



Green Resources

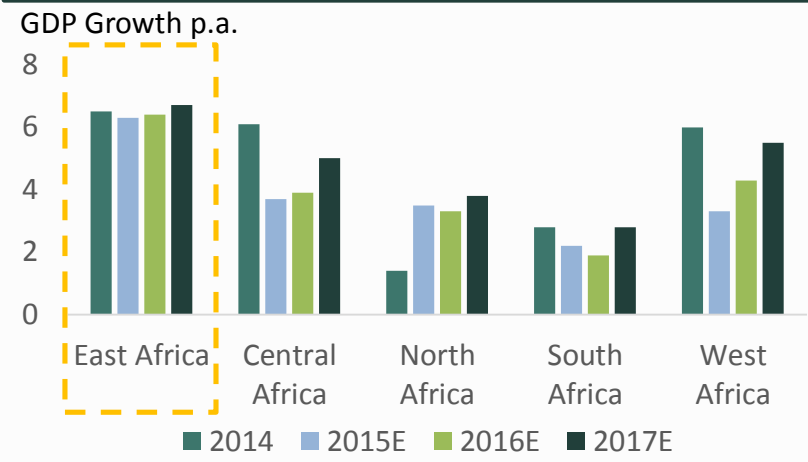
Erik Knive, CEO Green
Resources

14 JUNE, 2017

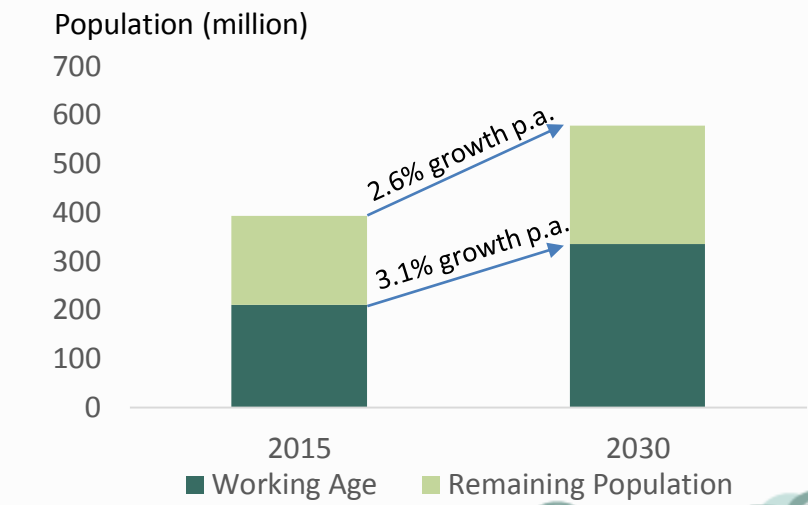
EAST AFRICAN ECONOMIC GROWTH CONTINUING AT A STRONG PHASE UNDERPINNED BY A STRONG POPULATION GROWTH AND CHANGES IN DEMOGRAPHICS...

- East African economic growth is currently considerably outpacing the rest of the region
- Africa is the continent with the fastest-growing population in the world
 - From 2000 to 2015, population numbers increased by more than 370 million from 814 million to almost 1.2 billion⁽¹⁾
 - Of this increase 135 million was in East Africa
 - According to United Nations projections, the population will rise to almost 1.7 billion in 2030 and almost 2.5 billion in 2050⁽¹⁾
 - Of this increase 484 million is expected in East Africa
- In addition comes one of the fastest rates of urbanisation in the world
 - By 2050 44% of the population of East Africa are expected to live in cities compared to the current 25%⁽²⁾
- In coming decades, Africa will have the most favourable demographics in the world in terms of the development of people at working ages
 - Its population at working age (defined as 15-64) is increasing rapidly and faster than the total population
 - In East Africa this trend is expected to add c. 0.6% of annual GDP growth p.a. ⁽¹⁾

Estimated East African GDP Growth 2014-17⁽¹⁾



Estimated East African Population Growth 2015-30⁽¹⁾



Source: (1) The African Economic Outlook 2016 (The African Development Bank, the OECD Development Centre and the United Nations Development Programme).
 (2) World Urbanization Prospects 2014 revision. United Nations, Department of Economic and Social Affairs.



