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# **ALTERNATIVES TO CHARCOAL**

**ANNUAL WORK PLAN: FISCAL YEAR 2023**  
**OCTOBER 1, 2022 – SEPTEMBER 30, 2023**

**August 17, 2022**  
***Revised September 28, 2022***

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COVER PHOTO: Community members participate in a Demonstration Day event, testing alternative technologies and fuels. Image credit: Tetra Tech

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### **DISCLAIMER**

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## ACRONYMS AND ABBREVIATIONS

A2C	USAID Zambia Alternatives to Charcoal Activity
ACE	DFID Africa Clean Energy Program
AMELP	Activity Monitoring, Evaluation and Learning Plan
APS	Annual Program Statement
ATF	Alternative Technologies and Fuels
BDS	Business Development Services
CCSAP	National Clean Cooking Strategy and Action Plan
CDM	Clean Development Mechanism
CEEEZ	Centre For Energy, Environment and Engineering Zambia, Ltd.
CIFOR	Center for International Forestry Research
CFMG	Community Forestry Management Group
CLA	Collaboration, Learning, and Adaptation
DOE	Department of Energy
ECS	Emerging Cooking Solutions
ESAG	Energy Sector Advisory Group
FAO	United Nations Food and Agriculture Organization
FD	Forestry Department
FDCO	Foreign, Commonwealth and Development Office
FSD	Zambia Financial Sector Deepening
GHG	Greenhouse Gas
GRZ	Government of the Republic of Zambia
GUC	Grants Under Contract
HFOs	Honorary Forest Officers
HS	Harmonized System
IAPRI	Indaba Agricultural Policy Research Institute
KML	Knowledge, Management, and Learning
KSP	Knowledge Sharing Platforms
LPG	Liquid Petroleum Gas
MECS	Modern Energy Cooking Solutions
MCHF	USAID Malawi Modern Cooking for Healthy Forests Project
MEL	Monitoring, Evaluation, and Learning
MFA	Ministry of Foreign Affairs
NGO	Non-Governmental Organization
NGOCC	Non-governmental Gender Organizations' Coordinating Council
OGTF	Off Grid Task Force

PayGo	Pay-As-You-Go
PSE	Private Sector Engagement
RFP	Request for Proposals
SBC	Social Behavior Change
SBC	Social Behavior Change
SOW	Scope of Work
SVAS	Shared Value Africa Services International
TA	Technical Assistance
UBA	United Bank of Africa
USAID	United States Agency for International Development
VAT	Value-Added Tax
VCA	Value Chain Analyses
WWF	Worldwide Fund for Nature
ZGEN	Zambia Gender and Energy Network
ZDA	Zambian Development Authority
ZGEN	Zambia Gender and Energy Network
ZRA	Zambia Revenue Authority

# I.0 ACTIVITY OVERVIEW

## I.1 ACTIVITY OVERVIEW

<b>Project Name</b>	USAID Alternatives to Charcoal
<b>Program Start &amp; End Date</b>	January 5, 2021 – January 4, 2026
<b>Name of Prime Implementing Partner</b>	Tetra Tech ARD
<b>Contract Number</b>	72061121C00001
<b>Award Ceiling</b>	\$US 24,999,557
<b>Subcontractors</b>	Tetra Tech ESI, PMTC Zambia, Shared Value Africa Services Int'l (SVAS)
<b>Work Plan Period</b>	FY22: October 1, 2021 – September 30, 2022 (Project Year 2)

## I.2 ACTIVITY DESCRIPTION

The USAID Zambia Alternatives to Charcoal (A2C) Activity works to reduce dependence on charcoal as an energy source in Zambia and catalyze the increased use of low emissions alternative technologies and fuels (ATFs) through innovation and increased private sector engagement to reduce charcoal production-driven deforestation and greenhouse gas emissions. A2C works with the private sector, the Government of the Republic of Zambia (GRZ), civil society, community-based organizations and communities to remove barriers and create opportunities to advance consumer adoption of ATFs; strengthen monitoring and enforcement of charcoal regulatory frameworks; and work alongside consumers to shift preferences and reduce demand away from charcoal while supporting sustainable livelihoods for former charcoal-producing households. The A2C Activity is guided by an understanding of local market systems, strong private sector engagement and a commitment to engaging youth and empowering women.

**Activity Goal:** The USAID/Zambia A2C activity will reduce charcoal energy consumption by 25% in Lusaka and by 5% in urban areas outside of Lusaka and catalyze a 38% increase in the use of low emission charcoal alternative technologies and/or fuels to reduce deforestation directly attributable to charcoal production by 6.69%.

A2C will achieve these goals by implementing five overarching objectives, as listed below.

- **Objective 1:** Identify and remove market barriers to enable a 38% increase in the household use of ATFs
- **Objective 2:** Support the GRZ to improve the business enabling environment for low emission charcoal ATFs
- **Objective 3:** Implement social behavior change and communication interventions to increase consumer use of low emission ATFs.
- **Objective 4:** Support alternative livelihoods in charcoal producing communities and improve capacity to regulate and enforce charcoal supply chains
- **Objective 5:** Integrate adaptive management including through Pause, Reflect and Pivot workshops



## 2.0 EXECUTIVE SUMMARY

### 2.1 CONTRACT PERIOD

The contractual period of performance for the A2C Activity began January 5, 2021 and will end on January 4, 2026.

This third Annual Work Plan covers Fiscal Year 2023 (FY23), spanning October 1, 2022 to September 30, 2023, which coincides with the middle of A2C's second contractual year. Per USAID's contract requirement, A2C work plans are based on the U.S. Government Fiscal Year calendar, which is:

- October-December (Q1)
- January-March (Q2)
- April-June (Q3)
- July-September (Q4)

### 2.2 FY23 WORK PLAN OVERVIEW

During FY23, each of A2C's strategic objectives will work synergistically and iteratively to reduce urban charcoal consumption and increase the use of alternative technologies and/or fuels (ATF) to reduce deforestation and greenhouse gas emissions directly attributable to charcoal. Crosscutting activities, including engaging women and youth, communications, and monitoring and evaluation that are essential to successful implementation are integrated within and across all strategic objectives. Drawing on analyses, research and lessons learned from Year 1 and 2, A2C will support the private sector through tailored technical assistance, mobilization of investment and finance opportunities, and policy and regulatory reforms to promote the uptake of alternatives to charcoal. Social behavioral change (SBC) and communications activities will rely on community influencers, religious leaders, and media campaigns to increase consumers' awareness of ATFs, with a specific focus on affordability and accessibility. A2C will also ramp up activities in four target districts (Solwezi, Kalumbila, Lufwanyama and Mumbwa) during FY23 to establish community forest management groups, support forest-based enterprises and monitor charcoal producers. Finally, A2C will expand contextual monitoring during FY23, including measuring changes in charcoal and ATF use in neighborhoods targeted by A2C, forest cover monitoring in select districts, and continued collection of monthly metric data.

