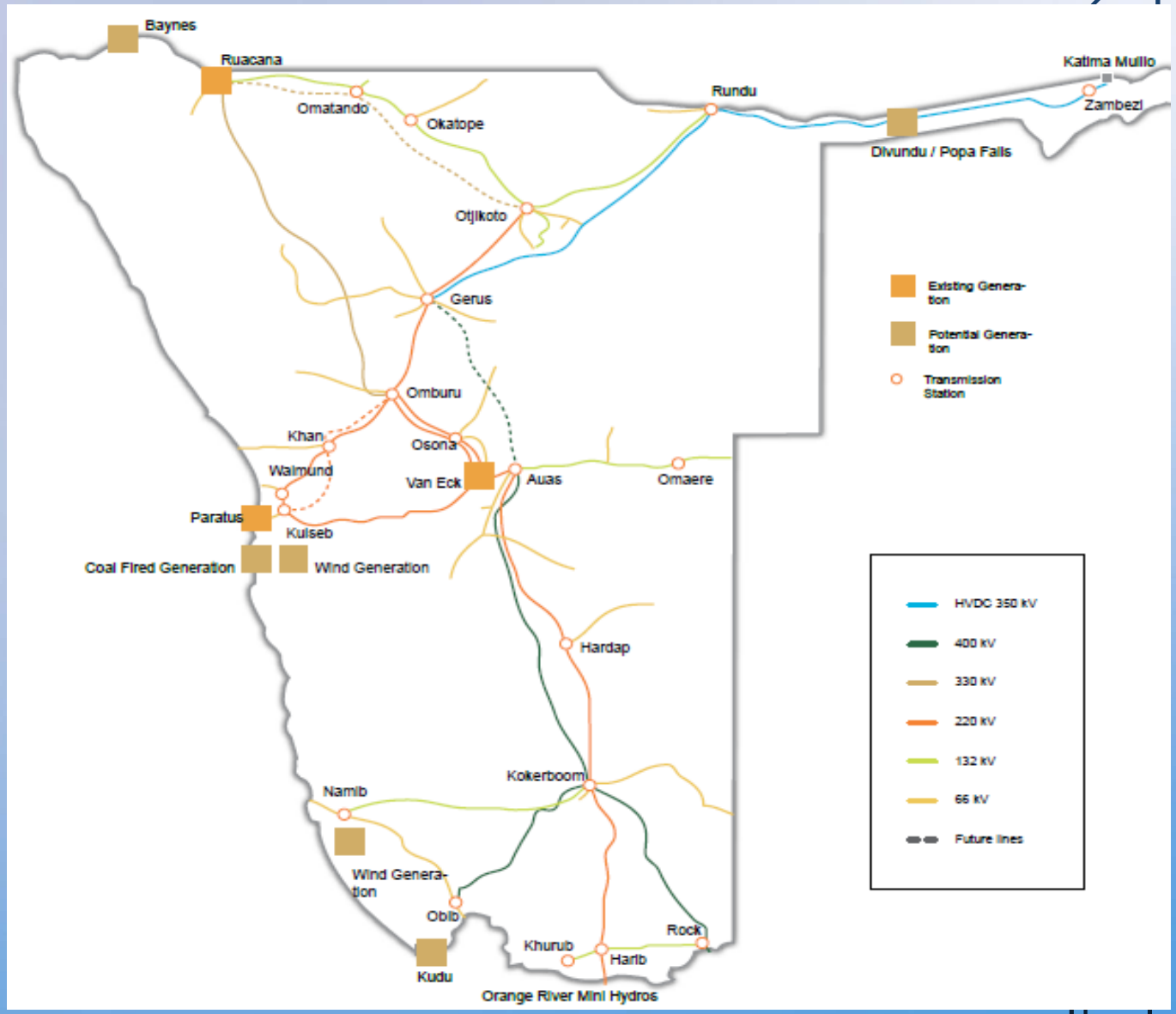
RENEWABLE DATA IN **NAMIBIA**

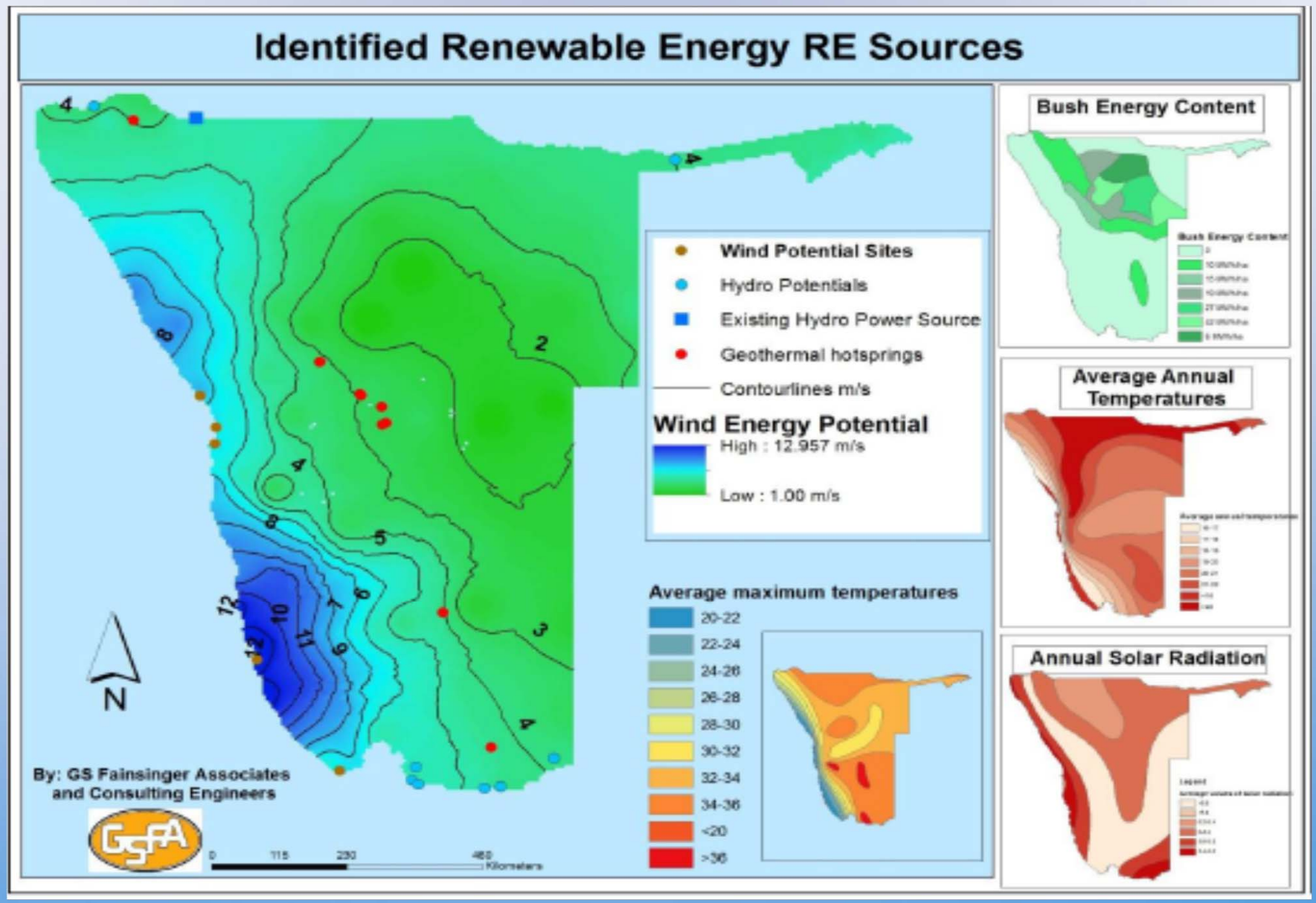
CONTENT

- Country Overview
- Prospects of Renewable Energy Resources
- Data collection
- Current Situation
- Challenges

COUNTRY OVERVIEW

- Vast country spanning across 824 269 km^2
- Population at 2.1 million
- Max Demand 657 MW (2015) growing @ 5% over last 5 years.
- Electricity Consumption 4, 384 GWh growing @ 3% over last 5 years.
- Installed capacity
  - Ruacana (hydro) 347 MW
  - Van Eck (Coal) 120 MW
  - Paratus (Diesel) 12 MW
  - Anixas (Diesel) 22.5 MW
  - IPP (Solar PV) 4.5 MW
  - IPP (Solar PV) 5 MW
- Solar irradiation levels the second highest levels in the World at 3000 kWh/m² over a large part of the country.
- 100% of liquid fuels are imported.

