Analysis of Effectiveness of National Policies, Strategies and Priorities on Biomass ICS Sub-sector

ICS Taskforce Tanzania
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About ICS Taskforce

Facilitated by SNV, the ICS Taskforce of Tanzania was created in 2011, with the Ministry of Energy and Minerals (MEM) as the Chair and the Tanzania Renewable Energy Association (TAREA) elected as the secretariat. The ICS Taskforce was initiated with the aim to increase coordination in the Improved Cook Stove (ICS) sector, for stakeholders to better understand and develop the sector through multi-stakeholder processes, while doing the necessary studies to come to a joint way forward for further ICS market development in the country. This document is one of the resulting documents of the ICS Taskforce. Other documents include: a technical assessment report of ICS in Tanzania, market intelligence studies for ICS in different regions of the country, and a Country Action Plan for Clean Cookstoves and Fuels.

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Abbreviations

AFREPREN	African Energy Policy and Research Network
BEST	Business Environment Strengthening
BRELA	Business Registration and Licensing Authority
BRN	Big Result Now
CDM	Carbon Development Mechanisms
COSTECH	Commission for Science and Technology
EAC	East Africa Community
EITI	Extractive Initiative Industries
FIT	Feed in Tariff
IAP	Indoor Air Pollution
ICS	Improved Cook Stoves
LED	Light Emitent Decodes
MFIs	Micro Finance Institutions
MEM	Ministry of Energy and Minerals
MDG	Millennium Development Goals
MoF	Ministry of Finance
NSPR	National Strategy for Poverty Reduction
MKUKUTA	Mkakati wa Kupunguza Umasikini na Kuongeza Kipato
PF	Policy Forum
PMO-RALG	Prime Minister's Office-Regional Administration for Local Government
REA	Rural Energy Agency
RE	Renewable Energies
RET	Renewable Energy Technologies
SIDO	Small Industries Development Organisation
SACCOs	Savings and Credit Cooperative Societies
SADC	Southern African Development Community
SNV	Netherlands Development Organisation
TAREA	Tanzania Renewable Energy Association
TBS	Tanzania Bureau of Statistics
TIC	Tanzania Investment Centre
TIRDO	Tanzania Industrial Development Organisation
UNIDO	United National Industrial Development Organisations

Executive Summary

Overall goal of this work was to act as an input to national Biomass Improved Cook Stove (ICS) program which is in its build-up. It focused largely on identifying and stating implications of policy and policy related constraints to ICS adoption and dissemination. Under TAREA and with the support from SNV, stakeholders are developing program for biomass improved cook stove Program. This work therefore is part of program build-up and strategy development.

Purpose of this study therefore was to establish policy gaps in the planning, prioritization and cross-cutting. This work centres on ICS sub sector overview, with much emphasis of sharing on-going efforts and expanding understanding of sub-sector landscape with the aim of identifying and dealing with prevailing constraints. Using ICS Task Force, learn best fit strategies to develop the industry. It gives an essential opportunity to ICS Task Force to understand policy making process with the aim of establishing potential policy-level entry points. More important, stakeholders' consultations provided a platform for cross learning and benchmarking using experiences from the country, the region and across the globe. All these inputs will feed into envisaged ICS program.

As matter of fact, Tanzania consumes more than 2650 metric tons of forest each day. Between 1990 and 2010, Tanzania lost 19.4% of its forest cover. Stakeholders are of the opinion that if it continue to unchecked, this trend is disastrous to people and the country as a whole. Similarly, Indoor Air Pollution (IAP) contributes significantly on poor health of women and children. As result, with migre health budget the country spend much of its reserve in health care and affects country growth. Stakeholders attribute current 'state of affairs' to demand and supply side factors. Existing policies and decision-making architecture contribute significantly to sub sector contribution to country development. As a result of stakeholder consultations, the following has been observed.

ICS sub sector landscape

ICS sub sector is predominantly informal, largely donor driven and it is operated between multiple development partners and networks, with weak coordination within ICS sub sector. This affects visioning, strategizing and planning for biomass ICS market development[1]. Off course, there is inconsistence understanding of ICS sub sector and its corresponding value chains. There are multiple business models and technologies being implemented. Due to weak coordination and information sharing mechanisms, duplication of efforts is quite obvious. The industry is still unclear as to which business models worth being pilot tested, rolled out or rollback. Large section of donors in Tanzania implements projects than market development interventions.

As it is largely dominated by informal sector operators, it limits their access to formal business development services such as finance, technical assistance, insurance, research and development, skills development, technology, investments among others. Off course, policy-based incentives are less effective in an industry driven within informal settings.

Studies such as Charcoal Value Chain in Tanzania by World Bank for example, demonstrated loss and gains in current industry regulation. There is a need to use such studies to advocate for industry gain and loss across demand and supply sides stakeholders.

Enabling environment

Despite current policy and strategy gaps, ICS sub sector could still benefit from utilizing effectively existing policy settings. Stakeholders, for instance identified potential opportunities in existing energy policies settings. It is important however to advocate for inclusive business policies to support business start-ups and formalization. Off course, it is important to lobby for prioritization of biomass-driven ICS as it is not among government priorities[2].

Strategic partnerships would scale-up efforts to overcome policy related constraints at central and local governments. Policy and strategy development process still exclude the majority group in the biomass ICS sub sector constituency. Potential collaboration between public, private and citizen sectors is still

[1] In most cases, it refers to biomass-driven improved cook stoves
[2] Speech of the Deputy Minister of Minerals and Energy during Lighting Africa, 2012

underutilized, and if well utilized, it will lead to multiple level benefits in the target sub sector and many others. Cooperation with public institutions for instance could mobilise more resources to support industry development interventions, particularly policy research, strategy development, regulation and enforcement related measures.

At the end of the study it is worth recommending the following:

ICS Sub sector vision and strategy development

ICS sub sector is still underdeveloped and experiences 'spaghetti effect' in its various value chains. It requires fresh thinking under collective visioning, strategizing and planning. TAREA will have to mobilise stakeholders to develop country biomass vision, with a wide stakeholder buy-in. This should begin by re-aligning TAREA strategic plan with ICS sub sector landscape.

Furthermore, the industry demands high coordination platform. Development partners, government and beneficiaries in the RE/ICS and briquette sub-sectors are divided between multiple actors and networks. Without collective thinking, planning and voice, it is likely to be difficult to off-set prevailing policy-level challenges.

Planning, prioritization and regulation

Given the significance to the country, biomass and ICS sub sector have to be reflected in the country's policies, strategies and plan. While stakeholders appreciate launching of the Big Result Now, inclusion of biomass, ICS particularly remain elusive in the strategy. At the moment, it is important to mobilise stakeholders to participate in developing ICS subsector vision and re-aligned it with country's policies, strategies and plan for overall socio-economic development.

Various studies underpin regulatory and institutional framework as major barriers holding back renewable energy development in Africa. Other barriers include weaknesses in information sharing, coordination, capacities, financing, and investments among others. It is therefore essential to invest on research and development to inform prioritization, planning and regulation interventions.

Effective use of creative and innovative business models

The sector is partly being held back with deployment of ineffective business models, incompetent incentive schemes and the dichotomy between policy-making and implementation. More innovation and creativity are still required to benefits from increasing regional and sub-regional business competitiveness. Probably, the industry has several innovative models, without much being known to interest groups, regulators and policy makers.

While the role of non-profit industry is well appreciated in developing and nurturing business models, significance of the private sector need to be factored in and effectively utilized.

ICS supply and demand sides policy gaps

Stakeholders are able to identify constraints within policy development, regulation and enforcement. Using expert-driven Working Groups for instance it is possible to develop policy influence plan, with corresponding targets that would take the industry next level.

ICS Task Force should consider setting-up a platform attracting participation of CSOs, LGAs, development partners, SMEs and private sector organisations to discuss policy planning, regulation and enforcement. Over the years, it is becoming obvious that without demand side, supply side interventions are ineffective and resource wasting.

Awareness rising across supply and demand sides

Several studies enlist significance of ICS value chains to socio-economic development. In-depth ICS Subsector studies on industry profit and loss would create stakeholder industry understanding.

As part of broader awareness rising, development of a collective vision and targets are salient features of the envisaged national program. Recruiting and engaging marketing strategies targeting various actors within demand and supply side settings would influence relationship between actors and contribute sub sector growth.

Cross-cutting issues in relation to current energy policy setting

Current Energy policy identifies energy efficiency and conservation, energy trade and cooperation, energy information system, environment, health and safety as cross-cutting issues. Other issues include investment, gender issues and capacity building. Across stakeholders, there is little and inconsistence understanding of cross-cutting issues and clear strategies to overcome constraints within cross-cutting context, especially in lower structures of policy implementation. For example, establishment of policy related Working Group in the envisaged ICS national program would set firm footing to support policy lobbying and advocacy frameworks.

Ahead of develop any related Working Groups, it is important to stoke of any existing initiatives in the industry to avoid duplication of efforts.

1. Background of the Study

Overall objective of this study is to build-up for national program for Improved Cook Stoves. The study takes into account of the fact that since 1980, improved cook stoves (ICS) has been studied, promoted and commercialized in Tanzania. However, despite many efforts by a wide variety of stakeholders, the actual use of ICS remains limited". UNDP's report (2009) indicates the ICS uptake to be merely 1% of all households while TaTEDO estimates at 10-20%.

This study attempts to understand the reason behind existing situation and take stoke of past experiences on potential policy improvement opportunities, influence and priority settings. It offers a general overview of enabling environment provided by various strategic policies, local institutions, and strategies to support RET/ICS. It shares best practices within the country, across the region and globe.

As part of the study, there has been multiple sources of references, it is the reason behind use of stakeholder consultations through the workshops, Country's Five Year Development Plan, MKUKUTA II[3] and country's Vision 2025, related rural energy plans among others to understand country vision, priorities and strategies. Of recent, the study has benefited from Big Result Now as another source of inputs to the study. It is a strategic document providing government's focus, approaches and priories.

Initially, this assignment proposed use of expert-driven Working Groups and stakeholder consultations. The aim of using working group approach was to connect between expertise, experience and enhance learning among stakeholders. Use of Working Group would have developed in-depth analysis which could be deliberated through stakeholder dialogue platforms. Stakeholder approach replaced proposed expert driven working groups. This affected resource demand, activity schedule and participation.

[3] MKUKUTA II, the government overarching plan sets the target of increasing access to clean and affordable substitutes for wood fuel for cooking from 10% of the population in 2010 to 20% in 2015

2. Overview of Improved Cook Stoves in Tanzania

This section provides an overview of ICS landscape, including on-going activities and emerging changes which are strategic to industry development.

