

# Policy Brief

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## Thinking Outside the Box: A Case for Promoting the Charcoal Industry in Tanzania

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### Abstract

Charcoal is Tanzania's most important domestic energy source and this is not likely to change in the foreseeable future. Demand for charcoal is rising as Tanzania's population grows and becomes increasingly urban. Yet, despite its importance and potential, charcoal is not positively perceived within the national policy environment, leading to unsustainable and inefficient charcoal production, deforestation and soil degradation, lost opportunities to modernise the charcoal value chain and lost revenue for the government.

This brief argues that charcoal is pro-poor, can be pro-development and a potential driver of economic growth. Instead of being ashamed of the country's association with charcoal, Tanzania can empower its citizens to develop and modernise the sector so that charcoal becomes a valuable, renewable, sustainable energy source.<sup>1</sup>

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<sup>1</sup> This brief was prepared following a Green Growth Platform plenary organised by UONGOZI Institute on "Environmental challenges for Tanzania's development and energy security", which was held in Dares Salaam, Tanzania, on 13 February 2013. It draws significantly on the presentation, Biomass energy: Potential opportunities and challenges for Tanzania given by Professor Romanus Ishengoma of Sokoine University of Agriculture, Tanzania.

## Introduction

According to the 2010 Tanzania Demographic and Health Survey (TDHS), charcoal accounts for almost two-thirds of urban domestic energy usage for cooking (NBS & ICF Macro, 2011). Charcoal and fuel wood combined account for 94.6% of Tanzania's cooking energy (Table 1). This is largely due to the low purchasing power of the majority of Tanzanians and the accessibility of charcoal in relation to other energy sources. Charcoal is readily available, simple to produce, transport and use, and characterised by low input and consumer costs.

	Urban	Rural	All Households
ELECTRICITY	3.8	0.2	1.1
LPG/NATURAL GAS/ BIOGAS	0.9	0.0	0.3
PARAFFIN/KEROSENE	9.4	0.4	2.7
CHARCOAL	62.2	6.3	20.7
WOOD	20.7	92.4	73.9
OTHER	3.1	0.6	1.2

Table 1: Sources of energy for cooking in Tanzania, 2010

The use of biomass energy is not unique to Tanzania. On a global scale, wood energy is “as important as all other renewable energy sources combined (hydro, geothermal, wastes, bio-gas, solar and liquid bio-fuels)” (FAO, 2012). By 2030, it is estimated that biomass energy will account for around three-quarters of total residential energy in Sub-Saharan Africa (CIFOR, 2012).

As of 2011, Tanzania ranked 7th in the world for overall charcoal production, accounting for roughly 3% of global charcoal production at over 1.6 million tonnes (Figure 1). This has led to charcoal becoming a major cause of deforestation ranking behind shifting land use to agriculture but ahead of forest fires. A 2009 World Bank paper on the charcoal sector in Tanzania estimated that between 100,000 and 125,000 hectares of Tanzanian forest is lost annually as a result of charcoal production (World Bank, 2009).

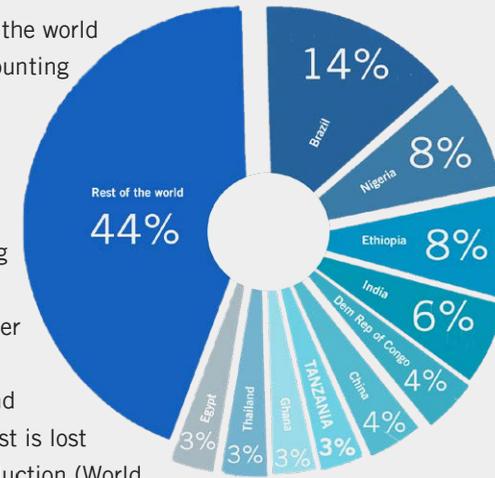


Figure 1: Top ten charcoal producers in the world, 2011

Charcoal is also no longer associated with ‘backward’ or ‘traditional’ societies as it is perceived to be in Tanzania. Currently, several European countries, including Germany, are expanding their use of charcoal and other ‘solid biomass’ fuels to meet their fossil fuel substitution goals.

To these countries, charcoal represents a renewable energy source that contributes to sustainable forestry and reduces greenhouse gas (and other pollutant) emissions associated with fossil fuels. Clearly, Tanzania needs to rethink and re-engage with charcoal.

## The Charcoal Industry in Tanzania

The World Bank's 2009 study suggested that the charcoal sector, while poorly governed, contributed over USD 650 million annually to the Tanzanian economy and is a major source of employment and income in both urban and rural areas. In terms of its value to the (informal) economy, charcoal far exceeded coffee and tea (which contributed around USD 60 million and 45 million respectively), and even exceeded foreign direct investment (estimated at USD 470 million) in 2007. The study estimated that the proportion of households in Dar es Salaam that used charcoal (which accounts for approximately half of Tanzania's charcoal consumption) rose from 41% to 71% between 2001 and 2007. The trend in Figure 2<sup>2</sup> strongly supports the World Bank's conclusion that charcoal consumption will continue to rise. Production of charcoal is heavily concentrated alongside major roads that are linked to or are close to Dar es Salaam.

A properly managed charcoal industry would create significant employment and income opportunities in Tanzania. Added to this, the reduction of oil imports would lead directly to foreign exchange savings. In order for charcoal-planned forests to be socially viable and 'climate-neutral', the wood must be sourced from sustainably managed forests. This could have knock-on

benefits for protecting biodiversity and ecosystems and for other economic sectors like tourism and non-timber forest products. An essential component of sector development will be the implementation of regulations that will both formalise and facilitate the modernisation of charcoal production.