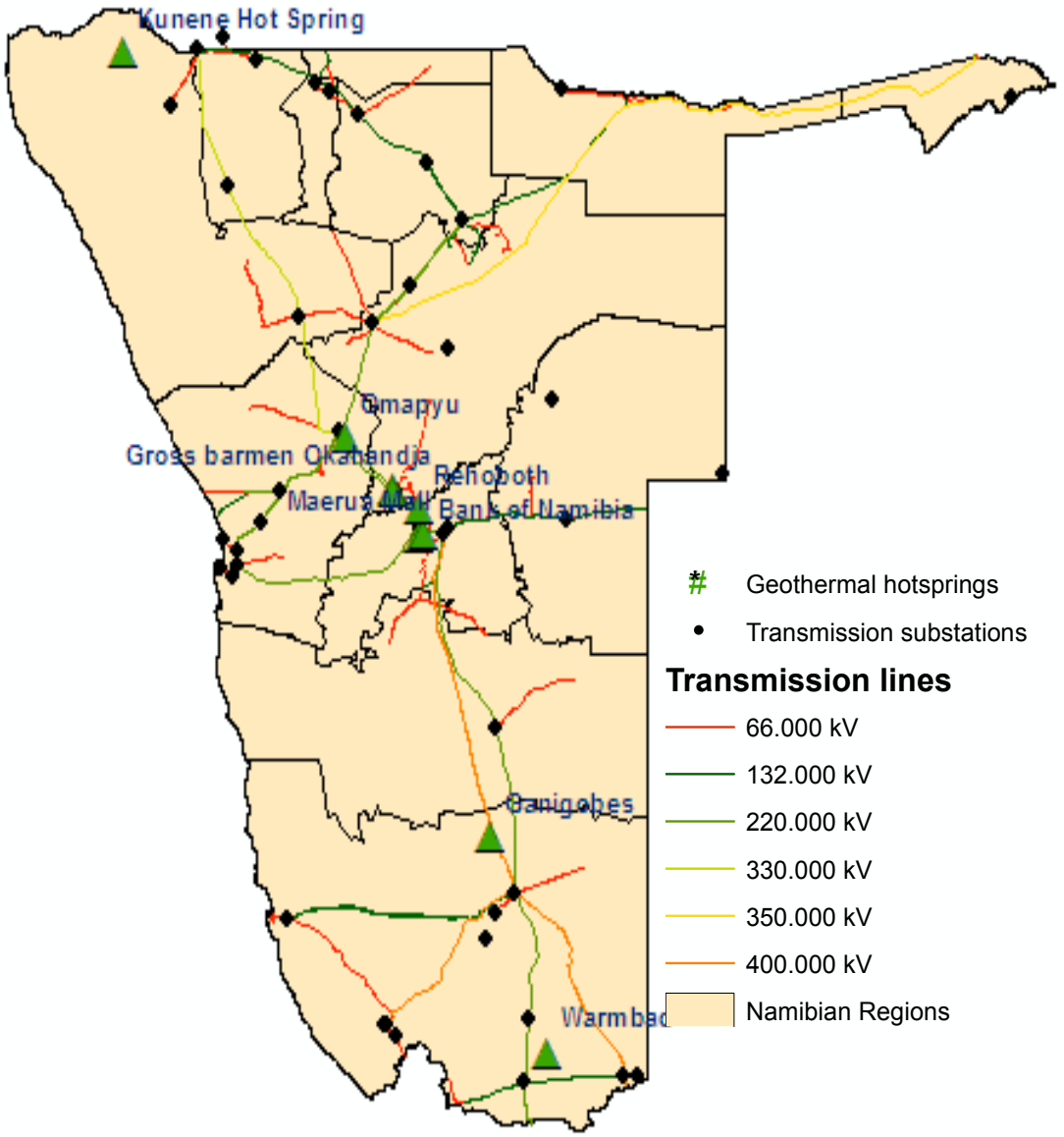



Identified Renewable Energy RE Sources
Wind Potential Sites
Hydro Potentials
Existing Hydro Power Source
Geothermal hotsprings
Contourlines m/s
Wind Energy Potential
High : 12.957 m/s
Low : 1.00 m/s
Average maximum temperatures
20-22
22-24
24-26
26-28
28-30
30-32
32-34
34-36
<20
>36
Bush Energy Content
Average Annual Temperatures