2.1 Improved Cookstoves Landscape

Within national and regional settings, several programs, projects and initiatives have been implemented since independence. Within different policy levels, numerous interventions benefited from involvement of public sector, private sector and development partners, including the multi-lateral agencies such as World Bank. Several fuel efficient products, services and networks have existed and exited.

Using stakeholder group, experience and expertise within the industry brings-in outstanding experience worth stocking to support envisaged program build-up.

During consultations, it became known that the Ministry of Energy and Minerals is working on various energy policies, including Renewable Energy Policy. It will enhance sector regulation and required enforcement, including solving challenges resulting from institutional set-up.

Other partners involved in renewable energies include USAID, Africa Care, UN and UN-agencies. Couple of non profit organisations are involved into disseminating renewable energies, including ICS and briquette. Of recent, financial institutions have joined the bandwagon to finance Solar PV dissemination. Many of the on-going interventions are organised not organised by for profit market, but rather within non profit sector. This has its strong influence on the performance and trend in the market development.

Of recent, the government of Tanzania has launched Big Result Now. The focus of the initiative is energy and natural gas, agriculture, transport, water and resource mobilization It is the initiative under Presidential Delivery Unit accelerate implementation of various energy related projects. Ministry of energy and Minerals through this program has issued plans, priorities and targets to various government departments, including district councils of which are expected to be realised within one and three years. Despite its significance, BRN include minimal targets for improved cook stove and briquette within in its priorities and targets.

Big Result Now initiative appreciates energy mix driven from local experience, regional and globe. Using the initiative, it provides country priorities and resource use in the energy sector. Tanzania is less developed country which has made some progress in reducing poverty. With 3.8 million households cooking on open fires, the practice exposes nearly 1million additional households to carbon monoxide from traditional charcoal stoves. Despite this threat, there is limited awareness on IAP amongst general population.

Similarly, Ministry of Energy and Minerals (MEM) indicated that the Government is expecting to review existing energy policies and develop several others, based on demands. Renewable and biomass energy related policies are expected to be part of envisaged policies. Several development partners have already been consulted to support.

2.2 Biomass Strategy Development

With support from EU, the government of Tanzania is working on Biomass Energy Strategy (BEST[4]). This work is expected to be completed by June 2013. Stakeholders have shown concerns of having biomass strategy before the policy. Their concerns demonstrate unclear understanding of meaning and objective of BEST initiative. Meanwhile, the government is mobilizing resources for biomass and renewable energy policies development.

The Biomass Energy Strategy (BEST) initiative aims to build awareness of biomass as Africa's main source of primary energy and to highlight its relevance to poverty alleviation efforts, especially among decision-makers at policy level. The focus in this guide is on thermal applications of biomass energy in households, institutions and small and medium enterprises, that is, what is considered the traditional biomass sector.

It is worth observing that:

- Little is known within stakeholder constituency about BEST and its broader policy significance.
- The ICS sub-sector is donor driven. With much resource allocated to support operational commitment, market develop with country-wide understanding is missed.
- Various programs, projects and initiatives related to ICS. Despite their relevance, there is inexistence of single point of coordination, affects lobbying and advocacy work, re-alignment of strategies development and institutionalization.
- It is possible to expand ICS sub-sector through developing short, medium and long term biomass plan within national science, national empowerment and industrialization frameworks.
- ICS sub sector largely exist within an informal settings. This limits ICS sub sector actors benefiting from business development services such as financial services, technical assistance, insurance, investments and export facilities.
- Weak knowledge management within the industry affects information sharing. This contributes significantly to duplication of efforts and resource waste.
- Grand awareness strategy needed and to be continued to influence various segments across policy landscape.
- Energy, renewable energies and ICS sub sector experiences a negative public perception. This is clear indication that national ICS program would need to embed accountability measures in its programming.
- It is possible to overcome prevailing policy challenges through effective policy implementation and monitoring measures.

3. Existing Improved Cookstoves Related Policy Gaps at National and Local Levels

Improved Cook Stove is operationalized through Ministry of Energy and Minerals. Stakeholder workshop in Dar es Salaam in 2012 was able to identify challenges, prioritizing weak coordination, weak stakeholder participation and inexistence of vision. According to various researches, there are three policy implementation gaps –institutional set-up, prioritization of government policies and plan related to improved cook stoves and coordination.

Study conducted by African Energy Policy and Research Network (AFREPREN) identified policy gaps between national and local levels study by AFREPREN. The study identified formulation weaknesses in current energy policy in Tanzania. Such weaknesses identified include:-[5]

- Its formulation process was dominated by top-down approach
- There was some level of inadequacy in terms of relevant and requisite data and information to inform the actual formulation of the policy
- The policy making process was biased towards macro-energy issues than micro energy issues
- Ministries linked to this process lacked policy-based research to inform correctly the policy development or any change that needed to be included in the policy
- Process was donor driven to the extent the support for review and final drafting was donor funded
- Lacked clearly stipulated implementation structures
- Lacked sustainability potential

AFREPREN study suggested that it is important to have a wider scope not just national focus but demonstrate knowledge of experience of neighbouring countries as well as international. Likewise, forge links with policy makers including involving them in the research and have a strong recognised network strategic to influence on or have access to information. Due to resource deficit, current energy policy excluded some important stakeholder-driven processes.

According to a paper on *Review of the Decentralization Process and its impact on Environmental and Natural Resource Management* it identifies existence of factors hindering effective management of environment by local government authorities such as lack of property rights over natural resources, weak formulation and implementation of by-laws, poor enforcement of environmental laws and weak penalties and incentives[6]. Although perceptions of decentralization vary, it is commonly viewed as the transfer of legal and political authority from central government and its agencies to the field organisations and institutions. This transfer therefore should include the authority to plan, make decisions and manage public affairs by agencies other than the central government (Ng'ethe, 1998:5). Decentralization refers to how the state structure allows sharing of powers between central and the sub-national units of the state and other organisations within the society. Despite significance of energy within local government context, energy matters are reflected from environmental point of view. This complicates chain of policy making process, implementation (regulation and enforcement) and review change as there is no interface and linkage between local government structures. More aggravating, local governments have limited capacity to manage even natural resources (Colman, 1996:42). Central government's control over revenues hinders the local governments' ability to manage and protect its resources.

In this direction, stakeholder workshop organised by TAREA in December 2012 recorded ineffective mechanism to regulate and enforce policies resulting from implementation framework.

Policy set-up is developed within auspice of parent ministry while implementation is implemented through local government. Using linear model, experience suggest that there is tendency to split policy-making from implementation between central and local government.

The 2003 energy policy remains without implementation strategy to uphold progress and review mechanisms. While energy policy remains in place after many years, it is excluded from mechanisms to support planning, implementation and enforcements organs. Socio-economic development limits its effective operationalization. As it is for other policies, Ministries are responsible for planning, while agencies and

[5] Research and Policy Linkages in the Formulation of Energy Policy in Tanzania, AFREPREN
[6] Mniwasa Eugene and Shauri Vincent, 2001

councils are responsible for regulating and implementing policies. Stakeholders give an example of how difficult to implement energy policy within council levels.

Similarly, stakeholders raised concerns on multiple platforms without responsive structures at central and local levels. Existence of various interest groups such as Joint Energy Sector Review remains excluded from coordination and regulation. Participation to such platform remains defined from supply than both demand and supply sides. Stakeholders acknowledge significance of such interest groups in exerting pressure in the policy build-up and congruence. For example, when effective, such platform contributes to policy processes, prioritization and resource allocation[7].

Joint Energy Sector Review (JESR, 2011/12) meeting for example is a major stakeholder platform in Tanzania. Objective of JESR is to review (i) the overall performance of the energy sector since the last review, (ii) the implementation of the energy policies and strategies; and (ii) the sector governance and financing structure[8]. JESR is the key element for coordination, planning and financing of the energy sector. It establishes a common basis for monitoring the performance and setting priorities of the energy sector involving Ministry of Energy and Minerals in collaboration with Development Partners.

On behalf of MEM, the study conducted by Oxford Policy Management and Economic Consulting Associate in 2011/12, JESR recommended to fast tracking development of renewable energy policy, finalization of Biomass Energy Strategy (BEST), popularization of cooking standards and align properly actors in the renewable energy sub-sector to be able to fully utilise potential presented by different big projects such as SE4ALL, SREP among others. Other recommendations include government should invest more in promotion and scale-up of renewable energy technologies among others.

It is against this background that the following were observed:

Effective stakeholder participation in the ICS Program build-up

As part of the build-up to the assignment, TAREA organised a stakeholder workshop on 19th December, 2012. During the workshop, stakeholders enlisted several sub-sector challenges. This includes lack of ICS's vision, institutional set-up, low awareness of ICS significance to the households and economy, limited access to business development – capacity development, financing, technical assistance and insurance.

Other constraints included weak incentive system to attract investment from private sector, business informalization and inexistence of joint strategies facilitating benefiting from existing sectoral policies. It was quite evident in the workshop that many of its participants were unaware of policy making architecture and the process. Without understanding policy making process, lobbying and resource mobilization have minimal outcome. Collective effort is therefore essential and prerequisite in building national program.

Prevailing situation divides government attention, making difficult to participate in various policy making ventures. Uniting stakeholders and establishment of Working Group within TAREA for instance could support program build-up, with a lobbying and networking functions.

Meaning, significance and contribution of ICS sub-sector

There is still huge debate within stakeholders as to what constitute meaning and coverage of improved cook stove. At the centre of the discussion is disagreement of supportive platform to host such a debate. Contribution of the renewable energy, particularly ICS and briquette to the economy within short, medium and long term is less understood within stakeholders, policy makers and decision-making cores.

Institutional set-up between national and local governments

Of all elements, stakeholder wanted institutional re-alignment to match administrative and market development settings. Current setting and intertwining of energy and environment within local government affected ICS sub sector growth. Without energy desk within council set-up, energy related issues will still be addressed from environmental perspectives which affect effectiveness of policy regulation, enforcement and resource mobilization. Stakeholders were of the opinion that LGAs should benefit from regulating and enforcing the industry.