...AND RELATIVELY STABLE BUSIESS CLIMATES



Tanzania

- Expected GDP growth of 7.2% in both 2016 and 2017 ⁽¹⁾
- Tanzania has achieved Real GDP growth of around 7% in recent years
 - based on gold production and tourism
 - However, the fall in global gold prices has hurt export revenues significantly
- In 2015 Tanzania was the 8th biggest destination for Foreign Direct Investment (FDI) in Africa
 - Investment inflows rising to USD 2.3 billion
 - Resulting from the country's favourable investment policies and a relatively efficient commercial dispute system



Uganda

- Expected GDP growth of 5.1% and 5.8% in 2016 and 2017, respectively⁽¹⁾
- The Ugandan economy was severely affected by the Global Financial crisis in 2008-2009
- The economy was further effected by the banking sector downturn in 2011-2012
 - The government adopted a tight monetary policy to curb inflationary pressures and expectations
- Uganda's real GDP growth has now gradually recovered
 - driven by accelerating private consumption and investment into the infrastructure and extractive sectors



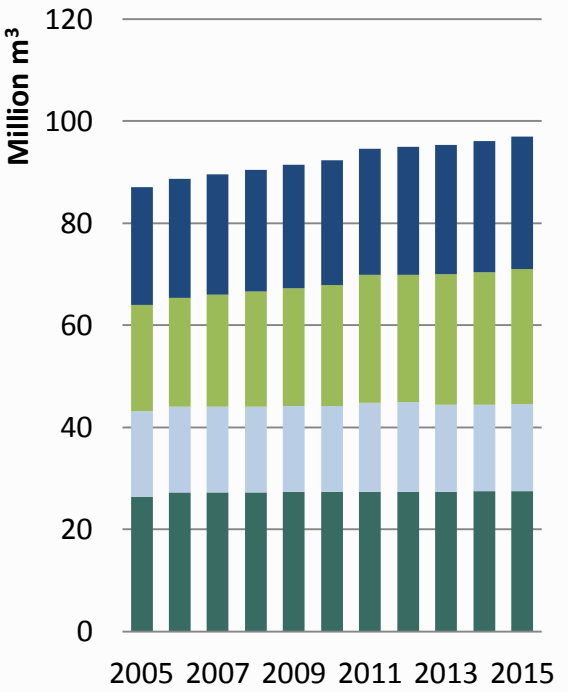
Mozambique

- Expected GDP growth of 6.5% and 7.5% in 2016 and 2017, respectively⁽¹⁾
- Mozambique's economy has grown steadily at an annual rate of 6%-8% over the last 5 years
 - Investment in natural resources including natural gas, coal, titanium and hydroelectric capacity have recently been seen to drive growth
- In 2015 Mozambique was the 2nd biggest destination for FDI in Africa
 - Investment inflows rising to USD 4.7 billion
 - Uganda's oil sector is expected to be the country's main investment magnet in future

Note: (1) The African Economic Outlook 2016 (The African Development Bank, the OECD Development Centre and the United Nations Development Programme).