### 2.3 DESCRIPTION OF EXPECTED OUTCOMES IN FY23

During FY23, A2C will (by Objective):

#### Objective 1

- Link ATF companies with investors and share data and research outputs to help inform company business decisions with the aim of making ATFs more affordable, accessible, and acceptable to consumers.
- Award up to \$1 million in grants to Zambian-registered private sector companies to build and expand ATF supply chains in Zambia, pilot new innovations in clean cooking and support conservation-friendly value chains in charcoal producing communities.
- Launch a full suite of tailored Technical Assistance interventions to support up to twenty (20) ATF companies to improve their business models and accelerate their expansion, including resource mobilization workshops, an incubator program and tailored business development support.
- Leverage \$3.5 million in working capital, credit, loans and in-kind contributions for ATF companies. Activities include improving investment readiness, piloting models to be financed by

results-based finance models, matchmaking with potential investors, identifying the role carbon finance can play in financing clean cookstove companies and piloting consumer financing models.

## **Objective 2**

- Support research, policy and regulatory reforms to improve the ease of doing business for ATF companies, including the revision of LPG standards to improve accessibility, streamline the permitting process for select ATFs, and advocate for tax and duty exemptions. A2C has a target of three (3) improvements to the business enabling environment by the end of FY23.
- Develop a national clean cooking strategy that will provide a comprehensive strategic plan and roadmap for clean cooking, including: actionable targets, interventions and accountability mechanisms that leverage all technology tiers to achieve universal access to clean cooking by 2030.
- Enhance coordination across Zambia's energy sector through continued support for the Energy Sector Advisory Group (ESAG) and the Zambia Gender and Energy Network. Both are overseen by the Ministry of Energy (MoE).
- Measure the Ease of Doing Business among ATF enterprises to monitor progress in improving the business enabling environment. A2C has a target of a 10% increase in the ease of doing business to establishing and/or running an ATF business in Zambia (including but not limited to criteria related to registration, permitting, taxation, capacity of the labor workforce etc.) by the end of FY23.
- Conduct a political economy assessment (PEA) of Zambia's LPG landscape to better understand the economic and decision-making dynamics which drive the private sector in Zambia.

## **Objective 3**

- Produce clear and concise messages for consumers based on A2C research, with a particular focus on the affordability, efficiency and convenience of ATFs as compared to charcoal. A minimum of 3 million people will be reached through Social Behavior Change (SBC) and communication efforts during FY23.
- Expand the number of community influencers by adding two additional residential areas in Lusaka and engage directly with individual churches in targeted communities to conduct awareness-raising campaigns, organize demonstration events and promote the sale of ATFs.
- Update operator scripts for the clean cooking hotline related to LPG, pellets and ethanol as well as develop a new script for induction stoves.
- Air television and radio advertisements during prime time to disseminate information about the affordability, accessibility and acceptability of different ATFs. A2C expects to integrate clean cooking messages into the plot of the popular TV series *Mpali* and will also partner with the private sector to promote ATFs at major events such as Energy Week and the Agriculture and Commercial Show and the Zambia International Trade Fair.
- Conduct sensitization of teachers and students in select secondary schools within Lusaka about the impact of charcoal consumption on the environment, and what alternatives exist for cooking and heating.

## **Objective 4**

- Strengthen regulation of the charcoal value chain through continued support of the Charcoal Taskforce, revision of the forest policies and regulations, and capacity building for institutions and individuals (including Honorary Forest Officers) to regulate charcoal production,

conveyance and sales. A2C anticipates 500 people will apply improved law enforcement practices by the end of FY23 as a result of Activity support, including from the Forestry Department, Zambia Police Service (ZPS) and the Department of National Parks and Wildlife (DNPW), Wildlife Police, the Zambia Environmental Management Agency (ZEMA) and honorary forestry officers.

- Establish, promote and support four Community Forest Management Groups (CMFGs) in targeted districts, including election of executive committees, formation of forest user groups and savings groups, and identification of conservation-friendly/forest-based value chains to generate income. Meaningful participation of women and youth will be prioritized within the CMFGs. Two additional CMFGs will also be identified for future support.
- Conduct a charcoal producers survey to measure the percent change in the number of people engaged in the charcoal value chain in targeted areas. A2C aims to have a 15% reduction in the number of people engaged in the charcoal value chain at selected sites.
- Support forest cover monitoring in four targeted districts through capacity building, procurement of equipment and drafting of standard operating protocols.
- Prepare an implementation roadmap for value chains, including identification of private sector partners for collaboration (including as off takers), training on basic financial literacy and business skills, a focus on climate smart and conservation-friendly value chains which are sustainable and will not result in forest cover change. Livelihood support will be provided through Grants Under Contracts and/or MoUs signed with private sector partners.

#### **Objective 5**

- Measure changes in a household's use of charcoal and ATFs over time including through annual surveys and contextual monitoring in neighborhoods targeted by A2C.
- Collect data on key metrics monthly to monitor the impact of A2C programming.
- Conduct applied research, assessment, studies, or surveys as identified by A2C technical staff, grantees and/or private sector collaborators.
- Convene two Knowledge Sharing Platforms focused on the cost of clean cooking, and forest covering monitoring.
- Promote continued learning and adaptation through two Pause, Reflect and Pivot workshops, learning lunches, and data dashboards.

## 3.0 INTRODUCTION

The Alternatives to Charcoal Activity (A2C) is a five-year activity funded by the United States Agency for International Development (USAID) and implemented by Tetra Tech/ARD in association with major subcontractor Tetra Tech/ESI as well as two local subcontractors: PMTC Zambia, SVAS Services International Limited (SVAS).

This third Annual Work Plan covers Fiscal Year 2023 (FY23), spanning October 1, 2022 to September 30, 2023. The workplan begins with a summary of the contextual background for A2C, followed by the project's objectives, conceptual approach, activity structure, partnerships, and key operating assumptions (Sections 3.1 - 3.5). The management and administration of A2C, including staffing, are described in Section 4. A2C's adaptive management approach, including the Collaboration, Learning and Adaption (CLA) objectives are outlined in Section 5. The core of the workplan is found in Section 6, which describes proposed activities to be implemented during FY23 under each of A2C's five objectives, including roles and responsibilities, timing, associated deliverables and expected outcomes and results.

Finally, Section 7 summarizes the cross-cutting areas of A2C including communications, gender and youth engagement, environmental compliance (including climate risk screening) and monitoring and evaluation. Appendices A-E provide additional information related to A2C's indicators and targets, implementation schedule, organizational structure, illustrative budget and the FY23 deliverable schedule.