[7] The policy process is influenced by a range of interest groups that exert power and authority over policy making process. These influences affect each stage of the processes from agenda setting, to the identification of alternatives, weighing up the options, choosing the most favorable and implementing it. The Policy Process Overview, Rebecca Sutton, 1999

[8] JESR Report, 2011/12

Stakeholder awareness rising

Awareness of ICS significance remains low across various stakeholder landscapes. More significance, stakeholders indicated less understanding of policy-making process and its overall implications to regulation and enforcement. It is essential to recruit evidenced based advocacy. This implies development and popularization of gains and loss within current state of affairs with the objective to inform policy making architecture. Use of top-notch behaviour change strategies will affect behaviour of actors across value chains.

Ineffective use of available policy-related opportunities

There are several policies regulating the sector, sub sector and the industry. The fact that the sub-sector is largely driven from informal sector setting, limits wave-length of benefits available in the formal sector, including potential support available in various government ministries and agencies. Ineffective use of government agencies and corresponding facilities affects sub-sector growth. Operationalizing of incentives from Tanzania Investment Centre, for instance remain less effective in the informal settings. Developing incentives to attract business formalization would create starting points towards business formalization and linking related policy incentives with businesses.

Widening of incentives policies to support scale-up of ICS/briquette

Given its health, environmental and economic impact, it is important to lobby for inclusion of ICS related incentives into BRN framework. Stakeholders were of the opinion that demand and supply sides incentives are more strategic and sustainable. Incentives geared towards increased production should match with incentives promoting ownership and use of ICS/Briquette. Solar PV incentives for instance had little effect since are based on supply alone. Linking Solar PV incentives to Feed-in Tariffs would have created market paradigm.

Under - utilization of institutional linkages

Use and benefit from institutions within existing institutions remain low among stakeholders, particularly producers, distributors and sell. Use of research and development through local universities and specialist institutions is insignificant. Local ICS can benefits from institutional linkages and networking.

Certification, standardization and regulation

Industry certification and standardization need a new and more push from government, public and consumer sides. It is important to involve stakeholder understanding in the policy development, implementation and evaluation. On-going standard development and its operationalization for instance should ensure high participation of stakeholders. Standardization and certification should attract "sticks and carrots" schemes. Local government for example is strategic partner in regulating and enforcing certification. Council set-up has to appreciate this noble role within its decision-making architecture.

4. Policies Facilitating or Constraining Production and Dissemination of ICS in Tanzania

Tanzania Development Vision 2025

The country is led by Tanzania Development Vision 2025 aiming to achieve a high quality livelihood for its people and develops a strong and competitive economy. Determinants of quality livelihood however, recognize food self-sufficiency without trying to understand the kind of energy that is being used to prepare food in the families. The kind of energy use by families has not been discussed in this strategic document. There is recognition of individual initiative and the private sector as driving forces for building a strong, productive and renewing economy9. Though this is appreciated, it remains vague as there is no mention of the strategy to ensure this. With the understanding that Vision 2025 is a long term development strategy In Tanzania, it is hoped that all other strategies will be drawn from this main strategy. If this long strategy does not take issues of community concern serious then the other strategies are likely to do the same.

The National Strategy for Growth and Poverty Reduction (NSGRP)

The National Strategy for Growth and Poverty Reduction (NSGRP) encourages ICS use. Although it is not very specific, it calls for scaling up the role and participation of the private sector in priority areas of growth and poverty reduction. If these priority areas are explored, they may include energy and the ICS sub sector. Under Cluster II of the strategy, it calls for the use decent shelter and energy, stressing on affordable and reliable modern energy services. This is an opportunity that could be used by local investors to explore on the ICS as one of the strategy towards the use of modern energy.

Economic Reform Programmes

Economic Reform Programmes implemented by the Tanzanian Government have been based on the philosophy that Tanzania is committed to a market economy whereby the private sector will take the lead in creating incomes, employment and growth. On the other hand, the State will be a producer of public goods, play a regulatory role to level the playing field and create conducive environment for the private sector to take the lead in driving economic growth[10].

"The Government has the responsibility to ensure that the private sector is excelling to becoming an engine for development" – Prime Minister Mizengo Pinda[11].

Stakeholders reported ineffective policy monitoring and low involvement. Furthermore, weak regulatory, standardization and coordination are highly associated to existing policy settings and institutional set-up. Using government policy directives, plan, strategies and vision, it is unclear to underpin ICS thinking within LGA context. With its infancy stage, private sector remains too little to match demands and aspirations of the market and the industry.

In this context, and for the purpose of this paper, the Tanzanian government is expected to play a crucial role of ensuring that there is an environment that is conducive and allows investment by both foreign and local investors to encourage the use of ICS. This section dwells into looking at the existing policies and see whether they are meant to encourage the use of ICS or the opposite.

As it the case of other policies, there are a number of policies that may determine the level of adoption of ICS in Tanzania. These include, the National Investment Policy, Small and Medium Enterprise Development Policy, The National Environmental Policy, Policy on women in Development in Tanzania, Energy Policy, and the National Budget, just to mention a few. The design of these policies can provide a basis for either attracting investment in the areas that promote the use of ICS or discourage the same.

As it has been discussed in the previous chapter on the Overview of Policy Making Process in Tanzania, it is clear that to a great extent, the architecture of policy development is ruled out by the government. It is the government which decides on the stakeholders to be consulted during the policy making process. Resulting

[9] Tanzania vision 2015 document
[10] Small and Medium Enterprise Development Policy, 2002
[11] Prime Minister Mizengo Pinda during the Tanzania Private Sector Foundation's 14th AGM

from this process is therefore, a document that may not have addressed the pertinent issues that affect the supposed to be beneficiary population.

In this case, to improve the use of ICS, a number of stakeholders need to be well informed. The government has to play its role of spearheading the policy making process. But since the actual investment in the sector is headed by the private sector, then this group has to work hand in hand with the government. It needs also be noted that, as much as the government and the private sector can work effectively, the end user of the products has to be taken into account so as to make investment meaningful.

Traditionally, in Tanzania it is known that the responsibility of food preparation belongs to women and children. This is mostly noticeable in the rural areas where this group shoulder with other roles. It is again more noticeable in those societies where women are less favoured when it comes to education. Much of women's workload stems from firstly, their many responsibilities which include; bearing children and their nurturing, taking care of the family, housework, farming and contributing to the economic production of the family. Secondly, the heavy workload results from traditions and customs, which are strongly based on asymmetric division of labour, accompanied by lack of appropriate technology[12].

Following from the above scenario, any policy, or effort that that intends to promote the use of ICS in Tanzania has to take into account the gender perspective and especially the crucial role of women in the society. Involving this particular group in tailoring of these policies and other strategies will not only emancipate them from the heavy burden that they currently have but also contribute to economic development. This is based on the fact that they spend a considerable amount of time and energy collecting fuel whether from common village land, or farmers' fields. It is estimated that, the time spent collecting fuel sometimes can be as high as one hour per day (World Bank, 2011).

As much as the country has shown efforts in developing these policies, the pace of transforming the beneficiary group seems to be slow. It is not about the number of policies but how well these different policies are aligned together to bring the desired outcomes. It is also about the will by those in power to translate these policies in the short and long term plans of the respective institutions.

Whether one should adopt the use of ICS or otherwise can be attributed to many factors, but policies on ICS use are key to this argumentation. If the existing policies have not identified the problem clearly, then addressing it becomes more difficult. For example, with the understanding that there is high rate of environmental degradation as a result of excessive forest harvesting, the government has invested much efforts to improve rural electrification. In the 2013/14 National Budget, energy is one of the key priority sectors. This tells a lot on the government's thinking, planning and prioritization about the sector. The National budget is a major policy document translating other policies on government commitments.

Looking at various policies, one gets an impression that at least the government has an intention of improving the use of ICS as an alternative to traditional sources of energy. The National Investment Promotion Policy for example has an objective of encouraging the transfer of appropriate technologies and human resource development, including the enlargement and development of local scientific technological capacity. The same policy again aims at promoting the development and growth of small and medium scale industries which serve the domestic and export markets. As such, the policy seems to be informed of the persisting problems.

Apart from the budget, other financial policies have a role also to play when it comes to investment in the country. Access to loans especially by local investors is important. The question here is who has access to loans? Financial institutions need some collateral as a security for the loans. Collateral may include land, buildings, etc. How many women in Tanzania own this kind of property? It is presumed that based on the gender roles that women play in the society, once they have access to financial services they are likely to invest in areas that touch their day to day activities. This may include investing in the energy sector as they have been on the disadvantageous side when the sector is not doing well. It is advised that financial services should be available to both men and women13.

The National Forest Policy of 1998

The National Forest Policy of 1998 has an overall goal of enhancing the contribution of the forest sector to sustainable development of Tanzania and conservation and management of her natural resources for the benefit of present and future generations. The policy has emphasized on the use of alternative sources of

[12] Policy on Women in Development in Tanzania
[13] The Tanzania National Microfinance Policy, 2000

energy as opposed to forest harvesting. Another good element of the policy is that it recognizes the role of the private sector in management of forest resources. In this new policy, the responsibility of managing forest resources will be left in the hands of specialized agencies and the private sector, the central government responsibility will be that of management of forest reserves of national strategic importance. The corresponding Forest Act of 2002 provides enforcement mechanisms to ensure that forests are conserved and promote the use of alternative sources of energy.

It has actually been observed that implementation of the Forest Policy of 1998 and Forest Act of 2002 has resulted in decreased illegal harvesting of forest resources, encroachment, fire incidences and unregulated activities such as charcoal burning and timber harvesting14. Need for joint efforts to combat illegal harvesting of forest is required, especially linking these efforts with the local government authorities. Emphasis has been given to joint forest management between the central government, specialized executive agencies, the private sector or the local government[15].

It has to be noted that, alternative sources of energy are quite plenty in Tanzania; it only remains a challenge on our part on how best we can make use of this potential. For example, the total hydro-power is estimated at about 4,500 MW, with an output of about 20,000 GWh per year. Of this potential, only 330 MW has been developed[16]. Since reliable power energy by itself attracts investment, the government should devise appropriate mechanisms to ensure that the available hydro power energy is developed.

The Economic Empowerment Policy

The Economic Empowerment Policy, whose primary objective is to provide general guidelines which will ensure that the majority of the citizens of Tanzania have access to opportunities to participate effectively in economic activities in all sectors of the economy, is one of the promising policies that can encourage the use of ICS. The Policy is intended to address all economic empowerment needs of the individual citizens of Tanzania and local companies in which Tanzania citizens hold not less than fifty per cent of the shares. Unlike other policies, this one seems to be quite informed of the environment and as such it proposes several strategies which may help local investors to utilize both local and foreign market. Amongst these strategies include; facilitating production of high quality products at competitive prices and encouraging the use of modern technology in economic activities.

