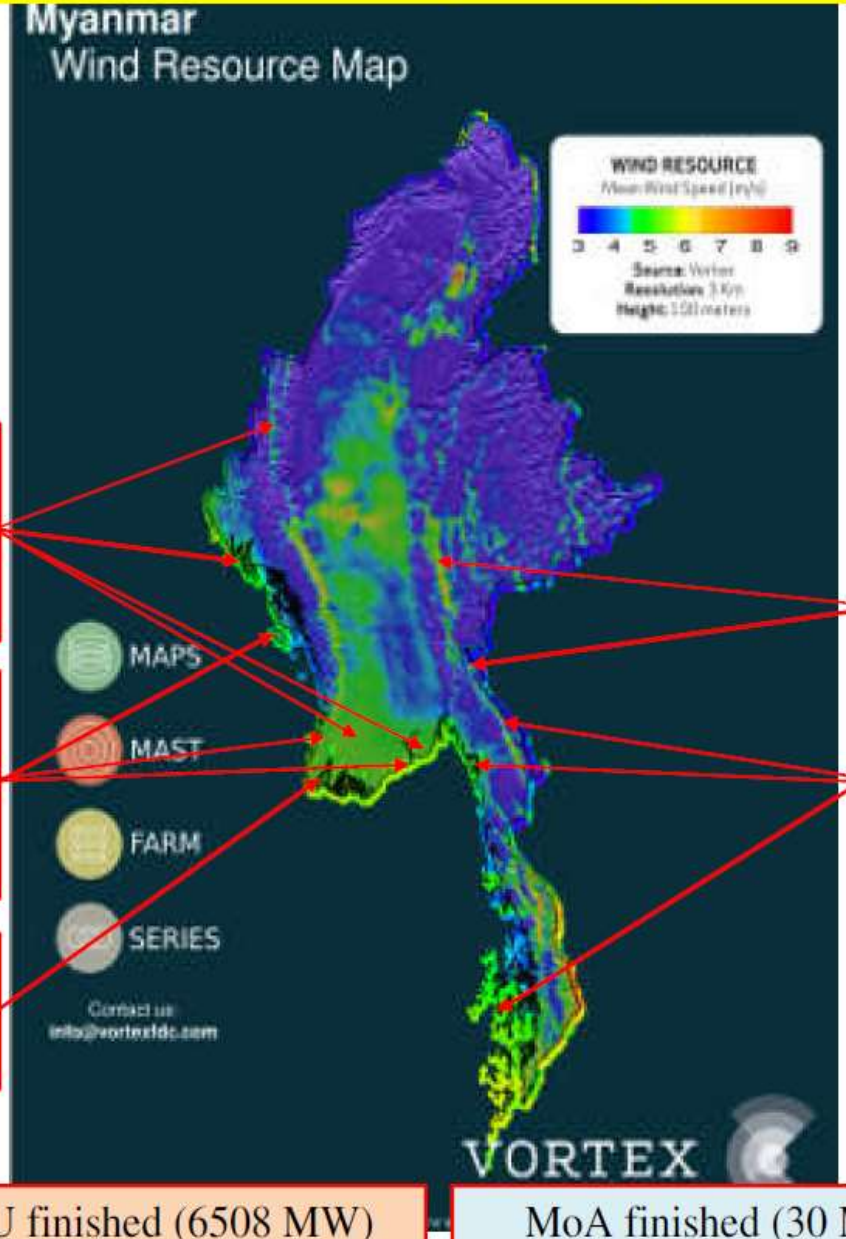
Shwemyo
10 MW
Thinkhaypa Energy Service+ JADE IT

Total: 1460 MW

MoU finished (990 MW)

PPA finished (470 MW)

Wind Power Projects in Myanmar



Chin, Rakhine, Ayeyarwaddy,Yangon
3648 MW
CTGI

Rakhine, Ayeyarwaddy,Yangon
830 MW
Asia Ecoenergy & Primus

Chaung Thar
30 MW
CTGI

Shan, Kayah
1000 MW
GK + Zeya

Tanintharyi, Mon,Kayin
1000 MW
GK + Zeya

Total: 6538 MW

MoU finished (6508 MW)

MoA finished (30 MW)


Thank for your attention!!!