### 3.1 BACKGROUND

Zambia's deforestation rate is among the highest in the world, with an estimated 250,000 hectares cleared annually. Charcoal is a primary driver of deforestation and forest degradation in Zambia due to its dominant role in household cooking and heating, and as a backup or secondary fuel (known as fuel stacking). Deforestation in Zambia also contributes to greenhouse gas (GHG) emissions, driving climate change and other environmental degradation such as drought, poor rainfall, soil erosion, reduced ecosystem functionality and decreased air quality.

Charcoal is widely available, affordable, culturally acceptable; it is the first choice for domestic cooking and heating needs. Research conducted by A2C confirmed charcoal is the predominant (96%) energy source for cooking and heating, with fuel stacking being practiced by 95% of households (the combination of charcoal/electricity and charcoal/fuelwood being the most dominant).

Baseline charcoal consumption in Lusaka stands at 660 kg/year, while baseline charcoal consumption in Solwezi and Ndola was recorded at 820 kg/year. The baseline use of low emission ATFs in Lusaka and other urban areas was estimated to be 23.7% according to the amount of cooking/heating events carried out on ATFs. Baseline GHG emissions for cooking with charcoal and ATFs stands at 3,964,486 tons/year, while cooking with charcoal contributes to 28,690 hectares of deforestation and degradation (indicator 5).

It is notable the majority of even high-income urban households use charcoal every day and consume almost the same amount of charcoal (792 kilograms /year) as lower income households (802 kilograms/year). This debunks the assumption that only low- and middle-income households rely on and prefer charcoal, and further confirms just how culturally-embedded charcoal is as the preferred fuel of choice.

The charcoal supply chain (including production, transportation, distribution and sales) also provides income security and employment opportunities for millions of people along the value chain, including women and youth, rural smallholder farmers and urbanites who dominate the transport, wholesale and retail distribution networks in urban compounds. Due to its minimal entry barriers, women and youth frequently turn to the charcoal sector as a livelihood and/or viable business opportunity. Accordingly,

any interventions designed to reduce the production and consumption of charcoal must take into account the potential impacts on the livelihoods of men, women and youth and seek to provide viable alternatives.

Alternatives to charcoal do exist in Zambia. Stoves powered by electricity, liquified petroleum gas (LPG), processed biomass (e.g., pellets), ethanol, biogas as well as more efficient (improved) charcoal cookstoves are available. The widespread adoption of these ATFs in Zambia is however hindered by poor enabling conditions and inefficiencies that keep costs prohibitively high and limit access, while specific social and cultural barriers for different consumer segments limit their cultural acceptability as an alternative to charcoal. Moreover, innovative technologies, such as pay-as-you-go (PayGo)—which would render alternative fuels more affordable and accessible—are not yet available in Zambia (but will be soon under A2C’s grants under contract). These challenges must be addressed if ATFs are to replace charcoal as the low-cost household energy of choice in Zambia, and ultimately contribute to significant reductions in deforestation and GHG emissions.

A2C’s current engagement with the private sector ATF companies and consumers has confirmed the adoption and scaling up of low-emission ATFs must be based on a strategy premised on affordability, accessibility and acceptability. A2C’s FY23 workplan describes our technical and operational approach to reducing urban charcoal energy consumption in Zambia, increasing the uptake of low emission ATFs (namely electricity, LPG, processed biomass (pellets), ethanol and biogas) through the removal of market barriers, improvements to the business enabling environment and social and behavioral change interventions.

### **3.2 OBJECTIVES AND CONCEPTUAL FRAMEWORK**

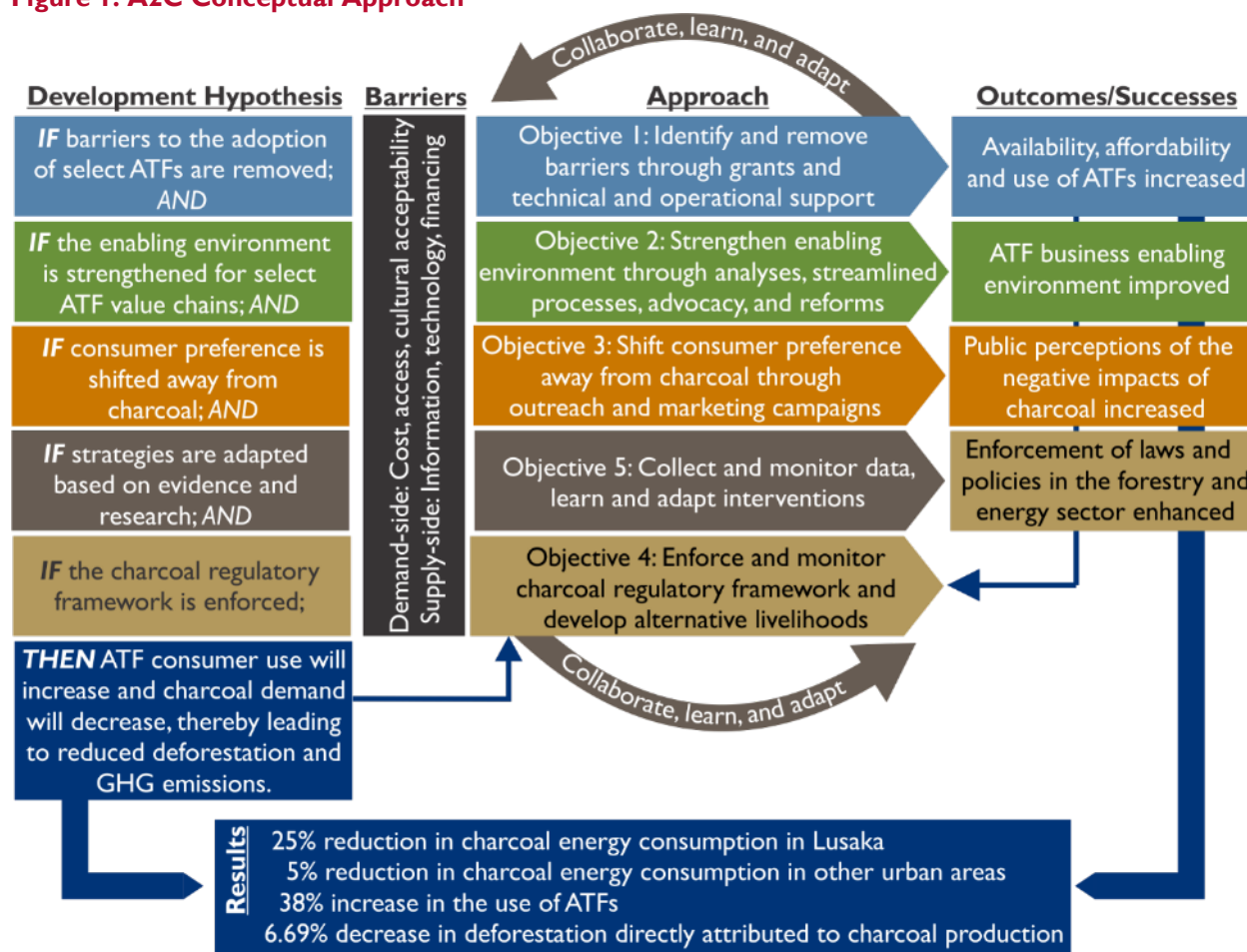
A2C works to reduce dependence on charcoal as an energy source in Zambia and catalyze the increased use of low emissions ATFs through innovation and increased private sector engagement to reduce charcoal demand and thereby production-driven deforestation and GHG emissions. A2C’s objective is to reduce charcoal energy consumption by 25% in Lusaka and 5% in Ndola/Kitwe and Solwezi (combined) and catalyze a 38% increase in the use of private sector low emissions charcoal alternative technologies and/or fuels to reduce deforestation directly attributable to charcoal production by approximately 7%.