Making sure that policy objectives are fulfilled, the government of Tanzania enacted the Economic Empowerment Act in 2004. Just as the policy itself, this law has instituted strategies that will enhance economic empowerment. Under this law, there has been an establishment of a National Economic Empowerment Council which has the main aim of implementing the Empowerment Policy. It does this by providing Tanzanians with the opportunity to participate in economic activities, encouraging and promoting savings, investment and meaningful economic participation by Tanzanians, promoting and supporting business ventures pioneered and run by Tanzanians as well as managing, administering and identifying sources of grants and donations for fund. This is therefore an area where local investors can make use of and improve the ICS sub sector.

National Energy Policy of 2003

In addition, the National Energy Policy of 2003 provides yet another opportunity that can encourage the use of ICS. The policy underscores the fact that there cannot be sustainable development in the country without reliable and sufficient sources. It therefore aims at providing an input into the development process of the country through establishment of an efficient energy production, procurement, transportation, distribution, and end use system in an environmentally sound and sustainable manner.

The energy policy is best placed as it understands the role of different players in the energy sector and especially the private sector as well as the impact of smoke and cabon dioxide produced as a result of the use of charcoal and firewood. The search, collection, and use of fuel-wood are associated with heavy and often low-productive time-consuming work, mainly performed by women. It also represents a serious health hazard through smoke and carbon dioxide generated by application of inferior stoves/fuel types[17]. The energy policy, therefore, introduces an institutional focus on improvements of rural and semi urban energy practices in order to reduce women workload and to involve them in the problem solving and decision-making processes on energy issues. Women are under represented on the supply side of commercial energy. The policy therefore calls for prioritization of women in the energy sector.

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[14] K. F. S. Hamza and E. O. Kimwer, 2007
[15] Ministry of Natural Resources and Tourism, 1998b
[16] The National Investment Promotion Policy, 1996
[17] National Energy Policy, 2003

National Health Policy

Despite the above, the National Health Policy which aims at providing direction towards improvement and sustainability of the health status of all people, does not recognize health threat with the same magnitude paused by use of firewood and charcoal. As such, the policy misses strategies aiming to influence ICS use and as one of mechanisms to off-set health threats in the community.

As much as young people would want to dwell into the industry of ICS, a need to ensure spaces for learning technical education is important. Technical education can provide a means to help individuals learn different skills which they can employ to generate income. Currently, there are limited places for vocational, technical, secondary and higher education available to young people and adults. There is need to prepare more young people to access to available job opportunities and create work to employ themselves on a self-reliance basis[18]. On the other hand, there is need for adults to have access to vocational education and training. They could be encouraged to learn skills on how make improved cook stoves in an efficient way and win the available market.

As long as the government does not engage in real investment but in creating a fair playing field, the role of the private sector in facilitating investment in the country is of paramount importance. Amongst other programs, the sector aims to strengthen the entrepreneurial culture of Tanzania by providing entrepreneurs with business ideas and start-up firms with risk grants, thereby enabling them to either start or upgrade a business. Currently, the government is working with the sector in preparation of the National Development Policy for the private sector in the country.

The National Micro-finance policy

The National Micro-finance policy covers the provision of financial services to households, small holder farmers, and small and micro enterprises in rural areas as well as in the urban sector. Local investors should take advantage of the local market by securing financial services to invest in the ICS sub sector. To make these financial services accessible to all, incorporating special efforts might be necessary.

The government of Tanzania has recently replicated a Malaysian model by developing a project which is expected to yield big results quickly. The Big Results Now (BRN) initiative is expected to earn quick results through the adoption of new methods of working which will be implemented under specified timeframe. The initiative is supposed to keep track of the development projects so as to realize the big results. Of interest here is that Energy and Natural Gas is among the six priority areas that will receive the attention of the initiative. This is another opportunity that could be used by investors to enjoy the environment and invest in the energy sector and more specifically in the ICS sub sector.

Sometimes policies are well framed, but without accompanying laws and strategies are ineffective. The National Investment Policy for example states clearly that it will create conducive climate for both local and foreign investors. It also encourages locals to develop indigenous ownership and improve their technology. This commitment in the policy is however missing in the Tanzania Investment Act. In this Act, foreign investors have been given priority over the local investors. Throughout the Act, local investors have been mentioned a few times. Foreign investors have received more attention at the expense of locals. It can be observed that even as much as the locals have problems to access capital, but the Act explains on how foreign investors can be assisted to obtain credit[19]. It is also assumed that disputes will only be between the foreign investors and the government. As a result of this assumption, the section that covers the settlement of disputes targets only foreign investors ignoring the fact that even the local investors can at times be at logger heads with the government.

While the investment policy encourages and promotes participation of local entrepreneurs, reason behind weak investment base is lightly addressed in the Investment Act.

The social economic transformation of Tanzania will be dependent not only on establishing a conducive and enabling environment for investment but also on the deliberate efforts to promote the development of productive economic sectors20. The need for supporting local investors cannot be underestimated.

It has also been observed that, the promotion of advanced cook stoves that can use biomass, charcoal, or coal cleanly and efficiently is not attractive to the private sector due to low affordability among poorer

[18] Education and Training Policy, 1995

[19]

[20] The National Investment Policy, 1996

households, the main target group21. As long as investors are interested in profit making, doing business with the poor population is not something that they would like to entertain as the possibility of reaping profit is far less realistic. In principal, any investment takes into account the market of the product that it produces. It is quite true that there is no investor who will venture into a business where the market is not guaranteed.

Currently, the forest sector in Tanzania administratively operates under three parallel structures, Forestry and Beekeeping division under the Ministry of Natural Resources and Tourism, the Regional Secretariat which is foreseer of all natural resources in the region, and Local Government Authority which predominantly owned and managed the local government forest reserves (MNRT 1998a). In such a case, it should be ensured that these structures do not contradict with each other. Most importantly, it has to be ensured that the local government authorities have the needed skills to translate these policies and implement them accordingly.

It is worth making the following key observations:

ICS sub sector exist without vision. This makes market development strategies and interventions ineffective. Most policies are supposed to create sector and sub sector enabling environment. Little is known if most policies have corresponding strategies, participation of stakeholders in the performance measures. There is weak policy understanding and it contributes to underutilization of available opportunities. Stakeholders are quite certain that it is possible to benefit from existing policy settings and instruments There is limited capacity to implement and translate policies for common people to understand and benefit22. Without much understanding, the common people disengage from good governance practices.

Stakeholders proposed the following:

Establishing Policy Working Group
Develop policy Working Groups within TAREA to deal with stakeholder involvement in policy the development, regulation and enforcement. Re-constitute ICS Task Force to uphold Working Group

Develop ICS sub-sector vision
As part of ICS vision development, enlist sub-sector priorities and linkages.

Market development strategies
Given size of the sector and its contribution to GDP, it is important to develop multiple strategies to accelerate sector growth. This could be through various models of inclusive business and value chain development.

Effective use of policies
As part of industry growth, effective use of policies to support private sector-led instruments, use of research and development and engage appropriate business models to realise high impact.

Resource mobilization
Even with vision, strategies and plans, mobilising resources to support interventions is necessary. Developing potential high impact programs with much relevant to country ICS vision and priorities have significant role in the success or failure of ICS market.

Operationalizing policies within local governments
Operationalizing policies require supportive setting at central and local government levels. Holding duty barriers to account and enforcing by-laws, could contribute significantly to market and the industry development.

[21] World Bank 2011a
[22] EAC Strategy to Scale-Up Access to Modern Energy Services, 2008

5. Policy Planning, Implementation and Enforcement

All energy issues fall under auspice of Ministry of energy and Minerals (MEM) together with corresponding sectoral Ministries and agencies. Apart from MEM, Ministry of Finance, Ministry of Natural Resources and Tourism (MNRT), Prime Minister's Office Regional Administration and Local Government (PMO-RALG) provide axis of policy planning, implementation and enforcement. Policy implementation and enforcement are mainstreamed within council settings.

Through various by-laws, Local Governments are responsible for implementation of policies such as Local Government (district Authorities) Act No. 7 of 1982, Local Government (Urban Authorities) Act No 8 of 1982, Local Government Finances Act No. 9 of 1982, Local government Services Act No. of 1982, Local government Negotiating Machinery Act No. 11 of 1982 and Decentralization of Government Administration (interim provisions and Amendment) Act No 12 of 1982.

Most ministries deliver their respective policies through councils. Regional administrative secretariat determines policy guidance23.

Policy development, implementation and monitoring process is supported with key development policies such as National Strategy for Growth and Reduction of Poverty (2010, NSGRP), Tanzania Assistance Strategy (TAS) of 2002 later updated to Joint Assistance Strategy for Tanzania (2006) which up-hold the objective of providing a framework for partnership and strengthening donor coordination, harmonization, partnerships, national ownership in the development process and procedures for making aid more effective and simpler to manage. Poverty Reduction Strategy Paper (PRSP), Tanzania, Development Vision 2025 and National Poverty Eradication Strategy, National Strategy for Growth and Reduction of Poverty (NSGRP), Tanzania Assistance Strategy (TAS), Poverty Reduction Strategy paper (PRSP), The Tanzania Development Vision 2025 and The National Poverty Eradication Strategy. Women and gender development policy focuses on reducing the inequalities and specific gender issues.

Operationalization of also take into involvement of government agencies such as Tanzania Investment Centre (Investment, incentives), National Development Corporation (investment), Small and Medium Enterprise Competitive Facility (financing), TIRDO, SIDO, COSTECH, REA (rural electrification, public-private partnerships, financing) and CARMATEC (research and development), VETA (vocational education). Other institutions include Tanzania Forest Fund and REA (financing biomass).

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[23] *Local government refers collectively to administrative authorities over areas that are smaller than a state. The term is used to contrast with offices at nation-state level, which are referred to as the central government, national government, or (where appropriate) federal government. "Local government" only acts within powers delegated to it by legislation or directives of the higher level of government. (Wikipedia Encyclopedia).*

Common names for local government entities include state, province, region, department, county, prefecture, district, city, township, town, borough, parish, municipality, shire and village.

For administrative purposes, Tanzania is divided into 26 regions; 21 on the mainland, 3 on Zanzibar, and 2 on Pemba. 99 districts have been created to further increase local authority. These districts are also now referred to as local government authorities. Currently there are 114 councils operating in 99 districts, 22 are urban and 92 are rural. The 22 urban units are classified further as city (Dar es Salaam, Tanga, Mbeya, Arusha and Mwanza), municipal (Dodoma, Iringa, Kilimanjaro, Morogoro, Shinyanga, Tabora), and town councils.