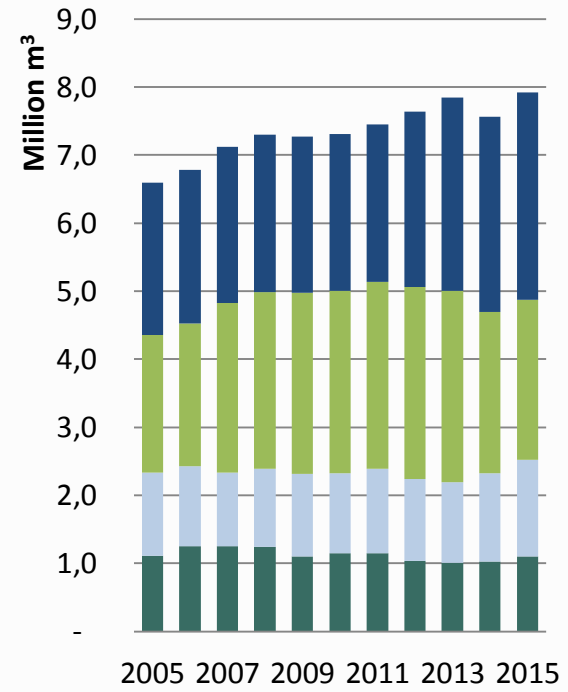
WOOD CONSUMPTION

Fuelwood and charcoal consumption



Kenya Mozambique
Uganda Tanzania

Industrial roundwood consumption



Kenya Mozambique
Uganda Tanzania

- No reliable statistics exist for regional trade, and so FAO based consumption should be considered conservative
- Fuelwood and charcoal consumption remains by far the main wood use in East Africa
- Demand for charcoal is increasing in the region but this is not fully reflected in the data because of the informal market and lack of regional trade data
- Both fuelwood and industrial roundwood consumption has been increasing, however local supply is becoming constrained due to rampant deforestation
- Demand will only increase with increasing populations and urbanisation in East Africa

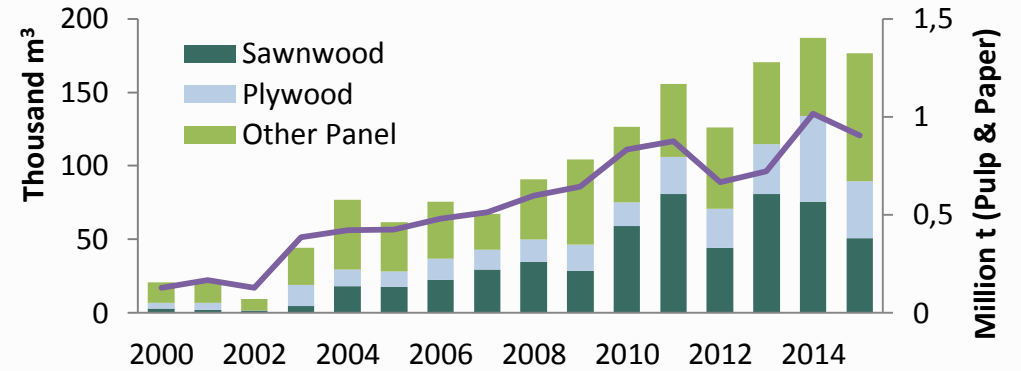
Source: Poyry, FAOSTAT 2016.

The relatively modest increase in consumption of fuel wood and charcoal for energy and roundwood (logs) for industrial use is a result of local supply constraint rather than lack of demand

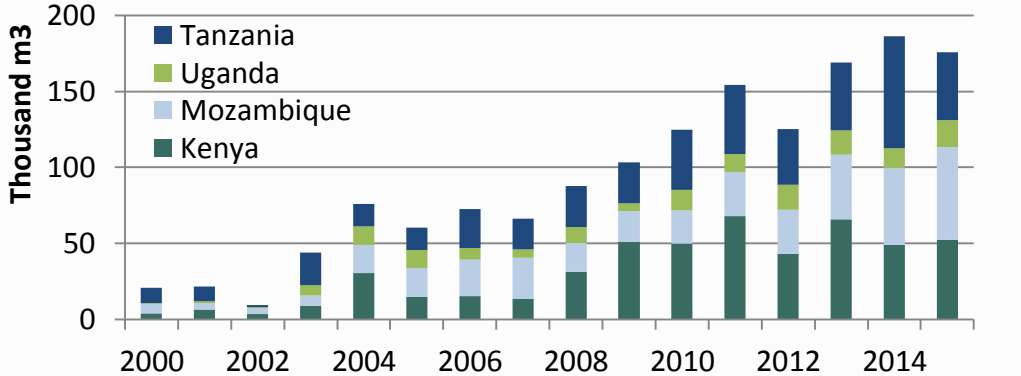
WOOD PRODUCT, PULP AND PAPER IMPORT

- No reliable statistics exist for regional imports (products not entering through ports), and so these statistics should be considered conservative
- While Tanzania has a reasonably strong wood products industry (compared with other countries in East Africa), wood product demand is also increasingly being met by imports
- Compound annual growth rates (CAGR) for product imports to East Africa are:
 - **Sawnwood 20%**
 - **Plywood 15%**
 - **Other panels 12%**
 - **Pulp and paper 13%**