Annual Solar Radiation
N
By: GS Fainsinger Associates and Consulting Engineers
GSFA
0
115
230
460
Kilometers

1. Geothermal Energy Source

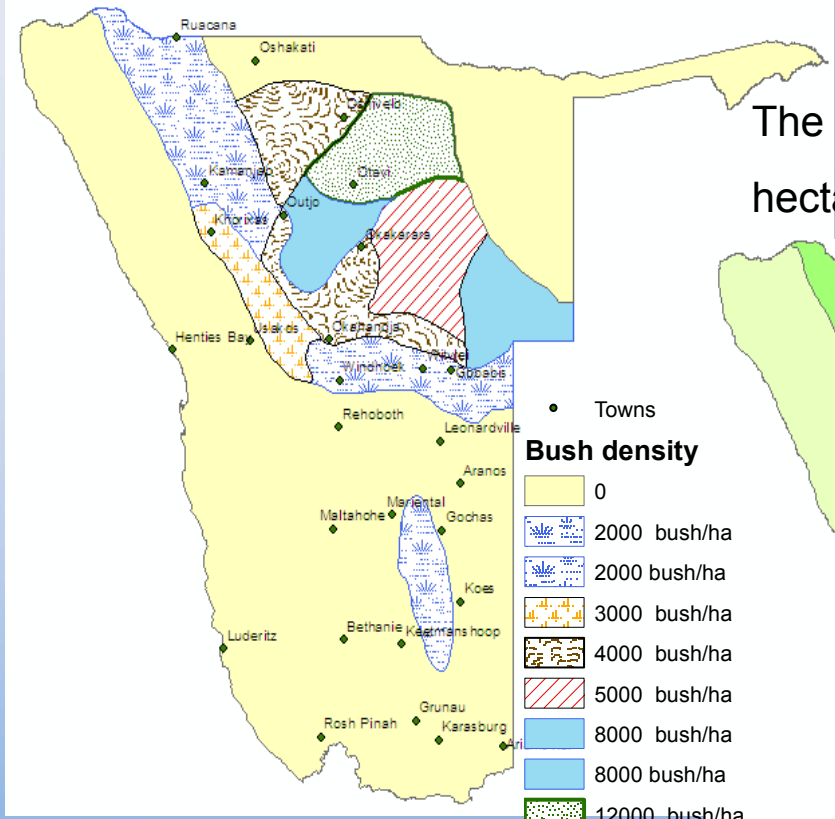
<u>The presence of hot springs, at different places:</u>

- Maerua Mall,
- Bank of Namibia,
- Warmbad,
- Kunene Hot Spring,
- Omapyu,
- Rehoboth,
- Gross barmen Okahandja,
- Gross barmen spring, chamber,
- Ganigobes,