To achieve these ambitious goals, A2C’s conceptual approach (Figure 1) begins with the Development Hypothesis on the left, followed by a list of barriers related to supply and demand that inhibit use of ATFs. Next are the five objectives that A2C will implement to overcome these barriers and the expected outcomes that will result from effective implementation. To achieve the ambitious targets highlighted above will require that all five objectives work synergistically to achieve their respective outcomes as shown in the figure below.

In reviewing A2C’s conceptual approach, it is important to note that A2C has determined that the presence of an ATF in a household does not impact the amount of charcoal used in a statistically significant manner. As such, increases in the uptake of ATFs may not necessarily translate to a significant reduction in charcoal consumption. This has serious implications for A2C, as the conceptual approach assumes that as ATF usage increases, charcoal consumption drops. It was agreed with USAID Zambia if A2C is successfully able to simultaneously address challenges related to affordability, accessibility and acceptability during FY23, then the presence of an ATF should reduce charcoal consumption.

Research conducted by A2C confirms households are seeking cheaper, cleaner and more efficient ways to cook. However, the challenge is consistency in accessing and paying for cleaner fuels and technologies. Consumers may, for example, be able to purchase the appliance, but the challenge is accessing fuel and thus they turn to charcoal which is readily available. A2C’s grants program will address these challenges during FY23 by ensuring fuels and appliances are more readily available, and at prices consumers can afford.

**Figure 1: A2C Conceptual Approach**



### 3.3 ACTIVITY STRUCTURE

Objective 1 takes a market systems approach to increasing households' access to and use of ATFs. This objective is comprised of four interconnected strategies: (i) engagement with private sector partners in Zambia's clean cooking sector to identify relevant market information and barriers to ATF adoption; ii) addressing market barriers through the provision of technical assistance, including establishing an incubation program, and providing business development services through a Growth Technical Assistance (TA) program; iii) supporting ATF adoption through grants that address barriers on the supply and demand side; and iv) facilitating financing and investment for ATFs. To reinforce this objective, A2C will implement SBC and communications interventions (Objective 3) aimed at raising awareness about alternative fuels, providing timely information about their cost and availability and promoting uptake at the household level.

The focus of Objective 2 is to improve the business enabling environment by addressing or removing policy, regulatory and fiscal barriers that disincentivize the uptake of ATFs. During FY23, Objective 2 will focus on revising LPG and ethanol standards to improve accessibility, streamline the permitting process for select ATFs, and continue advocating for tax and duty exemptions. Another key objective during FY23 is to develop a national clean cooking strategy that will provide a comprehensive strategic plan and roadmap for clean cooking in Zambia. The strategy will be inclusive and technology "agnostic," meaning all technologies and fuels – from improved charcoal cookstoves and briquettes to LPG – will be included. Enhancing coordination across Zambia's energy sector will also be a priority, including support for the Energy Sector Advisory Group (ESAG) and the Zambia Gender and Energy Network. Finally,

research under Objective 2 during FY23 will include measuring progress in the ease of doing business in Zambia and a political economy assessment of Zambia's LPG market and private sector stakeholders to better understand economic and decision-making dynamics within the sector.

Objective 3 focuses on SBC to increase awareness about ATFs and catalyze behavior changes that reduce urban consumption of charcoal. Several tenants underlie the SBC strategy for FY23. First, communications and awareness raising will continue to focus on the affordability, accessibility and acceptability of ATFs. Second, SBC interventions will be primarily community-driven, relying on community-based influencers and religious leaders to lead sensitizations efforts, organize demonstrations and provide feedback to A2C. Finally, private sector engagement is critical; A2C will work directly with ATF companies to encourage their participation in demonstration events, promote raise awareness about product pricing and availability through the clean cooking hotline and advertisements and provide ATF companies with direct feedback from consumer experiences. Community influencers in Lusaka will expand their work to nine compounds (from seven), and SBC interventions as a whole will reach a total 3 million people during FY23.

Strengthening the regulation of the charcoal value chain, supporting community-based forest management and promoting alternative livelihoods for charcoal producers are the focus of Objective 4. During FY23 A2C will continue to support strengthening of policies and regulations aimed at improving regulation of the charcoal, including: supporting the national charcoal taskforce, providing training to institutions and individuals with authority over charcoal production and permitting and supporting forest cover monitoring in select districts by the Forestry Department. A2C will also support the establishment of community forest management groups (CFMGs) in selected districts during FY23, with the objective of having four CFMGs established by the end of the fiscal year, and an additional two CFMGs under development. Finally, A2C will support the establishment of forest-based enterprises (to be managed by CFMGs) to create alternative income streams in charcoal producing communities, which will be complemented (pending USAID approval) by agricultural-based value chains.

Objective 5 will continue to provide quantifiable, evidence-based data to track progress toward A2C results and incentivize real-time learning and adaptation. This includes collecting monthly metrics data as well as an annual survey of household charcoal consumption and use of ATFs to monitor progress toward project results. In FY23, data collection will expand to survey households in neighborhoods targeted by A2C to measure changes in household's use of charcoal and ATFs over time. To promote broad-based learning and adaptive management, two Knowledge Sharing Platforms will be convened focused on the cost of clean cooking and the status of forest cover monitoring in Zambia. Finally, two Pause, Reflect and Pivot sessions will be convened to reflect on activities, accelerate learning, convert analysis into action, and adapt programming as needed.

Each of the objectives described above must work in synchronicity if A2C is to have a measurable impact in reducing urban charcoal consumption and increasing the uptake of ATFs, which in turn will result in reduced deforestation/forest degradation and greenhouse gas emissions directly attributable to charcoal. A2C's approach aligns with USAID's 2022 Climate Strategy's targets, which include supporting a country's mitigation and adaptation commitments; likewise results will also support Zambia's meet its National Determined Contributions to greenhouse emissions<sup>1</sup>, and GRZ's commitment to become a prosperous low carbon and climate resilient middle income country by 2030 as enshrined in its Vision 2030.

