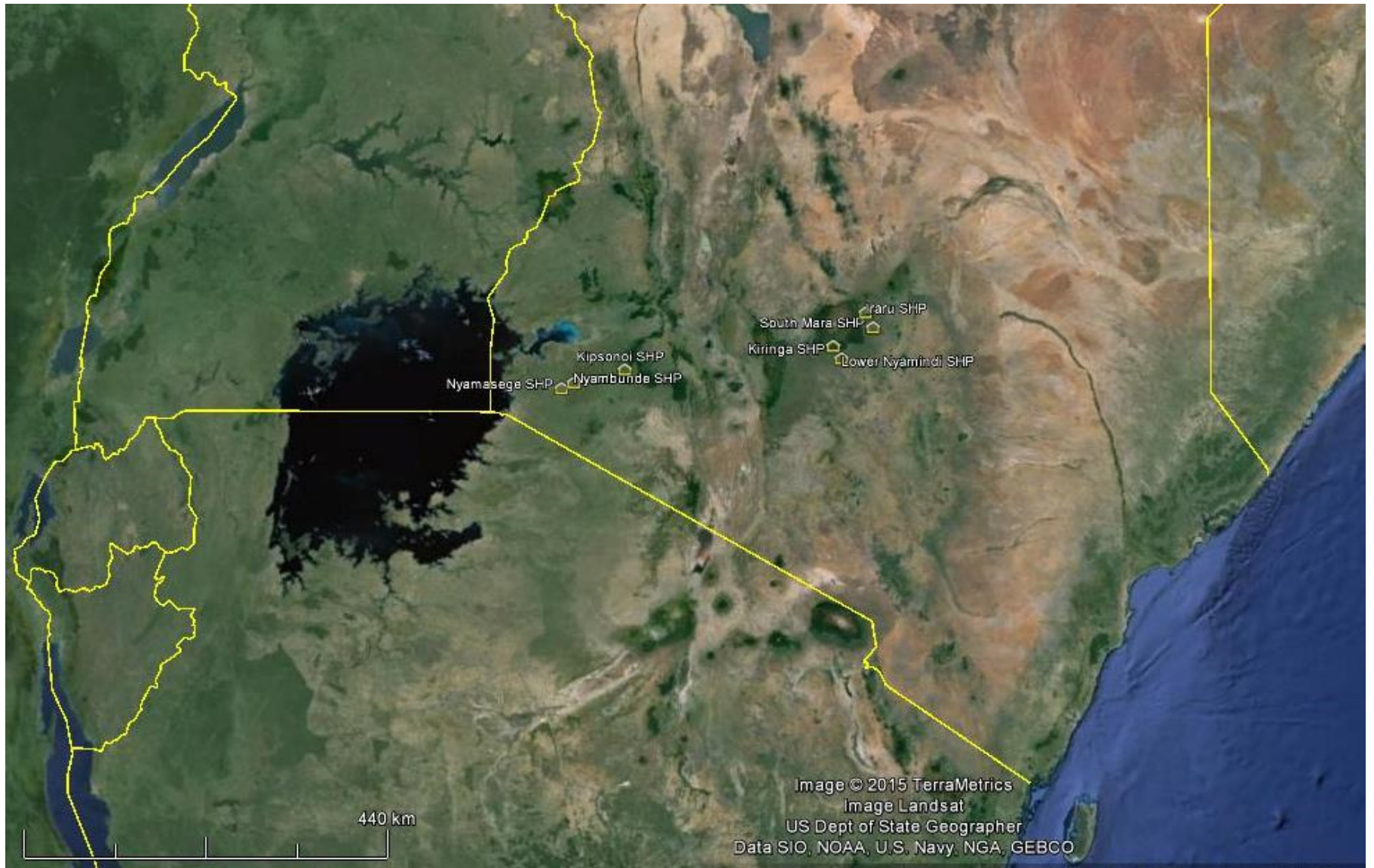


ESRS Annex

1. Description of SHPs

- Lower Nyamindi SHP (Kirinyaga RPC): is a 1.8MW project on the Nyamindi River in Mururi, Kirinyaga County; the project contractor is on site and construction started in July 2014. The design flow is 4.65m³/s; net head is 44m; canal is 2.155km and penstock is 165m.
- South Mara SHP (Greater Meru RPC): is a 2MW project on the South Mara River in Marima, Tharaka Nithi County; the project contractor is on site and construction started in July 2014. The design flow is 1.4m³/s; net head is 180m; canal is 2.9km and penstock is 526m.
- Iraru SHP (Greater Meru RPC): is a 1.5MW project on the Iraru River in Kionyo, Meru County; the project contractor is on site and construction started in July 2014. The design flow is 1.65m³/s; net head is 114m; canal is 1km and penstock is 320m.
- Kipsonoi I SHP (Settet RPC): is a 3.6MW project on the Kipsonoi River in Kipsonoi, Bomet County; the project is at pre-tender stage. The design flow is 5.37m³/s; net head is 83.7m; canal is 6.6km and penstock is 345m.
- Nyambunde (Nyakwana RPC): is a 2MW project on the Gucha River in Nyambunde, Kisii County; the project is at tender negotiation stage. The design flow is 4.0m³/s; net head is 58.4m; canal is 4.4km and penstock is 432m.
- Kiringa (Kirinyaga RPC): is a 1.1MW project on the Kiringa River in Kimunye, Kirinyaga County; the project is at preliminary design stage. The design flow is 1.7m³/s; net head is 83.6m; canal is 730m and penstock is 535m.
- Nyamasege (Nyakwana RPC): is a 4MW project on the Gucha River in Gucha, Kisii County; the project is at feasibility study stage. The design flow is 7.85m³/s; net head is 108m; canal is 6.4km and penstock is 780m.

2. Project Map



3. Estimated Carbon Emissions Reduction

EFgrid 0.6325 tCO2/MWh

S. No.	Project	Total installed capacity (MW)	Load Factor (%)	Productible Electricity (MWh/yr)	Interconnection loss (%)	Grid substitution (MWh/yr)	Emission reduction (tCO2/yr)	Expected Commissioning date
1	IRARU	1.500	72%	9,460.80	2%	9,271.584	5,864.277	Q4 -2016
2	NYAMINDI	1.800	72%	11,352.96	2%	11,125.901	7,037.132	Q4 -2016
3	SOUTH MARA	2.200	72%	13,875.84	2%	13,598.323	8,600.939	Q4 -2016
4	NYAMBUNDE	2.000	72%	12,614.40	2%	12,362.112	7,819.036	Q4 -2017
5	KIPSONOI	3.600	72%	22,705.92	2%	22,251.802	14,074.265	Q4 -2018
6	KIRINGA	1.100	72%	6,937.92	2%	6,799.162	4,300.470	Q4 -2019
7	NYAMASEGE	4.000	72%	25,228.80	2%	24,724.224	15,638.072	Q4 -2019
TOTAL		16.200		102,176.64		100,133.107	63,334.190	