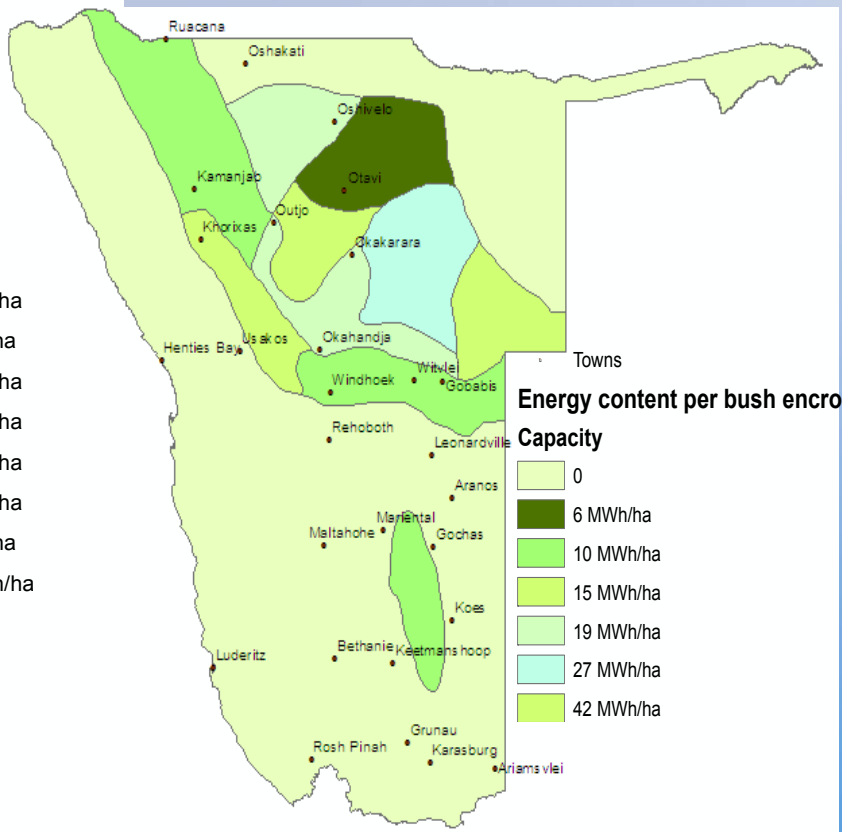


2. Biomass Energy Source

Invader bush density and distribution



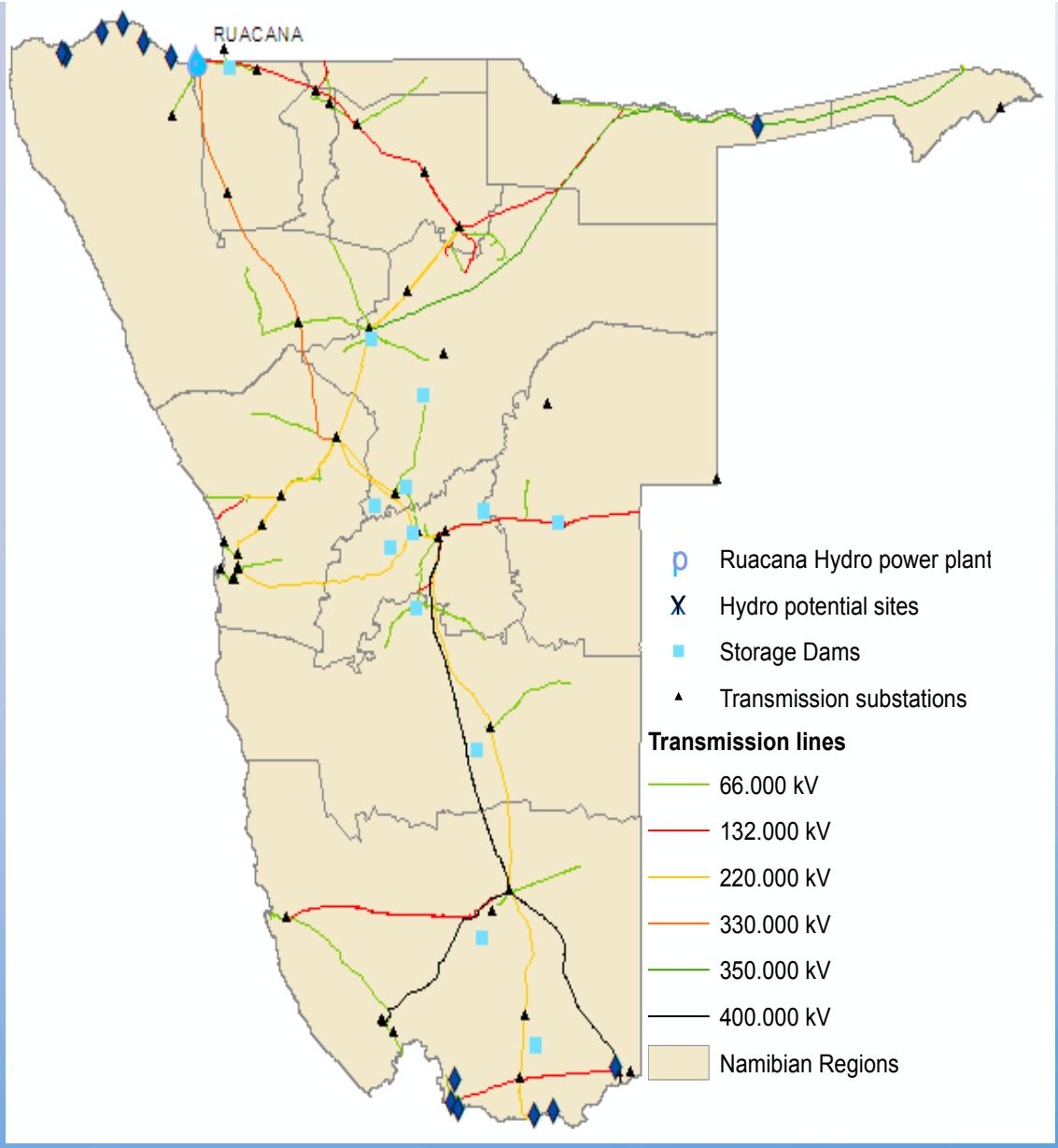
The energy content per bush encroached hectare in northern Namibia