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<sup>1</sup> GRZ pledged to reduce Greenhouse Gas (GHG) emissions by 25% (20,000 Gg CO<sub>2</sub> eq.) by 2030 against a base year of 2010 under the BAU scenario with levels of international support prevailing in 2015 or by 47% (38,000 Gg CO<sub>2</sub> eq.) with substantial international support

### 3.4 PARTNERSHIPS

A2C will work with and leverage the expertise and resources of a broad range of partners including the GRZ, the private sector, civil society, academia, and cooperating partners. A2C will focus during FY23 on strengthening and solidifying these partnerships to expand the scale and enhance the sustainability of project interventions. A summary of key stakeholders A2C will collaborate with is provided below.

**Government of the Republic of Zambia (GRZ):** A2C will continue to actively engage and collaborate with a range of GRZ Ministries and local government authorities including: the Ministry of Energy (MoE), Ministry of Green Economy and Environment (inclusive of the Forestry Department), Ministry of Commerce Trade and Industry, the Ministry of Finance, Ministry of Planning, the Energy Regulatory Board (ERB), the Zambia Environmental Management Agency (ZEMA), the Zambia Bureau of Standards, the Zambian Development Agency and the Ministry of Local Government through the Lusaka, Ndola and Kitwe City Councils. In FY23 A2C will initiate engagement with the Ministry of Small and Medium Enterprises (SME), as well as the Ministry of Commerce and the Ministry of Finance and National Planning to seek areas of alignment and collaboration. A2C will also continue supporting three GRZ-led coordination bodies including the Energy Sector Advisory Group (ESAG), the Zambia Gender and Energy Network (ZGEN) and the Intergovernmental Charcoal Task Force.

**Projects and Cooperating Partners:** The ATF Policy Advisor will continue to serve as primary liaison with projects and donors working on A2C-related issues, including: the Off-Grid Taskforce, the Cooperating Partners Energy Working Group, the United Nations Food and Agriculture Organization (FAO's) Forests Regeneration Project, and the Beyond the Grid Fund for Africa. A2C will continue to participate in meetings to share research results, provide project updates and ensure activities are complementing rather than duplicating other partner's efforts. For example, the Beyond the Grid Fund for Africa launch of their Results Based Financing Fund will be closely coordinated with A2C's Grants program to avoid replication and ensure maximum impact. A2C will also continue to liaise closely with the UK Aid-funded Modern Energy Cooking Solutions (MECS), a five-year program focused on leveraging investment in renewable energies (both grid and off-grid) to address the clean cooking challenge.

**Private Sector Entities and Investors:** A2C takes a market systems approach to increasing access to and use of ATFs. Accordingly, private sector engagement takes many forms including: direct engagement with clean cooking companies to identify and address barriers to ATF adoption including regulatory and fiscal challenges; facilitation of financing and investment for ATF companies with commercial banks and private impact investors; provision of technical assistance to strengthen business development skills; and a grants program to provide catalytic support to private sector companies that can demonstrate a measurable impact in the uptake of ATFs. SBC efforts also engage directly with private sector partners to strengthen their outreach, marketing and consumer awareness. During FY23, A2C's alternative livelihoods programming will also reach out to private sector partners with the aim of signing MoUs with potential off-takers and partners for forest-based and agricultural value chains. By the end of FY23, A2C aims to leverage \$3.5 million in support of clean cooking and sustainable landscapes.

**NGOs and Research Institutions:** To inform analyses and design effective, impactful interventions during Year 3, A2C will establish contact with and engage entities in the non-profit and research sectors. This includes: the Centre For Energy, Environment and Engineering Zambia Ltd (CEEEZ), a nongovernmental organization (NGO) with research qualifications in the clean energy sphere; and the Indaba Agricultural Policy Research Institute (IAPRI), a think tank with research qualifications in energy and agricultural policy. A2C shall also engage with The Center for International Forestry Research (CIFOR) and Worldwide Fund for Nature (WWF), both of which have a focus on addressing charcoal production in Zambia and promoting alternative solutions.



### 3.5 KEY OPERATING ASSUMPTIONS

A2C has identified the following key assumptions and risks with the greatest potential to impact implementation and achievement of results during FY23.

- The success of Objective 1 is premised on the performance of a viable market systems approach. This assumes the primary barriers to ATF adoption can be sufficiently addressed and/or removed, including barriers related to access to working capital/investment, distribution challenges and ability to scale. A key assumption, premised on research and observation, is that there is strong demand for ATFs in urban areas. To successfully transition away from charcoal A2C's market-based approach must ensure private sector partners can provide a range of alternatives that are accessible, acceptable, and affordable.
- Likewise, a key assumption under Objective 2 is that regulatory and fiscal barriers can be addressed/removed to create a stronger business enabling environment. This includes reducing or eliminating import duties and value added taxes for ATFs and incentivizing clean cooking businesses to come to Zambia. Mobilizing political will and commitment from the GRZ at various scales is another noteworthy assumption, yet important to the activity's success. Identified risks for A2C during FY23 include: an expected increase in electrical tariffs which will drive up charcoal consumption; price hikes for LPG, all of which is currently imported into Zambia; and GRZ's potential decision not to reduce or eliminate excise duty and other taxes on ATFs.
- A key assumption of Objective 3 is that community-driven engagement with consumers is critical to behavioral change. Likewise, engagement by the private sector is critical for success, including ensuring a sufficient and regular supply of ATFs are available for purchase. A key risk during FY23 is that A2C will continue to create demand for ATFs while not ensuring there is an adequate supply. A2C's grants program will therefore be closely aligned with SBC activities (e.g. advertisements and demonstration events) to ensure there is sufficient supply.
- A key assumption under Objective 4 is the establishment of community forest management groups and forest-based enterprises will result in reducing charcoal production at selected sites. The associated risk with this assumption is that charcoal production will simply shift to another location with less oversight and regulation. Second, the success of Objective 4 requires consistent and meaningful commitment from the Forestry Department. This includes a commitment to active engagement and participation in the charcoal task force, decentralization of the taskforce at the district level and follow up actions, and commitment of time and resources to support implementation of forest cover monitoring and the establishment of community forest management groups.
- Under knowledge management for Objective 5, a key assumption is that A2C will be able to collect reliable and timely baseline data on charcoal consumption and the use of ATFs. These data underlie many of A2C's indicators. An associated risk with this assumption is that even if data are reliable and timely, data collected on a statistically random basis results may not demonstrate the actual impact of A2C interventions. For example, the 122 enumeration areas surveyed annually to determine a percent change in charcoal use are selected randomly. This poses a risk that households could be surveyed who have never been exposed to A2C interventions and results may not reveal the true impact of A2C's interventions. To address this risk A2C will conduct contextual monitoring (activity 5.1.2), focus group discussions (activity 3.1.3) and analyze sales data from grantees.