East Africa wood product and pulp and paper imports



East Africa wood product imports by country

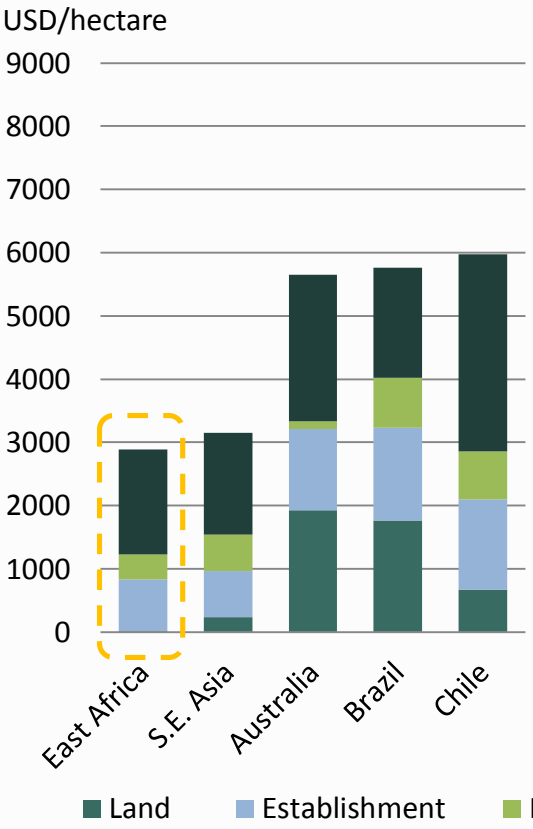


Source: Poyry, FAOSTAT 2016.

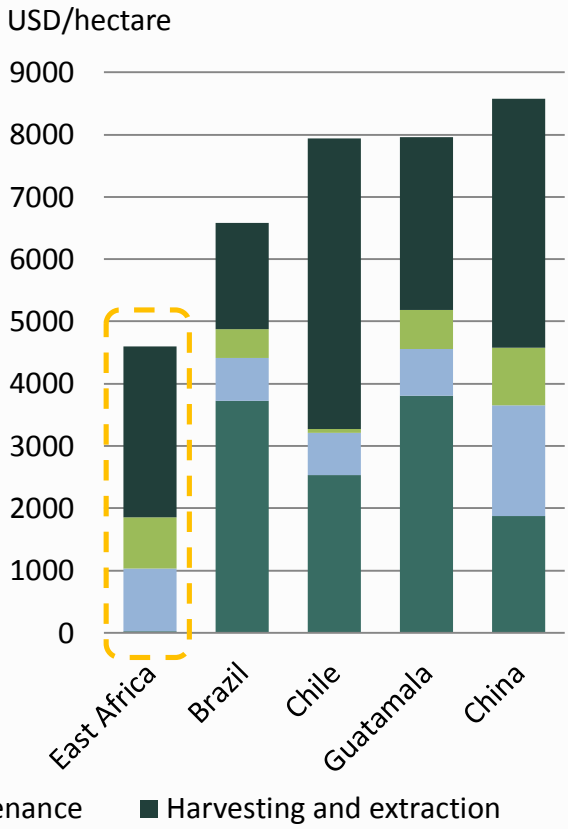
Imports of wood derived products have shown a substantial increase in East Africa since 2000 to compensate for locally produced wood products not keeping up with regional demand

INTERNATIONAL PLANTATION COSTS

Eucalyptus average costs for 1 rotation



Pine average costs for 1 rotation



- Only South-East Asia is close to East Africa's plantation cost structure, but land availability is poorer than in Africa
- While direct land costs are lower in Africa, land administrative costs related to Greenfield development projects can be high
- Establishment includes land preparation, but not initial land clearance costs

Source: Poyry.

Costs are presented for typical plantations from establishment through to final clearfelling

GLOBAL WOOD FIBRE TRADE FLOWS

Potential trade flows to service fibre shortage

■ Supply deficit
 ■ Stable supply
 ■ Increasing supply

North America

Mountain pine beetle infestation in BC and AAC reductions in Canada East – declining fibre availability in Canada. Balanced with high SW reserve and supply potential in US South. Overall slightly increasing SW demand to be met with local supply. Currently also a pellet export platform to Europe significance of which expected to decrease in the future

Europe and Turkey

Increasing demand for SW in particular – mainly met by local supply. Iberian Peninsula relying on imported Eucalyptus; might suffer from increasing demand in South America. Policy driven energy sector provides short term opportunities for biomass. Turkish wood based panel industry based on imported fibre and opportunistically looking for alternative sources of fibre

Russia

Russia has large potential to increase supply but suffers from infrastructural challenges; business environment and concession forestry complicate the of finding a workable business concept for large scale industrial projects (e.g. pulp mill). Evident source of SW raw material and products to China

Asia

China remains huge wood (SW and HW) deficit region with increasing import requirement. Changing trade patterns of hardwood in the South East Asia basin due to regional capacity expansions. Increasing demand for biomass for renewable energy production in Japan and South Korea.