3. Hydro Energy Source

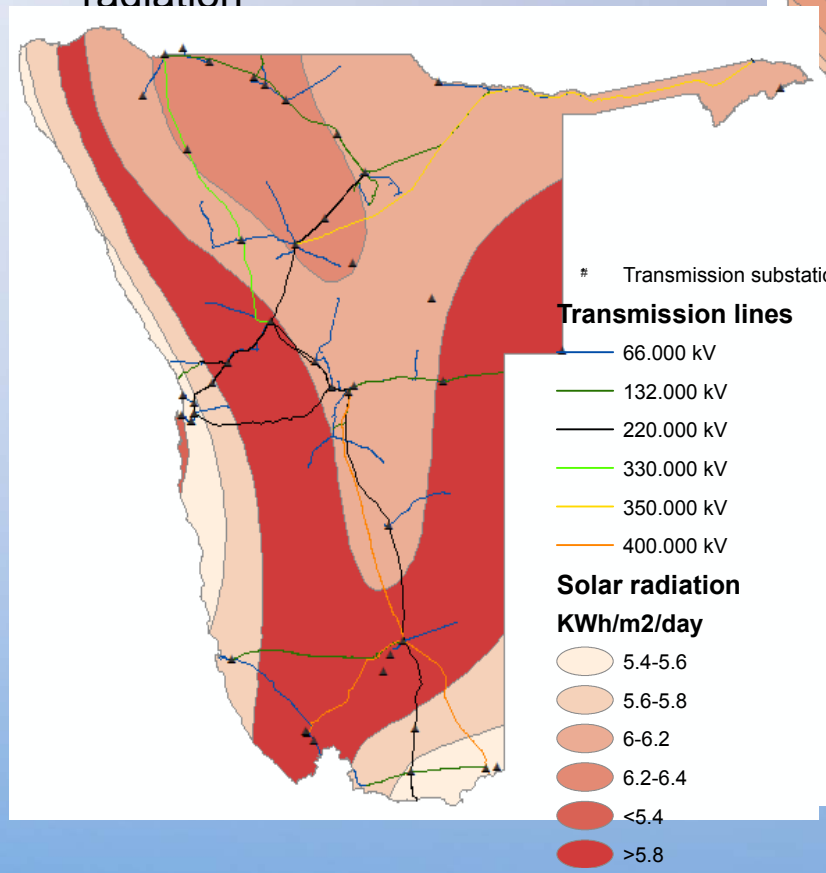
- several hydro potential sites along the Kunene river and down south along the Orange river