Given expanding market economy, more regulatory and enforcement instruments are necessary. Such institutions include National Development Corporation, Tanzania Industrial Research and Development Organisation, Commission for Science and Technology, Consumer Consultative Council, Tanzania Bureau of Standards and Energy and Water Utility Regulatory Authority.

Private Sector Policy Landscape

As it the case for any market economy, our country appreciates the role of Private sector. Despite its small in size, use of various instruments available through private sector organisations provides opportunities to support SMEs development are more relevant and could contribute significantly to market development of biomass driven technologies and services, including those around ICS sub-sector. Strategic institutions remain as Tanzania Chamber of Commerce Industry and Agriculture (TCCIA), Business Environment Strengthening (BEST AC), Confederation of Trade Industry (CTI) and Tanzania Private Sector Foundation (TPSF).

Use of private-sector platforms and networks such as Joint Energy Strategy Group provide policy firm-up platforms to support policy review, guidance and lobbying for policy improvement.

Oversight Partners

While government is responsible for policy development, CSOs are responsible for oversight functions. These difference functions need to be well appreciates and respected to enable policy development, implementation and enforcement to remain relevant and resourceful.

Civil Society Organisations are important part of the sector and sub-sector development. Furthermore, CSOs are strategic in mobilising resources – experts, experience and platforms and partner in good governance in the policy settings.

Development partners

Energy sector, including renewable energies, improved cook stoves and biomass sub sectors have benefited from numerous programs within north-south and south-south partnership framework.

Possible potential to support biomass, renewable energy technologies and improved cook stoves sub sector growth in Tanzania includes use of networks and private sector led platform such as Joint Energy Strategy Review framework. Experience from past bilateral projects within USAID, GIZ, DFID, DGIS, NORAD and UN agencies provide good learning ground. Initiatives such as "Sustainable Energy for All (SE4ALL)"24 should provide lessons and linkages to national programming.

Policy planning, implementation and enforcement brings-in several lessons worth enlisting. This includes possibility and potential partnership between public, private sector and CSOs to enhance policy environment within government priorities. Furthermore, involvement of CSOs constituency in the policy influencing is very relevant components in the national stove program building25.

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[24] UNDP is implementing an ambitious programme on "Sustainable Energy for All (SE4ALL)", which was launched by the UN after the RIO summit in 2012. The programme aims at providing modern energy services for all by the year 2030. It identifies gaps, national plans and investment required.

Tanzania is among the first tier countries. UN is ready to invest to bridge the gap, double renewable energy contribution, improve efficiency and achieve access to energy for all. Ongoing projects being supported and implemented by UNDP are the small grants projects; low energy/efficient energy project. UNDP is working with MEM on scaling up of renewable energy projects. It has given USD 1 million to develop a USD 10 million project. Through other initiatives MEM will be able to bundle all potentials.

[25] Study by REPOA on barriers by NGOs in influencing government policies indicated that "lack of interest by government in the views of NGOs" was the most frequent faced barrier (21%). A further 16% complained of political and legislative barriers, including lack of access to key officials. These 'legislative' barriers were felt to exclude none state actors from the dialogue"

It is being realised that range of possibilities exist within current policy settings. Development of strategic alliances with private sector expands opportunities to support sector and seb sector growth and its significance to the country economy. It is worth explore potential opportunities within
Pension Funds to support capital intensive ICS product development
Tanzania Forest Fund , SMEs Competitive Facility
Councils should invest in capital markets, municipal bonds and environmental funds.
Inform private sector of the possible investment opportunities to invest in stock markets to finance conservations.
Use council bonds, PPP and others to finance long term project within RETs and biomass sub sectors.
Use Feed-in Tariffs, forest bonds, climate related and others to change sub-sector landscapes.

Lack of political pluralism, transparency and a level playing field were also considered to act as constraints to effective engagement in the policy process". NGOs lacked the knowledge or resources to articulate the vision and influence policy. The study also observed that NGOs were unable to understand how to avoid confronting the government as adversary, which is counterproductive.

The study indicates that policy advocacy takes long time and it is hard to get the government to listen[25]

6. Policy related effects on cross-cutting issues

Cross-cutting issues in relation to current energy policy setting

Current Energy policy identifies energy efficiency and conservation, energy trade and cooperation, energy information system, environment, health and safety as cross-cutting issues.

Other cross-cutting issues include investment, gender issues and capacity building. Within government there could be cross cutting policy and strategy. Its effectiveness is less popular within stakeholders group. Without cross-cutting strategies, mainstreaming such issues within lower structures of policy implementation adds to constrains.

Study on Financing Renewable Energy in Developing Countries by UNEP – Drivers and Barriers for Private Finance in Sub-Saharan Africa identified three set of barriers.

Table 02: Set of Barriers and Drivers are summarized

Set	Barriers and Drivers	Focus
Set 01	The cost, profitability and competitiveness of renewable energy options in SSA	Policy solutions at national levels
Set 02	Energy sector infrastructure in SSA	Energy sector reform and the need for renewable energy policies
Set 03	Financial risks in Renewable energy and SSA context	Risk landscape in SSA and risk mitigation instruments

Energy sector is a cross-cutting in itself as it drives other sectors of the economy and without it, performance of the economy slows-down. There are several cross cutting issues with much significance to biomass and ICS sub-sectors. Usually, gender justice, equal employment for all, HIV/AIDS Good governance and accountability are necessary features. More impactful is the implications of Indoor Air Pollution (IAP) to women and children and recycling.

As policies are operationalized within LGAs framework, stakeholders proposed inclusion of governance, accountability, corporate social Responsibility and Pubic Private Partnerships as part of cross cutting issues. Several policies are expected to be implemented accordingly if councils improved governance and accountability mechanisms. Using existing by-laws, it was possible to create enabling environment to support ICS market development. Stakeholders strongly tendered several cases supporting the need to re-set institutional architecture to address supply and demand sides interventions. Lake Zone Market Intelligence, for instance clearly indicate inability to address current household energy issues within current council setting.

Furthermore, stakeholders were of the opinion that it is important to add equally opportunities for all, recycling, gender, climate change and indoor air pollution as part of cross-cutting policy features. Commercialization of Improved Cook Stove within rural setting remains another hurdle given poverty levels and other socio-economic contexts. Experience from Program for Basic energy and Conservation (ProBEC) indicated possibility of bundling energy with other services.

While the current policy is mission-driven, it is without corresponding targets and strategies to realise such targets within policy setting. Introduction of Big Result Now provide opportunity for policy change and achievements.

It therefore worth advocating for:-

Re-aligning sub sector vision with country priorities and strategies

The country is led by National Five Year Development Plan, National Strategy for Growth and Reduction of Poverty (MKUKUTA II) and Vision 2025. MKUKUTA II recognise prevailing situation and have set target to achieve national targets and MDGs. All documents set various targets, including education, health, energy and water and environmental health[26]. Despite significance of biomass energy within sustainable

[26] MKUKUTA 41pp

development context, it misses equal weight within the National Five Year Development Plan. Biomass policy development therefore is important.

The country braves with the Five Year Development Plan, MKUKUTA II, Energy Master Plan and Rural Electrification Program as strategic socio-economic instruments to realise Vision 2025. Of recent, Big Result Now has been introduced as the main reference of government commitments to deliver results and investment build-ups. Role of councils and private sector remain elusive within local government administrative structures and performance.

With the introduction of "Big Result Now", little is understood and become very clear of cross cutting strategy.

Decision making architecture

There is weakness caused by political influence than expert-driven decision-making between national and local levels, more significantly is the political landscape and resource allocation within councils. Principles of good governance and accountability are less clear at council levels, making it difficult to ensure expert provide sound opinion in environmental and energy sectors.

Effects of poverty on energy ladder

About 75% of the population live in the rural. Almost the same number of rural inhabitants lives in adjective poverty. People with less than one dollar a day are more unlikely to migrate into much cleaner fuel. While policies recognize energy ladder, priority strategy to support rural population off-set current threat remain elusive. In this regards, rural population remain the main victim of indoor air pollution and significant number of women and children remain afflicted.

According to Global Alliance for Clean Cookstoves, the potential target market for improved biomass cook stove is probably comprises a population of less than 1million households. This leaves a large number of households rural households unlikely to be influenced through market mechanisms. For instance, use of carbon finance, government subsidies among others could be used to subsidizing costs to rural consumer.

One size-fit all sizes, goalless

Current energy policy has limited market segmentation. It is important to include rural and urban youth, people with special needs, role of civil society organisations and private sector involvement.

More important good policy should include good governance and accountability. Many council exclude renewable energy in its plans due to limited understanding. Therefore allocate no resources, even when there is much awareness about potential benefits of renewable energy.

It is important to ensure that people from different groups – men, women, children and people with disability are included and More important at the moment is explore sustainable forest harvesting well linked to biomass value chain financing within policy framework.

Current energy policy has no targets. Several countries, including South Africa and Rwanda set policy targets and standards. Including targets within policy framework will facilitate tracking of MKUKUTA II and MDGs targets.

Weak base of biomass technologies

There are several products – within RETs and Biomass framework which are out dated, inefficient and polluting and without standards in Tanzania. Stakeholders have indicated that it is expensive or resource needful to migrate to clean and efficient biomass, renewable or modern energy technologies. Well known adoption barriers include lacks of knowledge on benefits, lack of research on consumer needs and cost.[27]

There are various options to off-set prevailing challenges:
Develop incentives within policy framework that facilitate smart exit through energy audit, operating lease and clean energy mechanisms among others.
Implement projects with significance to policy influence, biomass energy technology transfer. Programme for Basic Energy and Conservation for instance brought-in several resourceful lessons. Being part of the SADC region, the program facilitated regional biomass energy exchange.
Involve development partners, South-South Cooperation framework and UN agencies. There is already on-going discussion between MEM and UNDP on various projects.

[27] Global Alliance for Clean Cookstoves

Zero rating import taxes or introducing subsidies that facilitate fuel switch
Introduce Quota system on biomass technology importation. This will increase competition and quality improvement in the sub-sector.

Weak of coordination and common sharing infrastructure
Since there are many structures and institutions with limited coordination of programs or initiatives related to ICS, it is complex to avoid repetition of the same project, strategies and technologies. Establishment of country's Biomass database will keep information regarding technologies, research and development.

Strong knowledge management would take the market and the industry to the next level. Without investing in information, communication and technology, coordination and sharing would remain elusive.