Total population East, Southeast and South Asia: 3.9 billion

Middle East

Total population: 314 million

Equator

South America

Demand growth of Eucalyptus in particular fuelled mainly by committed plantations. Future growth in the sector may reduce Eucalyptus exports and create gaps elsewhere in the global trade. Declining charcoal production in Brazil has released Eucalyptus volumes which are looking for alternative uses

Africa

The African domestic market has considerable potential to expand, across all sectors, requiring however industrialisation wave. It is also a potential platform for export to Asia, Middle East and Europe

Oceania

Export platform to deficit regions in Asia (China and Japan in particular): Eucalyptus chips from plantations and logs from SW plantations. Limited domestic demand development

Export opportunities from East Africa strongest for: softwood sawnwood to rest of Africa and Middle East, Wood chips to India and China, biomass to Japan and South Korea
 Core markets of East Africa, Middle East and E, SE, S Asia contains c. 63% of the World's population

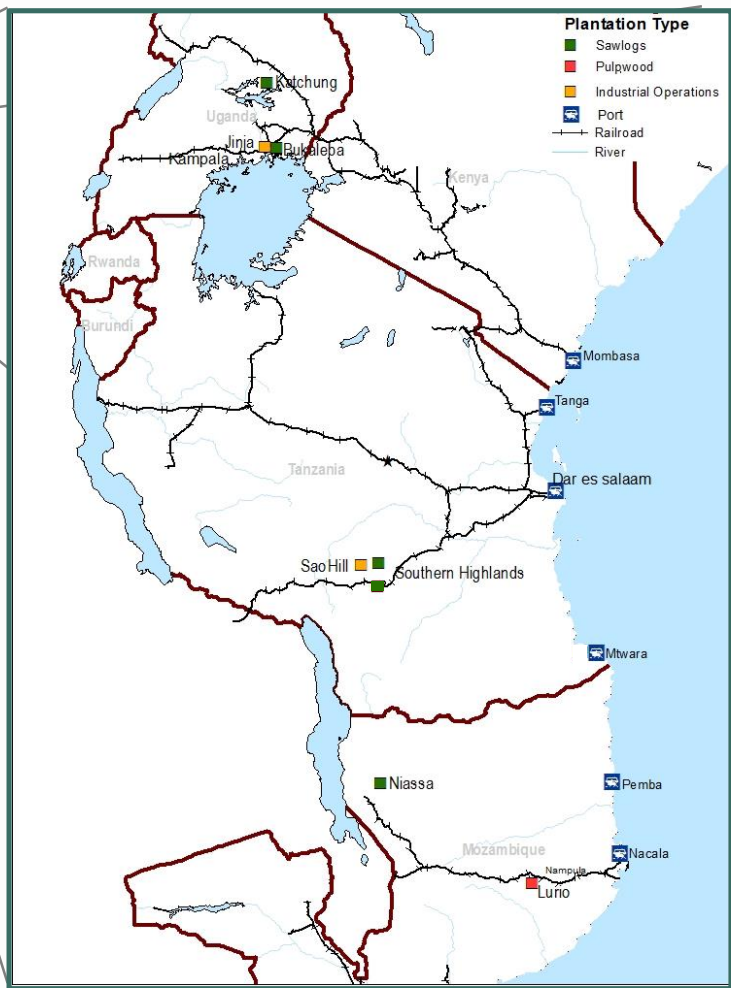
Source: Poyry.