## 4.0 ACTIVITY MANAGEMENT AND ADMINISTRATION

### 4.1 OVERVIEW

All A2C staff have been recruited apart from the livelihoods team, which will be onboarded during Q1 of FY23. In total, there are currently 30 full time staff employed by A2C. Together, the team brings the requisite skills and experience to implement the programmatic and operational requirements of the activity.

The Lusaka office will continue to serve as A2C’s main office, and a regional office in Solwezi will be operationalized in Q1 to support field-based activities related to establishing sustainable livelihood opportunities and community-based forest management in Solwezi, Kalumbila and Lufanwayma.

A2C is supported by Tetra Tech’s Home Office, including: a Project Manager, Deputy Project Manager, Contracts and Procurement Manager, Monitoring, Evaluation and Learning (MEL) Specialist, and Grants Specialist. A2C’s organizational structure is provided in Appendix C.

### 4.2 A2C STAFFING AND PERSONNEL

A2C’s organizational structure is designed to ensure clear lines of communication, responsibility and authority between Tetra Tech and its partners. Led by the Chief of Party (COP), A2C’s structure is designed around three technical units (shown as grey shaded boxes in Annex C), each with a team leader, in addition to an Operations team, led by the Deputy Chief of Party for Operations (DCOP-Operations).

A2C’s senior management is comprised of four key personnel positions: Chief of Party, ATF Technical Director, DCOP-Operations, and the Social and Behavior Change Communications (SBC) Coordinator. Their roles and responsibilities are summarized in Table 1 below.

**Table 1: Roles and Responsibilities of A2C Key Personnel**

POSITION (NAME)	RESPONSIBILITIES
<b>Chief of Party</b> <i>(Dr. Catherine Picard)</i>	<ul style="list-style-type: none"> <li>Supervises all Key Personnel, Subcontractors and STTA consultants</li> <li>Provides overall A2C Activity leadership, including oversight of technical implementation, financial reporting, and administrative management</li> <li>Provides technical leadership of activities under Objective 3 and 5</li> <li>Serves as the principal point of contact for USAID</li> <li>Actively engages partners to communicate a shared vision and ensures effective collaboration across activities</li> <li>Oversees financial planning and budgeting</li> <li>Provides leadership to the Cross-Cutting Team</li> <li>Prepares and ensures high-quality reports and deliverables with the Project Manager</li> <li>Ensures compliance with Tetra Tech and USAID policies and regulations</li> </ul>
<b>ATF Technical Director</b> <i>(Lloyd Archer)</i>	<ul style="list-style-type: none"> <li>Provides technical leadership of activities and supervision of staff for Obj. 1, 2 &amp; 4</li> <li>Guides overall strategy to promote ATFs and address barriers to adoption.</li> <li>Works with the ATF Team, partners, GRZ, and STTA to strengthen ATF energy options and improve the business enabling environment for the ATF market</li> <li>Leads private sector engagement of partners to advance ATFs</li> <li>Works with Obj. 4 Team to develop alternative livelihoods for charcoal producers</li> <li>Collaborates with the Cross-Cutting Team to incorporate technical insight and activities into A2C’s adaptive management approach</li> </ul>
<b>SBC Coordinator</b> <i>(Wilfred Zulu)</i>	<ul style="list-style-type: none"> <li>Leads Objective 3 implementation</li> <li>Develops SBC campaigns, organizes events, produces and tests marketing materials, manages social and other media, and supports training events</li> </ul>

POSITION (NAME)	RESPONSIBILITIES
	<ul style="list-style-type: none"> <li>Integrates relevant A2C learning and research findings into communications, advocacy materials, and strategies to promote ATFs and increase awareness of the negative environmental impact of charcoal production and use</li> <li>Supervises Communication Specialist</li> </ul>
<b>DCOP Operations</b> (Goliath Chisupa)	<ul style="list-style-type: none"> <li>Oversees all administration, grants, finance, and human resources components of A2C</li> <li>With the COP, ensures timely delivery of all financial, administrative, and contract compliance;</li> <li>Oversees the management of subcontracts, grants, and procurement to implement A2C successfully</li> <li>Supervises Grants Manager, Financial Manager, Administrative Manager, &amp; HR Specialist</li> </ul>

The A2C team also includes non-key personnel in senior technical and operational positions staffed by Tetra Tech and our partners to leverage comprehensive expertise. These team leaders include the Private Sector Uptake Coordinator (Objective 1 Lead), the ATF Policy Advisor (Objective 2 Lead), the Livelihoods Coordinator (Objective 4 Lead), the Monitoring, Evaluation, and Learning (MEL) Manager (Objective 5) and the Knowledge Management (KM) and Analytics Specialist (Objective 5). During FY23 A2C will hire a Community Forestry Specialist, Sustainable Landscapes Coordinator and community mobilizers to support Objective 4 activities. Table 2 details our technical, operational, and cross-cutting teams as well as essential non-key positions.

**Table 2: A2C Staff**

Title, Name	Roles and Responsibilities
<b>CURRENT STAFF</b>	
<b>Private Sector Uptake Coordinator,</b> Dr. Moliehi Shale	Leads efforts to increase availability of private sector-led ATFs on the market, completes consumer research and develops outreach strategies. Coordinates with the Grants Manager to facilitate ATF opportunities for private sector entities and innovators
<b>Private Sector Specialist &amp; Assistant,</b> Blessing Gondwe & Mulolwa Simposya	Supports PSE strategy development and implementation. Supports analysis of private sector business models & ATF private sector networks through improved coordination.
<b>ATF Policy Advisor,</b> Ilitongo Kaywala	Facilitates dialogue among private sector, GRZ, and civil society on policy issues. Works with the SBC Coordinator to develop effective communications and advocacy strategies to promote ATF policies. Advises GRZ on A2C policy initiatives.
<b>Regulatory Advisor,</b> Yorum Mbolela	Participates in regulatory review efforts, disseminates research, supports/advises ATF enterprises on regulatory changes. Supports development and implementation of streamlined processes. Coordinates stakeholder input with GRZ.
<b>PSE Finance Advisor,</b> Tom Liyanda	Liaises with private sector and investors to facilitate access to finance and credit to support ATF sector business development and market expansion. Provides technical support to private sector partners to address technical needs related to finance.
<b>Charcoal Legality Advisor,</b> Mindenda Pande	Works closely with the GRZ Forestry Department and the ATF Technical Director to develop outreach strategies, improve enforcement and develop charcoal monitoring systems. Supports development and implementation of training to support enforcement efforts. Supports the Charcoal Enforcement Taskforce.
<b>MEL Manager,</b> Samuel Mwanangombe	Manages all MEL processes and provides thought leadership, supervision, and coordination for the Cross-Cutting Team and the overall implementation of O5.
<b>MEL Assistant,</b> Msonga Phiri	Assist with A2C AMELP management including coordinating the systematic and standardized collection, collation, analysis and recording of performance results.
<b>KM &amp; Analytics Specialist,</b> Kotutu Chimuka	Supports MEL Manager. Coordinates with ATF/Livelihoods Teams to incorporate CLA into implementation. Coordinates KM and learning efforts across A2C implementation. Plans learning events and designs research. Oversees data collection. Leads Pause, Reflect and Pivot planning and supports technical staff to adapt planning.
<b>GIS Specialist,</b> Sitwala Wamunyima	Supports mapping and spatial planning of A2C activities including the use of spatial data to monitor charcoal production, distribution, and consumption, and related