Wrong-perception REs/RETs/Biomass products, service and industry
There are air pockets of understanding renewable energy, renewable energy technologies and biomass. Limited understanding across the population has contributed to this variation. This_perception is wrong and effects investment appetite and sector growth. Urban inhabitants for instance have adequate resources and access to financial services to invest even far from their location. In fact, urban inhabitants are more strategic towards investing in Feed in Tariffs using Solar PV using high number of open roofs (green economy) than rural market. Similar experience could be exercised using biomass-driven technologies for Feed in Tariffs.

Furthermore, high charcoal demands in most urban, including Dar es Salaam sanction the need to reposition current understanding of Biomass. If well tailored, the sub-sectors are strategic towards overcoming poverty.

Weak incentive base
The country has witnessed massive importation of solar, which have contributed to rural electrification and business opportunities. Health centres and schools for example have benefited from Solar PV market development program. Probably, it has contributed to increased access to rural electrification from 9-14% over the decade.

According to World Bank, providing tax-incentives is insufficient to attract large foreign investment if other conditions such as good quality infrastructure, low administrative costs of setting-up businesses, political stability and predictable macro-economic policy are in place.

While it is true and correct that tax-based incentive creates and development markets, embedding incentives within product value chain system have long term effects and high impact. Being source of revenue source to the government, it takes time to be convincing authorities abolish taxes. If pro-tax incentive is necessary, then building strong business cases demonstrating merits and demerits could help with the lobbying before policy makers.

There are other non tax-incentives worth exploring such as biomass tax credit, Quota system, non-tariff barriers in East Africa and SADC.

Lack of creativity and innovation to support scaling-up
Most of the 'stakeholders' are non profits. Their main source of revenue is development partners. Despite on-going debate about development or commercialization, non profits sector is more unlikely to appreciate role of private sector since it kill their source of revenue, donor.

With innovation, even with non profits sector can take-up a much broader role such as resource mobilizing. For example, Eastern Arch Mountains Conservation Fund (EAMCEF), a non profit invests in the capital markets to finance development activities around Eastern Arch Mountains. ICS is among its package support to communities living adjacent to forests.

Likewise, lack of creative business models that demonstrate clear benefits limit financing possibilities. Use of municipal bonds, for example is possible to finance small business creating with high multiplier effects

Low research investment, development and use
The country allocates 1% of the GDP for research and development. Little is known about actual spending, target and eligible institutions, prioritization and benefits.

For example, public institutions offer research and development such as COSTECH, TIRDO and SIDO offer cluster and incubation packages. Effective use of PPP policy for example is strategic towards improvement research, capacity and market development within private sector.

High cost of doing business

Tanzania is considered high cost country, affecting its competitiveness and market development. High cost of doing business affects formalization drive, limiting small business to business development and access to financial services. Very low use of information, communication and technology in the decision making architecture contribute significantly product high prices. Without investing in supportive infrastructure, cost of doing business will remain high and transferring to consumer will affect product consumption.. This cost usually affect firms to compete against import since most locally produced products end-up expensive than imports.

Table 1: Barriers of Doing business (2010)

Indicators	Situation in Tanzania
Percentage of the population using improved cook stove	Less than 1% (400000 HH)
Penetration of credit unions	3.87%
Lending interest rates	14.5%
Easy of doing business score	Rank:127 of 183[28]
Infrastructure strength score	2.37/7.00
Starting business score	Rank: 123 of 183
Getting credit	Rank: 98 of 183
Protecting investors score	Rank: 97 of 183
Trading across borders score	Rank 92 of 183

Source: Global Alliance for Clean Cook Stoves

Similarly, high cost of doing business in Tanzania is largely contributed by bureaucracy within public sector and non tariff barriers. This affects country and products competitiveness in the region. Even with tax exemptions, high operational costs make product prices expensive. It is the reason, for example imported improved stove become cheaper than locally produced stove.

Lack of Recycling RETs/ICSs frameworks

Renewable energies provide great opportunity to save environment. Despite its significance to environment, inexistence of recycling literacy poses a major health and environmental threats.

Likewise, policy, strategies and legislative opportunities to finance recycling renewable energy technologies remain elusive. The public, for instance is unaware of how to recycle renewable technologies. It is therefore critical to educate the public about reduce, reuse, recycle concept. Mainstreaming Reduce, Reuse Recycle concept through ordinary education system and workplace program can reduce environmental and health impact.

Without developing incentives to support recycling, the industry will remain equally pollutants. Financing recycling initiatives within industry provide an opportunity to mitigate the problem.

Scarce financing opportunities

Financial industry is regulated under Central Bank Act with several corresponding policies such as Financial Industry policy, microfinance policy, Small Business policy, Cooperative societies Act Nr 20 of 2003.

According to Finscope Survey (2009), financial market is organised into formal, semi-formal and informal institutions. It establishes that formal institutions in Tanzania serve 12.4 % of the beneficiaries, while semi-formal, informal and the excluded accounts for 4.3%, 27.3% and 56%, respectively. This implies, the excluded segment forms the largest group in the population. Of the country's 45million people, 75% of the population live in rural areas and only 13% of the rural population are served[29]. This implies that the majority of the population excluded from realities of business development services, including financial services. Deployment of public instruments to stimulate financial market remains relevant and important.

[28] 1 as the best

[29] FSDT, ibd

There is limited awareness of renewable energy subject among financing institutions. It is therefore perceived as risky venture by financial service providers, limiting financial services to support ICS sub sector growth. There has been number of financial institutions involved in financing renewable energy, particularly Solar PV. According to Central Bank, number of MFIs offering financial products have increased. Pace of growth of financing renewable energy still remain slow and small as compared to ICS sub-sector industry growth needs. Most financial products target Solar PV than full range of energy services across the value chain. This indicates limited knowledge about the meaning of renewable energy. It included a range of technologies and services. Little is known about financing biogas, sustainable tree harvesting, sustainable charcoal through improved kilns and other energy services.

Moreover, the policy needs to include innovative financing instruments which facilitate cross sectoral linkages such as ranching, biogas and Feed in Tariffs (FiT), energy audit to finance smart exit of out dated technologies such as biomass boilers, high-density electric bulbs against LED bulbs among others.

Envisaged biomass policy should provide incentives attracting small enterprises to migrate into cleaner energy technologies, expand financial goalposts, and create enabling environment within district councils framework.

Clear strategies are necessary to ensure the sub sector contribute to socio-economic development. It is from policy perspective that it is possible to link performance towards MKUKUTA II and MDGs goals.

Financialization and commoditization of biomass is critical feature in the sub-sector development. More important, the industry stakeholders should strive to educate financial sector about potential opportunities within renewable energy sector. Developing business models will help financial institutions understand potential risks and available opportunities and possible mitigation risks. Developing partnership products, testing and rolling out creates relationship.

Lack of grassroots structures to advocate for biomass energy issues

It has taken a while to advocate for institutional re-set within local government, particularly councils set-up. Structure within councils demands energy issues to be realised within environmental perspective. This perspective addresses supply side factors making it insignificant within market economy settings. One of the expensive undertakings is to advocate for this perspective. It is advised that to explore how to use existing institutional set-up can be used to advocate for envisaged improvement.

Little is known about the need to change this perspective. Developing high impact business cases against and for current situation could contribute to situation improvement and even change of perspective.

Study by EAC Strategy to Scale-Up Access to Modern Energy Services organise major gaps under mainstreaming energy, institutional and policy frameworks, enabling policies and frameworks, appropriate financial mechanisms, business models and capacity building.

Similarly, the study identifies energy as donor driven agenda, expensive and poor means of transforming energy resources into useful forms, dwindling biomass reserves and weak multi-sectoral holistic approach, no energy sector representation at regional, district and local levels. It is establishes that the current energy policy has no implementing strategy and their no local financiers of clean energy.

Among enlisted actions include development of incentive system, develop coordination mechanisms, promote appropriate technologies, facilitate tailor made capacity building, selecting, implementing appropriate business models and assess financing options for service providers. This report however falls short of differentiating demand and supply side factors and their significance in addressing prevailing constraints. Private sector has substantial impact in attracting trade, investments and financing bridges demand and supply side factors. With weak private sector, public sector has to take lead and balancing role.

It is worth summing-up as follows:

- Matching policy gaps with corresponding mitigation measures will need engaging various strategies. Using Policy Working Group for example, it is possible to mobilise resources to support expert sessions that organise series of activities to advocate for change or improvement.
- Participation will enhance regulation and enforcement.
- While demand side demonstrates weak investments potential to match to expanding sector growing potential. Involvement of private and CSOs in the policy-making process, regulation and enforcement remains most relevant features today. Involvement of private sector in this case, increases access to business development services such as training, financing, technical assistance,

research and development, financing and market linkages. All these have significant impact on small businesses, local government and central government in terms of business development, market regulation and enforcement.

- See, charcoal business formalization, for example would increase possibilities of enforcement, sustainable harvesting, government revenues and expansion of business development services. As registered enterprises, charcoal producers could access business development services such as finance to adopt improved kilns, sustainable harvesting practices, eco-packaging and transport among others.
- From supply side, it is worth organising current constraints within policy development process, implementation and regulation. Demand side constraints seek use of technologies, innovative approaches and investment from the relevant private sector cores such as use of PPP as incentives to attract investment, insurance and business development services within ICS sub-sector.
- Develop, test and disseminate business models to support investment appetite. Such business models should pull together number of benefits derived from policy and operational incentives. Industrial park for instance, with opportunity to financial, training and market access could provide supportive platform.
- Explore "bundling effect" between business and development (smart partnership using various arrangements such as PPP, inclusive business and embedded supply chains)
- Explore potential existing within between South-South Cooperation as a platform to support technology transfer.

7. Potential Incentives to Support Scaling up ICS Sub Sector

7.1 Overview of Incentives System in Tanzania[30]

Tanzania has put in place investment incentives which provide a soft landing platform to all investors during the initial stage of the projects implementation. These incentives are both fiscal and no-fiscal and are provided under four major schemes/legislations such as Tanzania Investment Act 1997, export Processing Zones Act 2002, Mining Act 1998 and Special Economic Zones Act 2005. There are several other incentives provided in different sectoral policies.

Tanzania Investment Act 1997 for instance, awards Certificate of Incentives, Strategic Investor Status and Import Duty Draw Back Scheme. Certificate of Incentives are offered to investors under the Tanzania Investment act, 1997 can broadly be categorized into fiscal and non-fiscal incentives while Fiscal incentives refers to import duty and VAT exemption on project/capital goods. Import Duty Draw Back Scheme includes refund of duty charged on imported inputs used for producing goods for export and goods sold to foreign institutions like UN and its agencies operating in Tanzania.