GREEN RESOURCES HAS SPENT 20 YEARS OF INVESTING IN OPERATIONS – ABOUT TO ENTER THE NEXT LEVEL IN TERMS OF COMMERCIAL DEVELOPMENT

- Established 1995 by Mads Aspren in Tanzania
- Unique history of acquiring land rights – now Tanzania, Uganda and Mozambique
 - All together c. 39.000 hectares of woodland, as well as c. 93,500 hectares of additional tree planting potential
 - c. 50 million trees in various stages of growth
 - c. 22,000ha of pine, c. 17,000ha of eucalyptus and 190ha of other species including teak
- Stock reaching maturity at accelerative levels, providing strongly increasing harvesting and cash flow over the next several years
- Entry into industrial activities in 1998 and ramp up in 2003 with acquisition of Sao Hill - significant experience gained over past 20 years, but activities still at a moderate level:
 - Saw milling, pole production, briquetting, pallet production
 - Experience to date largely based on processing wood acquired from third parties
 - Critical experience for planned ramp up in capacity to enable the processing of increasing volumes of maturing wood from own plantations
- New management in place to take Green Resources to the next level in terms of commercial development

Highly entrepreneurial company having secured and planted the largest independent forestry plantation in East Africa

THE LARGEST PRIVATE PLANTATION COMPANY IN EAST AFRICA WITH A 20 YEAR TRACK RECORD



Uganda (started 1996)

- 6.4k ha net forest
- Two nurseries
- Sawmill capacity of c. 25,000m³ p.a.
- Pole plant capacity of c. 25,000 poles p.a.
- 73 permanent and 135 casual employees

Tanzania (started 1996)

- 16.8k ha net forest
- Land secured for 7-8k ha additional forest
- One large nursery
- Sawmill and pole plant at Sao Hill Industries
 - Hewsaw capacity of c. 110,000m³ p.a.
 - Lindsaw capacity of c. 80,000m³ p.a.
 - Pole plant capacity of c. 90,000 poles p.a.
 - Briquettes and pallet plants
 - Four external sales yards plus outlet at mill
- Export hub at Dar es Salaam
- 479 permanent and 438 casual employees

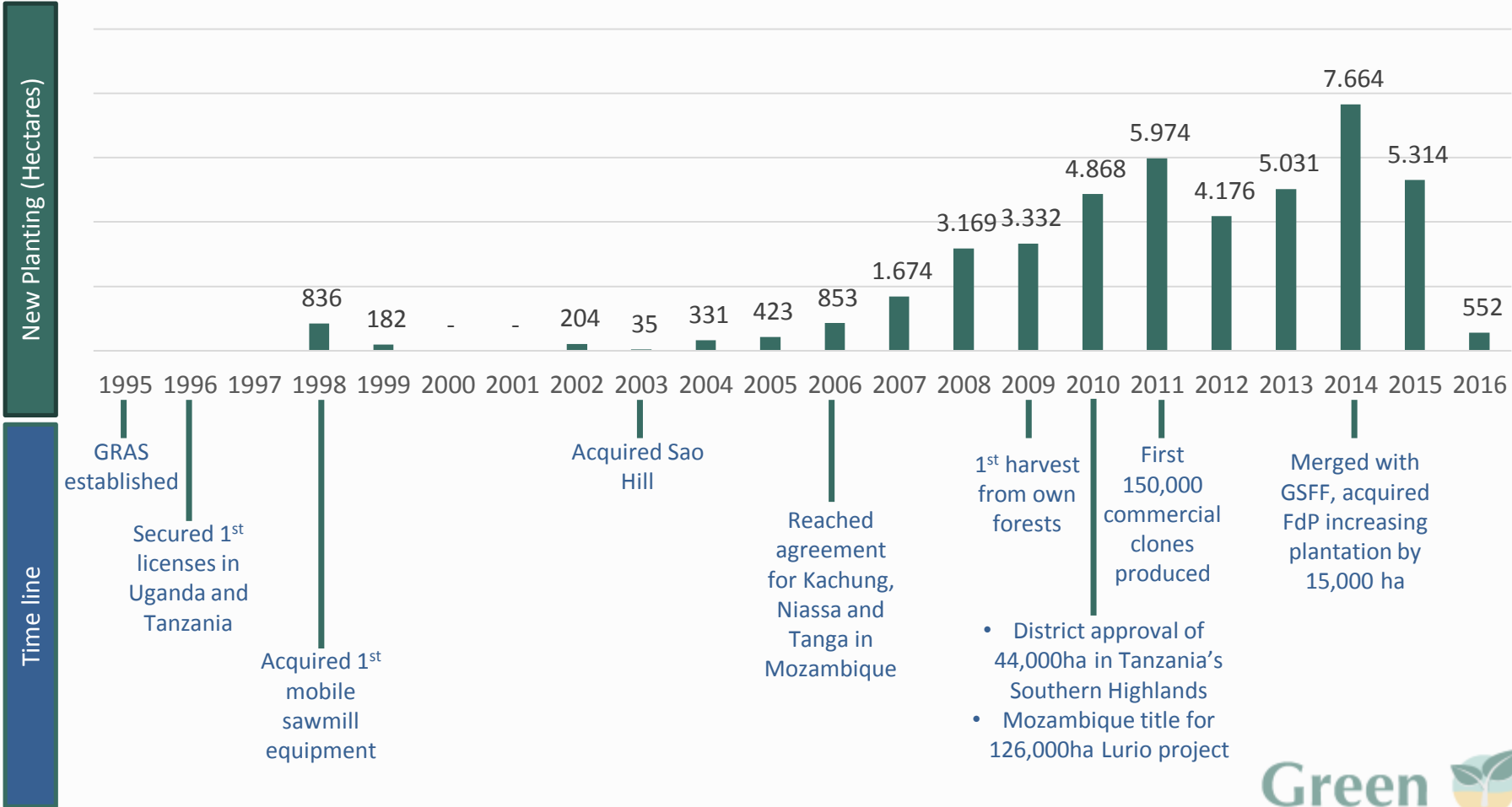
Mozambique (started 2004)