- potential capacity varying from 7.1 MW to 450 MW

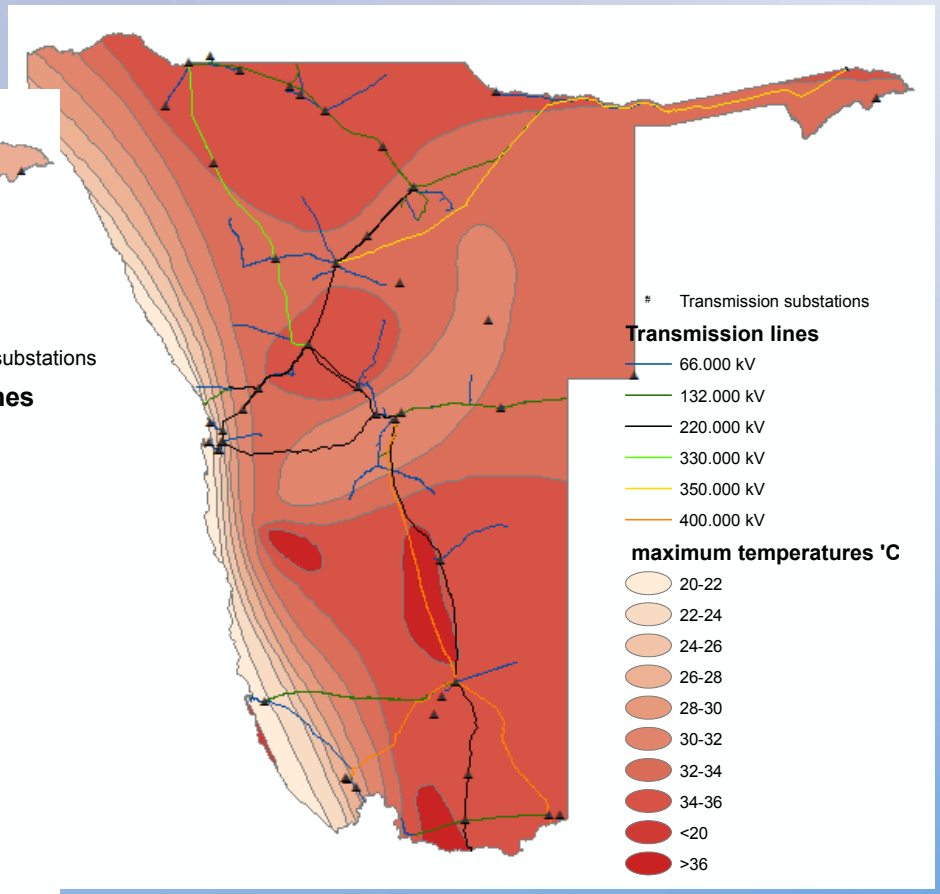


4. Solar energy source

- Average value of solar radiation

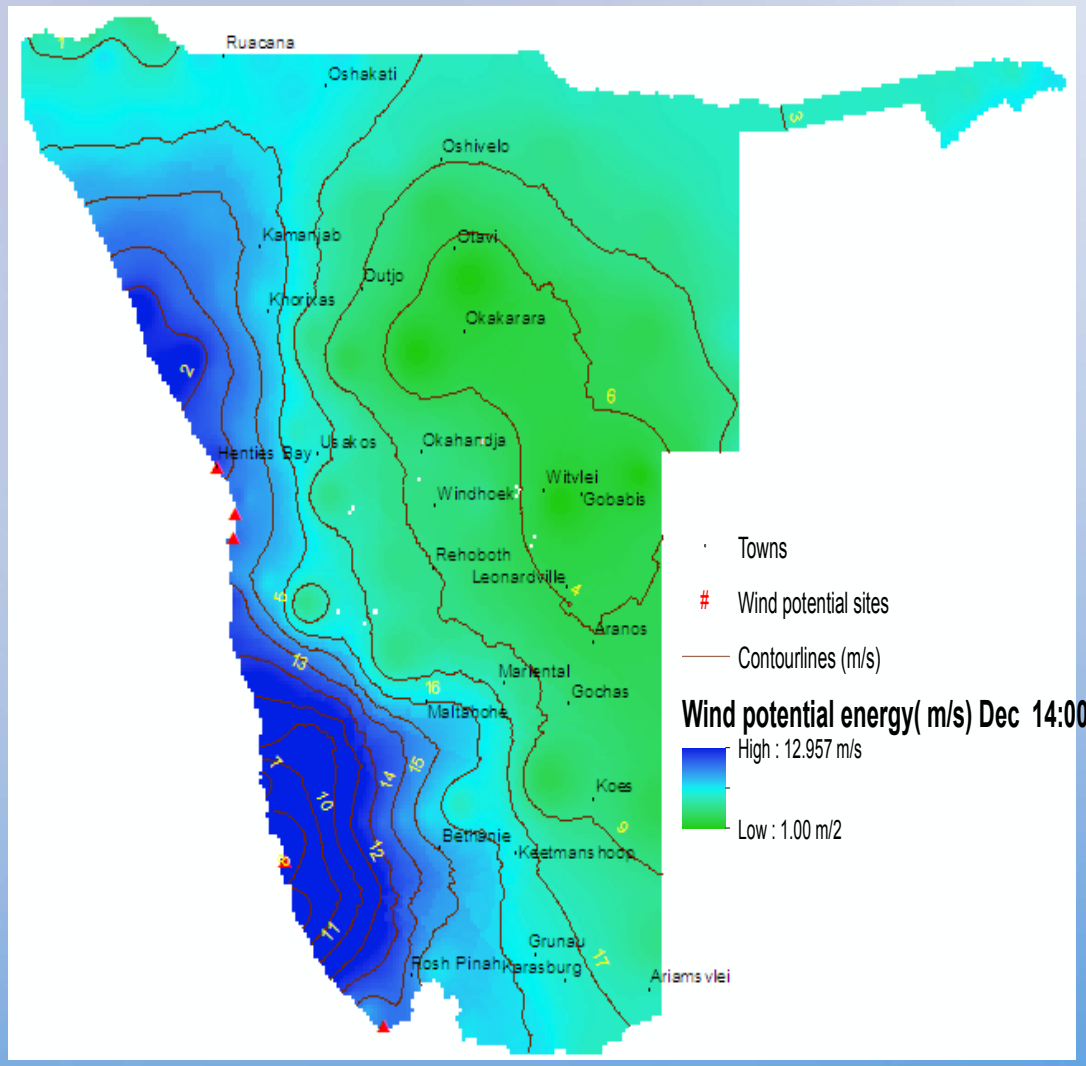


- Average maximum temperatures during hottest months



5. Wind Energy Source

- Indicative Namibian wind speeds in meters per seconds



DATA COLLECTION

- Main stakeholders Involved
  - Ministry of Mines and Energy
  - Electricity Control Board
  - NamPower
  - NAMCOR
  - Namibia Energy Institute

CURRENT SITUATION

RE Policy development

- Drafting of the RE policy is in process

Net metering rules

- The ECB developed NET metering rules. It is expected that this will increase the uptake of rooftops thereby contributing to energy efficiencies.

Interim REFIT

- The ECB has approved REFIT tariffs, and together with NamPower has started the procurement of 70MW through an interim REFIT process.

3x 10 MW Solar PV Tender

- Namibia launched a competitive bidding process in 2013 for the procurement of 30MW.

20MW Solar PV plant to be commissioned by Jan 2017

44MW Wind farm to be commissioned by Jan 2017

CHALLENGES

- The absence of a clearly pronounced policy framework (RE policy) remains a challenge in Namibia.
- Collection of data pertaining to **RE sources** and acquired data is considered sufficient to depict the RE status in Namibia.
- There is no central collection system for renewables in Namibia
- The absence of technical baseline data (centralised resource profile) necessitates additional intervention measures if new entries into the Namibian electricity supply sector are to be realised.

THANK YOU.