Non-fiscal incentives refer to Immigration quota of up to 5 people and guaranteed transfer of net profits or dividends of the investment, payment in respect of foreign loans, remittance of proceeds net of all taxes and other obligations, royalties fees and other charges and payment of emolument and other benefits to foreign personnel

Strategic Investor Status targets large projects of over US$ 20 million offering specific/great impact to the society or economy, Investors can request for special incentives from the Government

Import Duty Draw Back Scheme refund of duty charged on imported inputs used for producing goods for export and goods sold to foreign institutions like UN and its agencies operating in Tanzania.

There are tax incentives granted for investments outside Freeport and Free Economic Zones. This include those targeting construction stage of an approved enterprise or approved domestic enterprise, the enterprise shall be exempted from customs and import duties and other similar taxes on machinery, equipment, spare parts, raw materials, vehicle and other goods necessary and exclusively required by that enterprise for construction. Similarly, tax incentives on raw materials for trial operations of an approved enterprise or approved domestic enterprise may be exempted from import duties provided that the quantity of such raw materials does not exceed eighteen month's supply for one shift production operation. It is possible, under the related tax incentive to secure 5 years tax holiday.

Across the World, markets are developed and remain competitive due to various incentives systems in place. Of all, tax incentives are more effective instrument especially in altering behaviour of firms and individuals[31]. More governments are returning to tax-based on non tax incentives to promote renewable sources of power generation such as tax credits, grants, tax holidays, accelerated depreciation. Likewise, governments can play a role in discouraging carbon emissions by enforcing taxes and penalties such as carbon tax and pricing, cap and trade schemes, indirect taxes among others. At least 83 countries – 41 developed/transition countries and 42 developing countries – have some type of policy to promote renewable power generation[32].

Lessons from World's top five – China, US, Germany, Spain and Brazil

Chinese government's support for renewable in China includes reduced corporate incomes taxes, significant reductions in value added taxes, other related tax incentives, feed-in tariffs and operators of renewable energy projects to compensate for their costs.

[30] Tanzania Investment Centre
[31] Carol Ghiollarnath, Maastricht University
[32] Taxes and Incentives for Renewable Energy

US government support for renewable include cash grant programs and tax credits for production and investments. In additional, a renewable portfolio standards (RPS) program places an obligation on electric supply companies to produce a certain specified fraction of their electricity from renewable energy sources.

Germany has well developed system of incentives for renewable energy generated from solar, biomaterial heating and hydro extractor technology. Government owned KfW provides various subsidies and support programs.

Spain offers tax free depreciations, reductions of income from certain intangible assets, capital duty exemptions and tax allowances on local taxes.

Brazil has special tax regime for importers and exporters. The country offer Feed-in tariffs for renewable, including biomass.

7.2 Lessons from the Top Five

There is high Research and Development use, high private sector participation, availability of wide range of tax and non tax incentives to scale-up market development and wide state support in terms of grants and institutional set-up.

Such incentives includes R+D tax concession, quota, R+D investment, carbon financing, forest bonds, carbon capture strategies, Feed-in Tariffs, establishment of basket funds, council bonds, biomass tax credit or establishment of green fund scheme (Netherlands). Other incentives include be capacity development (training, advisory services and marketing), production tax incentives, Loan Guarantee Program[33] and credit for investments in advance energy property. There are also tax-based and non tax incentives. Of all incentives, studies indicated that creating enabling environment has the most sustainable and long term implications.

Various references indicate that tax-related incentive is one way of developing markets. Solar PV currently enjoys zero-rate with the objective of stimulating outreach market. Tax-related incentives are effective when many other factors are also taken into considerations. Such issues include low inflation, low cost of doing business and specific targeting. Of course, demand and supply in the World markets is subject to affect zero-rating importation and end user product price.

Extending Zero-rated tax incentives to include technology and services such as biogas, briquetting and ICS would contribute to industry growth and contribution to the economy. With no priority order, stakeholders were of the opinion:

Incentive policies are still largely political determined in Tanzania. This perception affects investment appetite, business formalization and overall industry growth.
High cost of doing business affects effectiveness of incentive policies. Bureaucracy affects business operations and render large chunk of biomass-related products and services expensive and less competitive.

Regulating policies within an informal sector setting is expensive, with minimal returns. Furthermore, policy monitoring is an essential feature of policy implementation.

It is therefore worth recommending the followings:

- It is significant to appreciate lesson from Solar PV tax-based incentive. Despite the fact no local on impact of Solar PV, but scientific evidences, tax-based incentives pose enormous opportunity to drive the economy.

- Promote progressive tax-related incentives, particularly to attract business formalization. There is still dispute on tax-based incentives over non tax incentives in stimulating the market. A study conducted by Policy Forum indicated the disadvantages of tax incentives vastly outweigh the

33 Loan Guarantee Program guarantees loans to eligible clean energy projects by guaranteeing to repay the borrower's debt obligation in the event that the project is unable to pay back its loan. This gives investors much more confidence in financing renewable energy technology projects because it guarantees a payback, even if the project is unsuccessful (Sun and Wind Energy, 2011)

advantages and that such incentives are not needed to attract Foreign Direct Investment[34]. International Monetary Fund notes that available empirical evidence confirms that investment incentives, particularly tax incentives – are not important factor in attracting foreign investment. Across the World, tax-related incentives remain popular and show immediate result. Experience in Germany, United States and Brazil proves that tax-based incentives create more benefits to economy.

- Given our economic performance level and immediate results, it is important to advocate for incentives aligned to existing policies. Tax-based incentives are strategic towards influencing behaviour of investors, consumers and spreading benefits to the target population. At the start, it is advised to take stock of existing policies offering incentives. Stakeholders, through TAREA could organise joint Policy Review under envisaged Policy Working Group.

- Promote strategic arrangements that support policy influence, market development and formalization. Influencing policies demand wide understanding of stakeholders of loss and gains of various actors across biomass and ICS value chain.

34 www.policyforum-tz.org/files/ARacetotheBottom.pdf

8. Potential Policy Coverage and Priority Settings

At national and local levels, there are potential policy improvements and priority settings. With no priority order, stakeholders propose the following priorities worth including in the national ICS program document: -

- Develop Vision and define broader RE/ICS/Briquette significance within country plans, strategies and vision. This includes advocating for inclusion of biomass, ICS and briquette in the BRN targets.
- Promote standardization of ICS, RETs and briquette
- Develop incentives to attract ICS sub sector players formalization strategies. It could be linked to country's industrialization, empowerment and research and development strategies
- Develop and promote effective business models to attract ICS value chain businesses to benefit from business development services. An effective strategy to attract small business to formalization is through lobby for special incentive scheme.
- Use of regional and global experience to bench mark country result path, strategies and prioritization within country energy mix
- Advocating for supportive institutional set-up and embedding incentives within councils. Developing PPP projects could be strategic in this regards.
- Promote strategic partnerships and networking. This includes developing a common platform to share ICS sub sector issues. TAREA could establish a Policy Working Group as part of advocating for policy improvements. Use of ICS Task Force could the starting point.

9. Lessons Learned

9.1 Potential Opportunities to Influence Policy

Policy making process must be understood as a political process as much as analytical or problem solving one (Juma and Clarke, 1995). The whole life of policy is a chaos of purposes and accidents. It is not all a matter of the rational implementation of the so-called decisions through selected strategies (Clay and Schaffer, 1984). More encouraging, there are good connections between interested parties such as aid organisations, the research community and the government (making a network) through which ideas are exchanged and thoughts clarified about possible directions (Policy processes, ESRF). More encouraging, political set-up is renewable resource (Mzava; Al Gore)

Capitalising on good relationship between CSOs, Private and Public sectors is of critical significance in the policy build-up, re-set or improvement. Use of existing policy platforms therefore to promote the need for policy change is essential. Partnering with public policy making processes, multi-stakeholder initiatives and policy-related platforms to promote to policy re-set is of paramount account. Creating and strengthening of ICS Forum will create more awareness within the group. It will be so resourceful ICS Task Force could target create cross links with other forums to learn from others and promote the agenda.

To influence policy making process and policies, ICS Task Force would need to develop Policy Influence Plan. Objective of the plan is to communicate risks, targets, objectives, strategies, resources, time frame and outputs. Its implementation (of policy influence plan), the strategy should be to creating confidence between parties, capitalising on the appreciating significance of diversity of actors, balance of participation and crafting of enabling environment for influencing negotiations and mediation. To influence the course of policy making process, core tasks such as structuring of the participation, agenda management among others. As the process is on-going, it is important to strengthen self-reflection and thus self steering by the actors. The ICS Task Force therefore should also be re-constituted to reflect capable stakeholder outlook than institutional representation. Use of stakeholders with strong influence, well resourced network and relationship with government and stakeholders should constitute ICS Task Force constituency capable of withstanding policy change processes or influence dynamics. Lobbying through Parliamentary Committee on Energy and Minerals could be resultful.

9.2 Matching Policy Gaps with Corresponding Mitigation Measures

Within existing energy policy context, policy development, regulation and enforcement embeds major policy constraints, derived from supply side. Without strong regulation and enforcement, existing gaps affect sector growth to overall economy. Moreover, without policy targets and strategies, it is difficult to measure progress towards its achievement.

Meanwhile, demand side demonstrates limited access to finance, trade and investments to match to expanding sub-sector growing potential. Involvement of private and CSOs in the policy-making process, regulation and enforcement remains most relevant features today. Involvement of private sector in this case, increases access to business development services such as training, financing, technical assistance, research and development, financing and market linkages. All these have significant impact on small businesses, local government and central government. Formalization of charcoal business, for example would increase possibility of enforcement, sustainable harvesting, government revenues and expansion of business development services. As registered enterprises, charcoal producers could access business development services such as finance to adopt improved kilns, sustainable harvesting practices, eco-packaging and transport among others.

Re-alignment of biomass and ICS sub sector interventions within current policy priority settings is highly advocated. Capitalizing on potential policy opportunities within energy and other related policies and strategies for example would increase interest of stakeholder group to benefit from government plans, private sector development investments among others. Big Result Now is taking firm root, with little to change within government. Computations of cost and gains within Big Result Now still provide opportunities to biomass and ICS sub sector market development.

Using on-going biomass dialogue, it is important to synchronize policy congruence with results emerging from on-going biomass strategy development consultations. Such consultations are strategic towards establishing policy amendments, improvement options and priority settings.