Title, Name	Roles and Responsibilities
	forest monitoring efforts
<b>Data/IT Specialist,</b> Eric Malambo	Develops and manages all data systems and works closely with the KM and Analytics Specialist and the MEL Manager to ensure data collected is rigorous and complete. Provides IT advice on solutions to collect and disseminate data.
<b>Grants Manager,</b> Jane Mukwaila	Manages GUC in accordance with USAID rules and regulations and accompanying A2C Grants Manual. Assesses grantees' capacity to manage grant funding. Provides capacity building to strengthen local grants management. Monitors grantees' performance to ensure regulatory compliance
<b>Environmental Compliance Specialist,</b> Jedrick Siyingwa	Develops Environmental Mitigation and Monitoring Plans (EMMP) and ensures environmental review and climate risk screening of grants under contract (GUC) awards. Leads environmental compliance trainings and mitigation monitoring.
<b>Communication Specialist,</b> Daniel Banda	Organizes and facilitates public outreach and communication activities in collaboration with technical staff to spread awareness of ATF options and A2C implementation. Develops content for and manages social and other media.
<b>Gender &amp; Youth Specialist,</b> Kampamba Mubanga	Collaborates with ATF and Livelihoods Teams to develop and implement the A2C gender strategy. Coordinates gender reviews of A2C training and communications content to ensure gender and youth inclusivity in events.
<b>Human Resource Specialist,</b> Chileshe Mumbi	Establishes and maintains up-to-date personnel files and records for local employees, Oversees hiring processes, management of timesheets, and local employee benefits. Facilitates the process of annual employee performance evaluations.
<b>Accountant,</b> Bwalya Mushota	Oversees day-to-day functioning of accounting and financial control systems for A2C. Ensure that all transactions are appropriately recorded, and accounting standards, procedures and policies are followed. Ensure timely payments are made including for payroll withholding and to local consultants and subcontractors.
<b>Assistant Accountant</b> Rodney Luwaila	Assists with day-to-day functioning of accounting and financial control systems for A2C. Ensure that transactions are appropriately recorded in both Salesforce & QuickBooks and ensure A2C accounting and procurement standards, procedures and policies are followed and implemented
<b>Administrative Manager,</b> Beatrice Munzya	Oversees administration tasks related to office management in Lusaka and the eventual Regional Field Office, including property management procurement of goods and services, inventory control, vehicle mileage log, office and field staff safety and security and other general administrative tasks.
<b>Administrative Assistant,</b> Precious Mfula	Responsible for logistics related to special events and activities, administration of petty cash, oversight of administrative files, support for procurement and inventory control, domestic and international travel, and managing the reception area.
<b>Driver,</b> Pax Ngulube Katyoka Mafoti	Provide driving services for A2C staff, consultants and visitors. Maintain vehicle mileage log, ensure the project vehicle is well maintained and coordinate periodic vehicle maintenance and other logistical duties as assigned.
<b>Livelihoods Coordinator,</b> Herman Lukwesa	Identifies and develops sustainable livelihood activities for former charcoal producers in A2C's target sites. Oversees support for community forest management efforts.
<b>POSITIONS TO BE HIRED DURING YEAR 3</b>	
<b>Sustainable Landscapes Coordinator, TBD</b>	Oversees and coordinates implementation of community forest management planning and livelihoods activities under Objective 4 and supervises community mobilizers.
<b>Community Forestry Specialist, (TBD)</b>	Works directly with communities, district authorities and traditional leaders at selected sites to support the establishment of Community Forest Management Groups including capacity building and technical assistance and guidance.
<b>Regional Administrative Assistant, TBD</b>	Responsible for logistics related activities, administration of petty cash, oversight of administrative files, support for procurement and inventory control, domestic and international travel, and managing the reception area at the regional office.
<b>Driver, TBD</b>	Provide driving services for A2C staff, consultants and visitors. Maintain vehicle mileage log, ensure the project vehicle is well maintained and coordinate periodic vehicle maintenance and other logistical duties as assigned.
<b>Community Mobilizer (x4), TBD</b>	Leads frontline interactions with target communities to support community- based activities and ATFs.

## 5.0 COLLABORATION, LEARNING AND ADAPTATION (CLA)

### 5.1 CLA OBJECTIVES AND APPROACH

Adaptive management is at the core of A2C and integrated into all objectives and subsequent interventions. Accordingly, A2C will apply research and evidence-based learning to inform programmatic adaptation, as well as to appraise A2C of changes in the dynamic domestic energy sector and larger political economy to either mitigate negative external impacts or take advantage of new developments.

Our CLA approach will be led by A2C partner PMTC Zambia, utilizing and adapting the USAID CLA Program Cycle. The CLA approach will be underpinned by the following questions and concepts:

- During FY23 a set of learning questions will be asked and refined to inform programmatic adaptation. These include: Are the interventions having the intended impact? Do we know if we are implementing in the most effective and efficient manner? What is the evidence base that underpins answers to these questions, and is it sufficient?
- The questions above will enable A2C to quickly learn what is and isn't working and why. This will inform bi-annual Pause, Reflect and Pivot sessions to continually analyze 'what works' to learn and inform our adaptive management approach.
- A2C will establish a practice where monthly analysis, discussion and learning creates opportunities to reflect and learn, which in turn will feed into monthly metric meetings (Activity 5.2.1) and Knowledge Sharing Platforms (Activity 5.2.3).