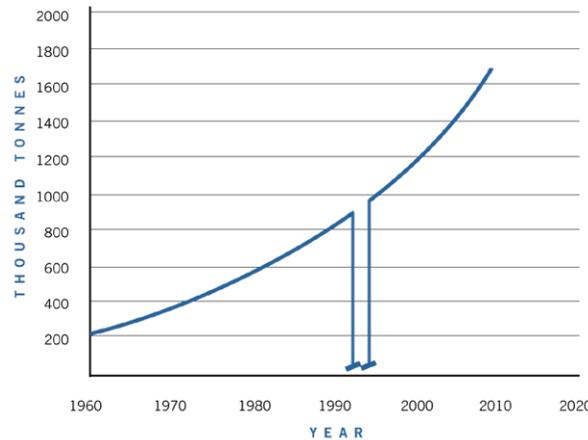


Figure 2: Charcoal production in Tanzania, 1961-2011

## The policy environment for charcoal development in Tanzania

In his address at the launch of the Green Growth Platform in Iringa, 8 May 2012, H.E. Dr. Mohammed Gharib Bilal, Vice President of the United Republic of Tanzania, stated:

*Tanzania needs to develop, but it is increasingly clear that business as usual is no longer an option ... A green economy fuelled by green growth requires radical changes in behaviour and shifting public opinion. It requires strong and clear signals from the government, but also from individuals – citizens and consumers – to prioritise environmental and social sustainability. The greatest challenge thus lies with changing behaviours and transforming institutions to enable the adoption of sustainable patterns of production and consumption.*

It is high time that Tanzania reflected on and critically reviewed its perceptions, engagements and policies towards charcoal. Failure to do so could have disastrous social and environmental consequences both in Tanzania as well as globally from climate change resulting from deforestation.

Attitudes towards charcoal are grounded in the 1960s when less than one million Tanzanians lived in urban areas. As a result, demand for charcoal was very low. Charcoal was considered a 'minor forest product'; timber being the most important. Although no longer the case, this perception of charcoal has carried over into contemporary Tanzanian attitudes, reflected in government policies and strategies<sup>3</sup> which largely overlook and/or dismiss charcoal as a viable energy source. For example, in the 2003 National Energy Policy, biomass energy (which supplies over 90% of Tanzania's primary energy) is discussed in

<sup>2</sup> The data is available on the FAO Website (accessed 12 March 2013) <http://www.fao.org/forestry/country/57025/en/tza/>

Note: The dip in recorded production between 1991 and 1993 is caused by differences in data sources; All the data is sourced from the FAO website, which aggregates data from various sources, the dip coincides with sourcing exclusively from the Government of Tanzania's official estimates. Refer to the FAOSTAT website for details.

a sub-section under renewable energy, while coal (which accounts for less than 1% of Tanzania's primary energy) is dealt with by a full section. Furthermore, biomass energy is not considered a "commercial energy source" like petroleum, electricity, gas and coal. More fundamentally, biomass energy is viewed as a "traditional", "inferior" energy source that will grow less important in the energy balance in all sectors as economic development occurs and as "modern" energy sources become more widely available and affordable. The first two five-year phases of the National Strategy for Growth and Reduction of Poverty (MKUKUTA I and II) use, as an indicator of progress in the energy sector, "[increasing] percentage of urban and rural households using alternative sources of fuel to wood fuel (including charcoal) as their main source of energy".

However, the reality is that the charcoal consumption will continue to grow rapidly but it is not being produced sustainably. Charcoal is being exploited at such a rate that, unless significant change takes place at all levels, it will no longer be able to meet energy needs.

Currently, national policy remains focused on established 'modern' energy sources and there is almost no discussion about the potential to

'modernise' biomass/charcoal production. Going forward, a concrete acknowledgement of the charcoal 'sector' or 'industry' in Tanzania is urgently needed. Continued silence on the already important role of charcoal in Tanzania will only intensify the negative impacts of the sector, disempower environmental protection efforts and undermine revenue collection. Charcoal production will become increasingly unsustainable.

At the global level, Reducing Emissions from Deforestation and Forest Degradation, including conservation and sustainable management of forests and the enhancement of forest carbon stocks (REDD+), and the Clean Development Mechanism (CDM) under the Kyoto Protocol are adding further incentives for governments to shift their policies and strategies with regards to renewable energy sources. These initiatives are supported by the UN-REDD Programme and the Forest Carbon Partnerships Facility as well as various bilateral partnerships.



## Conclusion

In the long run, Tanzania will be able to rely on electricity to meet its energy demand. However, universal access to electricity is not likely to occur in the short and medium term and so alternatives must be seriously considered. It is imperative that Tanzania recognises the importance of charcoal such that it can become a valuable, renewable and sustainable energy source. Charcoal is pro-poor, can be pro-development and a potential driver of economic growth. Fundamental to this positive change will be a shift in attitude away from being ashamed of Tanzania's association with charcoal and towards empowering citizens to develop the sector. Charcoal is and will increasingly be a part of the energy mix across the globe for both developed and developing nations. As H.E. Dr. Mohammed Gharib Bilal, Vice President of the United Republic of Tanzania and Patron of the Green Growth Platform implores, there is an urgent need for thinking outside the box. New ideas are needed to sustainably meet energy demand. Charcoal must be included in the energy mix and addressed for what it is and will be, rather than what it was.

## References

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