It is important to develop strategies to overcome policy issues, including possibility to establish policy working group to influence policy architecture and decision-making strucutures. Without understanding policy making process and establish potential strategies to influence, it is difficult to make any meaningful engagement.

9.3 Overview of Market Intelligent in Lake Zone

Rural energy landscape is a function of many factors, including demand and supply factors. Without addressing much investment in regulatory issues, policy enforcement becomes complex. Wide understanding of rural energy solutions is an essential part of the supply side engagement. Investing in sector and sub sector long-term research and development will avoid fire fighting policy interventions. Long term research and development will avoid *snap-shot* solution as opposed to market trends to shape-up market development policy and strategies. Setting-up energy desk within council is an important milestone, but insufficient. Still critical is in-depth understanding of problem root causes and seeking broader involvement of right constituencies of stakeholders in developing demand and supply interventions within LGAs framework. While it is essential to exert pressure to seek redress of the institutional set-up within LGAs, little is understood of assurance of such policy change. Proposed change assures no guarantee of adoption, dissemination and benefits from introduced renewable energy technologies.

Councils with clear strategy, balancing demand and supply factors could bring change, even within existing set-up. Studies relating significance of market development, policy regulation and socio-economic benefits remain elusive to decision-marking landscape within councils. With poverty affecting large rural households, energy switch remain difficult to overcome. Use of innovative approaches and business vessels to mainstream clean energy to the rural market would be much needed that policy re-engineering institutional set-up. Use of approaches such as bottom of the pyramid, private sector development, inclusive investment, subsidies and grants to support scaling up rural energy and environmental would contribute to behaviour change. Drawing experience from Program for Biomass Energy Conservation (ProBEC) for example proved that it was difficult to commercialize ICS in the rural markets.

Therefore, working with LGAs to promote benefits of improved cook stoves would advocate sector wide change within LGAs settings. Developing business models and engaging decision-making landscape could contribute to sense of ownership, participation in promoting policy change within grassroots policy settings. Councils, for instance can allocate resources to support ICS sub-sector within its resources. This is more possible and appetising if such investment worth attracting policy incentive, social return on investment among others. Without developing overarching policy incentives, LGAs have little interest to pursue ICS related interventions. Off course, no LGAs has been punished due to poor investment in biomass energy-related interventions, including improved cook stove intervention.

Of many priorities, Lake Zone initiative should aim to ensure duty barriers and people representatives understand meaning, importance of ICS and increase citizen awareness of the costs and benefits. When aware of costs and gain, citizen will hold their leaders accountable than offering improved fuel efficient devices. This is very resourceful than distributing improved cook stoves in rural settings. Such initiatives have cosmetic value, with short term impact.

9.4 Key Stakeholders in the Policy Planning, Implementation and Enforcement

Policy landscape involves several line ministries, agencies in planning, policy implementation and enforcement. Energy and biomass sub-sector in this regards include ministries of Energy and Minerals (lead role), Trade and Marketing, Ministry of Finance, Prime Minister Regional Administration and Local government, Vice Presidents Office - Environment and Ministry of Tourism and Natural Resources, have substantial significance in implementing and enforcing sector policies. Agencies are important instrument therefore in operationalizing relevant policies. Within agencies, it is possible to develop projects worth promoting investment, trade and research, development and sector capacity development. Other roles of line ministries and agencies include developing incentives, financing mechanisms, domestication of regional

and international agreements and consensus. Of recent, it is becoming crucial to ensure ministries are responsible for promoting partnerships within south-south and north-south partnership frameworks. Line ministries deliver their policies through local governments. It is therefore important to re-set and strengthen capacities of LGAs to enforce by-laws and regulations. Agencies are also an important instrument to ensure that agencies create awareness of merits and demerits to stakeholders.

It is important to establish a joint platform to facilitate biomass, RE/ICS/briquette industry development. This could be possible through review of various policies regulating the industry and cross-cutting policies. Establishment of Working Group for example could be among potential high return strategies to recruit at the moment for long term returns. Off-course, making effective use of policies such as Public-Private Partnership, Tanzania Investment Policy, Empowerment Policy among others could significantly contribute to change of mindset within public sector stakeholders. Experience has demonstrates that improvement of policy setting could happen if public sector is assured of result-chain benefits to the public that up-hold accountability thinking. It is therefore important to advocate development of public and private sector winning interventions, using effective business models.

9.5 Communication for Behaviour Change

Consumer behaviour is a complex phenomenon. It requires use of high impact communication strategies which are scarce in the renewable sub-sector. Using communication experts therefore, make stakeholders aware of economic, social, health and environmental benefits. It is essential to learn from mobile companies across the globe, including Tanzania – educating consumers, developing business cases across its supply chain system. Of much significance is lessons from derived from market competition and product development. Well informed consumers will drive market and policy congruency.

Use of research and development to influence communication plan and strategies remain weak. While merits and demerits are well researched, weak communication between different groups, including consumers and policy makers remain insignificant. Most ICS/RE projects invest massively in product development without consumer behaviour. After introducing marketing development for example ProBEC increased product adoption.

The ICS Task Force should strategize with TBS, EWURA and TCC to increase awareness. This could be through joint initiatives targeting for example consumers, regulators and policy makers.

9.6 Effects of Poverty on Energy Ladder

Poverty remains higher in rural areas than in urban areas. If the current trend continues poverty gap ratio (for basic needs poverty line) will end up between 25 and 30% and so the target of halving poverty levels (to 19.5%) will not be met. With 34% of the population living below income national poverty line, energy switch remain far from realization among rural inhabitants. Use of appropriate dissemination models such as Bottom of the Pyramid Approach, Corporate Social Responsibility among others could trigger adoption among low-income rural inhabitants. Even with these instruments, total consumption among this target group is expected to remain bit covered. Without providing alternative income sources, rural inhabitants will remain dependent on adjacent forests as source of livelihood, even when awareness is high among them.

Using capitalizing achievement of MKUKUTA I and MDGs, it is possible to sanction inability to influence people behaviour on ICS use despite increased awareness across the population. Before crossing poverty line, use of biomass and biomass driven technologies will remain large and far. Use of innovative approaches to accelerate adoption such as Bottom of the Pyramid would an option.

9.7 Innovative and Progressive Incentives System

Across the Global, countries have created incentives to promote sector growth and its contribution to economic performance. Of all incentive packages, enabling environment within existing policy context has high impact and sustainable effects than tax-based. Enabling environment pose an opportunity to stimulate change of thinking, policy relevance, legislative landscape and institution set-up at local and national levels. Developing and raising stakeholder concise about availability of incentives across various actors across biomass value chain has enormous potential. Enabling by-law development, regulation and enforcement with stakeholder perspective are part of incentive scheme development.

Rural industrialization is another high impact incentive instrument. Without employment, rural inhabitants would use adjacent forests to sustain their livelihood. Given economic performance, it is important to advocate for policy incentives within Local Government Authorities framework – lawmakers, enforcers, producers and consumers.

Incentives tagged within tax-related remain widely advocated towards changing behaviour of consumers and investors. While on consultation, Tanzania Revenue Authority debated is significance of Solar PV tax incentive and economic impact in the region. While it is possible to implement several incentives to develop the market, it is important to establish high impact incentives to will support socio-economic growth.

9.8 Role of Line Ministries, Agencies in Policy Planning, Implementation and Enforcement

While the ministry is responsible for policy formulation and implementation, setting up policy congruence and development is the prime role by agencies within line ministries. Agencies are also responsible for regulation and enforcement of such policies and corresponding legislative and resource commitments. Other roles include design and implement partnership projects, attracting and promoting investments and incentives.

More important, ministries and agencies are responsible for coordinating key stakeholders, particularly when it comes to policy setting interventions, priorities and information share. It should be agencies which is responsible for setting or re-setting policy congruence through research and development and stakeholder consultations.

Stakeholder landscape indicates necessity to extract key stakeholder from stakeholder group. Stakeholder group entails public, private and civil society organisations. It is of much significance to use key stakeholders as identified within on-going biomass strategy development. The strategy represents an inclusive process with buy-in from interest and stakeholder groups. Scaling-up of private sector involvement, regulation and enforcement are the most impactful.

9.9 Cross-cutting Initiatives Related to Current Energy Policy

Current energy policy identifies key seven items as cross-cutting. These are energy efficiency and conservation, energy trade and cooperation, energy information system, environment, health and safety. Other cross-cutting issues include investment, gender issues and capacity building.

Stakeholders propose development and promotion of clear strategies supporting and monitoring of cross-cutting issues within policy framework. Furthermore, the framework sees capacity development as a cross-cutting in the gradual process of strengthening capacities of individual, organisations and societies to make effective use of its resources in order to realise their goals in a sustainable basis.

10. Conclusions and Recommendations

	Issues	Rank	ICS Task Force Comments
A	Advocate for inclusion of biomass, ICS and briquette in the BRN targets Without targets, assessing policy performance becomes difficult. Most important is inclusion of biomass related targets. Advocating for joint strategy to advocate for inclusion and broader involvement of local private sector is of significant importance.	1	Establishment of Working Groups within TAREA. Working Group would attract interests and capability to members and the industry. Working Groups provide opportunities to understanding of policy related issues with much interest to establish costs and gain of related policy environment. In this regards, Working Group should develop advocate plan that seek broader biomass inclusion in the current national energy mix and priority settings. TAREA Strategic Plan need to include biomass vision, strategies and targets
B	Increasing incentives, development of effective business models and formalization Development of business models supporting RETs/Biomass/ICS incentives is resourceful to promote sub-sector growth.	2	Establishment of Working Group responsible for industry development This could be part of initial function of the ICS Task Force to develop cross-cutting strategy incubating, disseminating and supporting research and development initiatives. Furthermore, ICS Task Force develop a clear strategy on how various policies, strategies and agencies could off-set existing constraints
C	Standardization of ICS/RETs/biomass and briquette includes developing and enforcing use of standards. It is also essential to raise concise of consumers through appropriate agencies within ministries of energy, trade, marketing and industry, health and community development. Partnership initiatives between suppliers, consumer protection agencies and consumers would increase demand for certified products.	3	Partnership strategy within PPP framework with regulatory and implementing agencies. Pilot testing of business models supporting joint initiatives could be essential interventions. More research with for product development is required in this direction. Involvement of public and private research organisations could contribute to higher standard enforcement and better industry regulation.
D	Promoting supportive institutional set-up within councils As part of institutional re-engineering, capacity development for increased private sector participation within LGAs framework is critical.		Raise awareness of costs and benefits to stakeholders than "giving improved cook stoves to people" Develop business models to guarantee public and private benefits.

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