- 15.7k ha net forest
- 86k ha plantable land secured for development
- Two large nurseries
- Pole plant – capacity of c. 60,000 poles p.a.
- Export hub at Nacala
- 640 permanent and 131 casual employees



SUCCESSFUL ORGANIC AND EXTERNAL GROWTH

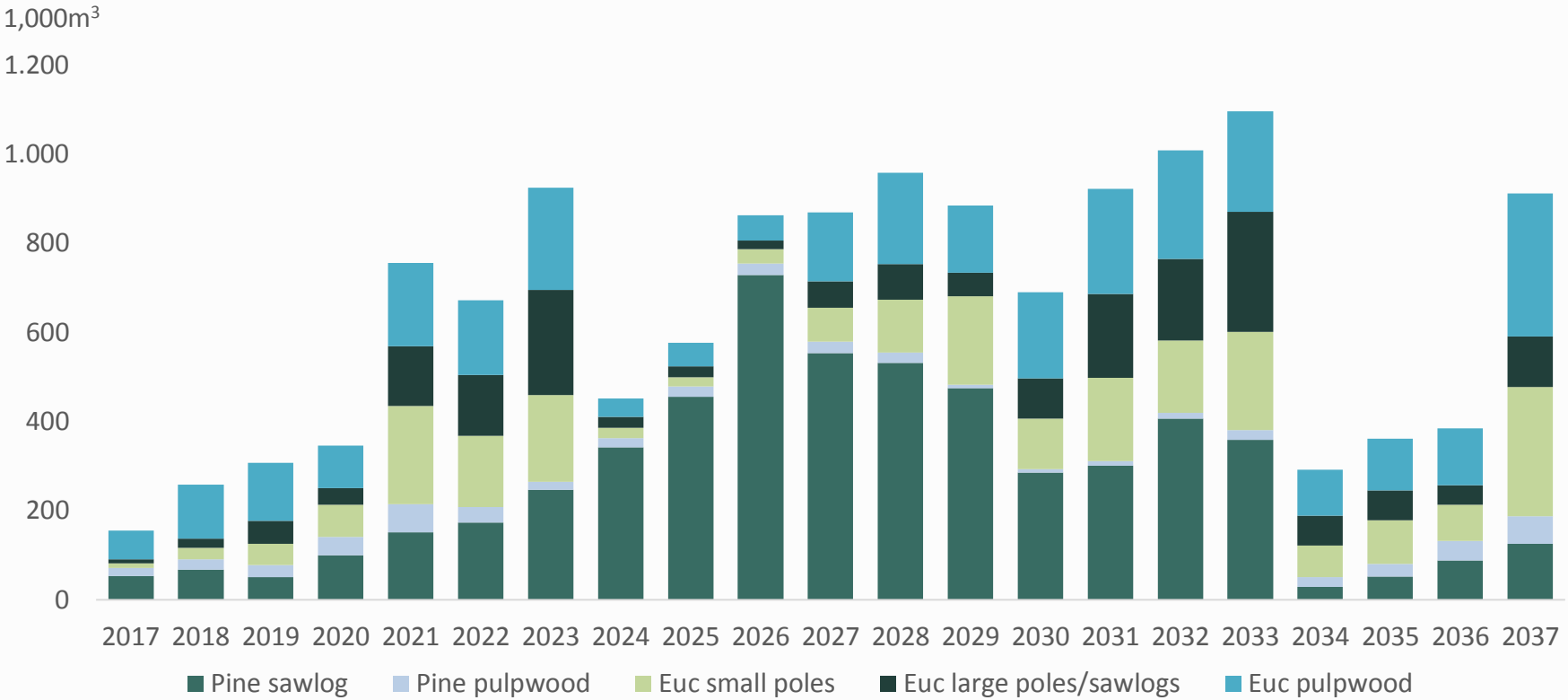
- Founded in 1995, GR has established itself as a leading independent growth platform in the African forestry space
- The success of GR's platform is evidenced by its track record of securing land and subsequent planting.



...LEADING TO SUBSTANTIAL RAMP UP IN EXPECTED WOOD FLOW FROM OWN PLANTATIONS NEXT 10 YEARS

- Harvesting set to increase substantially over next 10 years as plantations reach maturity
- Graph showing expected harvesting at current second thinning and clearfell regimes
 - Potential to smooth out volatility in volumes

Harvesting from own forest set to increase substantially



SIGNIFICANT INDUSTRIAL CAPACITY INSTALLED FOR PROCESSING OF OWN AND THIRD PARTY WOOD HARVEST

	Location	1 Shift Capacity	Full Capacity	Units
 Sawmills	Uganda	8,500	25,500	m3/year
	Sao Hill	40,000	108,000 ⁽¹⁾	m3/year
	Sao Hill	25,000	80,000 ⁽²⁾	m3/year
 Pole plants	Uganda	8,333	25,000	Poles/year
	Sao Hill	30,000	90,000	Poles/year
	Mozambique	20,000	60,000	Poles/year
 Pallets	Sao Hill	40,000	120,000	m3/year
 Wood Briquetting	Sao Hill	10,000	30,000	m3/year

Notes: (1) Current full capacity at Hewsaw is 1 shift of 40,000m3. Requires further investment to achieve full capacity of 3 shifts. Shift 2 assumed to operate at 90% and shift 3 at 80%.
 (2) Current full capacity at Lindsaw is 1 shift of 25,000m3. Requires further investment to achieve full capacity of 2 shifts each of 40,000m3.

OVERVIEW : EAST AFRICAN INDEPENDENT FOREST COMPANIES

Country	Company	Species	Area, planted (ha)	Notes
Mozambique/Tanzania/ Uganda	Green Resources	Pine, Eucalyptus	41,331	Owns sawmills, pole, briquette processing capacity
Zimbabwe/ Mozambique	Rift Valley Corp (Boarders and FdN)	Pine, Eucalyptus	29,140	Owns forest plantation as well as other agricultural plantations
Uganda/Rwanda/Tanzania/ Mozambique	The New Forest Company	Pine	25,894	Several Sawmills, Poles, Timber, Charcoal products.
Zimbabwe	Wattle Company	Pine, Eucalyptus, Wattle	15,000	Sawmills and processing facilities.
Tanzania + Kenya/Malawi/Uganda	Rai Group	Pine, Wattle	15,000	Own several pannel mills throughout E.Africa
Mozambique	Portucel	Eucalyptus	11,700	Pulp and energy production
Tanzania	KVTC	Teak	8,150	Sawmill with production capacity of 35,000 m ³
Uganda	Global Woods	Pine, Eucalyptus, Araucaria, Muzizi	8,024	12,000 ha total land base
Tanzania	Form International (SFI Tanzania)	Teak, Sisal	3,000	9,145 ha under management in Tanzania

GRAS is the largest independent forest company in East Africa –

Source: Poyry.