Key activities to inform CLA during FY 23 include:

1. Monthly data collection and monitoring reports that monitor changes in pricing for charcoal and ATFs, as well as macro-economic indicators such as exchange rates, inflation and commercial lending rates. These monthly data sets are updated continuously, with associated analytics/visualization tools made available to staff.
2. Annual survey of approximately 2,440 households to calculate the change (%) in charcoal energy consumption by households, and the change (%) in use of ATFs in use by households among other indicators.
3. Biannual survey to measure changes in charcoal and ATF usage among households located in neighborhoods where A2C community influencers are working to elucidate the impact of A2C's direct investments. Results will also provide a bi-annual 'snapshot' between the broader operating environment and what is happening at household level.
4. Formal, biannual Pause, Reflect and Pivot events to reflect on activities, accelerate learning, convert analysis into action, and adapt programming as needed.
5. Participate in Learning Agenda events organized by USAID/Zambia's Office of Economic Development and Environment.

### 5.2 ILLUSTRATIVE LEARNING QUESTIONS

A2C staff developed and updated a set of illustrative learning questions during FY23 work planning, which are listed below. The questions are not exhaustive and will be expanded upon and refined based on further discussions with technical staff.

- What types of market information about ATFs are most important for investors to inform decision-making and how do we operationalize this information for them?
- What is the potential of carbon markets to support clean cooking in Zambia, and what role

could A2C play?

- What types of data affect investment decision-making – aggregated/sector or granular/individual?
- What are the most effective payment options (i.e. hire, purchase, PAYGo etc.) in promoting uptake of ATFs?
- What gender considerations are considered by the private sector to increase uptake of ATFs?
- How affordable do ATFs need to be? What are households willing to pay for ATFs?
- What does accessible mean to a consumer? How close does it need to be?

## 6.0 WORK PLAN RESULTS & ACTIVITIES

### 6.1 OBJECTIVE I: IDENTIFY AND REMOVE ATF MARKET BARRIERS

Activities under Objective I during FY23 will transition from stakeholder mapping and identifying market barriers to directly addressing the impediments faced by private sector stakeholders. This deepened engagement will be accomplished through information dissemination and live demonstrations (Result I.1), grant awards (Result I.2), tailored technical assistance (Result I.3) and mobilization of finance and investment to support different ATFs (Result I.4).

#### RESULT I.1: INFORMATION DISSEMINATION TO EXPAND ATF UPTAKE

##### 1.1.1 Private Sector Engagement

Private sector engagement (PSE) will take several forms during FY23, including routine informal check-ins, private sector driven Focus Group Discussions (FGDs), quarterly newsletters, support to industry associations, and an annual Private Sector Engagement Workshop. Engagement will focus on linking ATF enterprises with investors and sharing data and research outputs to help inform business decisions with the aim of making ATFs more affordable, accessible, and acceptable to consumers.

The quarterly newsletter will provide easily digestible information for ATF companies about research outputs, grant funding, technical assistance support (Incubator and Growth TA) and financing opportunities with commercial banks, impact investors and results-based financing opportunities. In addition, the newsletter will provide relevant third-party content from organizations such as the Modern Cooking Services (MECS) program, the Clean Cooking Alliance, and investors such as Spark+.

Private sector engagement in FY23 will culminate in a Private Sector Engagement workshop (deliverable T.4) to be held in Q4. The workshop will bring together ATF companies, investors, and development partners to provide networking opportunities and facilitate investment into Zambian ATF companies.

Key findings from the private sector engagement activities will be summarized in the Annual Monitoring Report on ATFs and Technological Advances (deliverable T.3), while deliverable T.9 will summarize information provided to investors on Zambian ATF market innovations.

##### 1.1.2 ATF Market Research and Analyses

During FY23 A2C will continue to identify and undertake research which will support ATF companies to develop technologies and services for a diverse base of customers, access finance, and overcome other barriers to ATF expansion. The Private Sector Engagement Specialist will lead direct engagement with ATF companies to capture what types of data and research are of most value and utility. When applicable, A2C will ensure all research conducted considers the differing needs of customers based on gender, age, ethnicity, and other relevant social characteristics. Research conducted during FY23 will be summarized in an annual report outlining research for private sector partners (deliverable T.6).

Illustrative areas for research include:

- Understanding biomass feedstock constraints and opportunities for pellet companies.
- Understanding the drivers of fuel stacking and how companies can develop products or services to shift the stack away from charcoal and towards greater use of ATFs.

##### 1.1.3 Demonstrations and Road Show Events

A key lesson learned during FY22 was the need to ensure greater private sector participation during demonstration events organized by community influencers, religious leaders and A2C. These live events not only enable consumers to see and use ATFs, but are also an excellent opportunity for companies to sell their product(s) and create brand awareness. During FY23 the Private Sector Engagement Assistant will lead road show events and support demonstration events to increase the number and type of ATF

companies participating. Incentives to ensure increased engagement will include advance promotion and marketing about the event, promotional sales, and the use of influencers (such as Brand Ambassador Ms. Wanga Zulu) to ensure the attendance of targeted audiences. Two roadshows (Q2 and Q3) will be hosted in Lusaka and one in Ndola (Q4). A2C will also ensure grantees who are selling ATFs actively participate in demonstration events and road shows, including live demonstrations, dissemination of marketing materials and promotions.

#### **1.1.4 Demonstration and Roadshow Tracking Tool**

The Private Sector Engagement Assistant, in collaboration with MEL team, will develop a Demonstration/ Roadshow event tracking tool which will capture ATF companies' sales made during and after events. The tool will be in the form of a short online-based questionnaire of no more than five questions to capture the number and type of units sold, date of sale, price and customer type (new or recurring). The tool will enable A2C to draw attribution and demonstrate the benefit of the events to the ATF companies. A secondary purpose of the tool is to provide internal feedback to improve the events for greater impact, i.e. increased sales and market reach. ATF companies that have participated in Demonstration/ Roadshow events will be requested to submit data at the end of the month, which be tabulated and reported in A2C Quarterly Performance Reports. The tool will be launched by the end of Q1, and results reported starting in Q2.

#### **1.1.5 Strengthen collaboration with Ministry of Small and Medium Enterprises (SME), Commerce and Finance**

Starting in Q1, the PSE team will initiate engagement with the Ministry of Small and Medium Enterprises (SME), Ministry of Commerce and Ministry of Finance and Planning to seek areas of alignment and collaboration. The Ministry was created in September 2021 to promote the growth of cooperatives and small and medium enterprises to generate jobs and wealth across Zambia. A2C's collaboration is intended to leverage resources provided by the Ministry, particularly: grants, registration of cooperatives and financial literacy programs.

### **RESULT 1.2: GRANTS AWARDED TO SUPPORT ATF EXPANSION AND ALTERNATIVE LIVELIHOODS**

#### **1.2.1 Grants Under Contract**

Led by the Grants Manager with support from the Technical Director, A2C will design and launch its second round of funding through its Grants Under Contract (GUC) program. During FY23 the GUC program will be used to support (i) ATF companies addressing barriers related to affordability, accessibility, and acceptability, (ii) charcoal producers to adopt sustainable alternative livelihood options in the four A2C target districts, (iii) in-kind grants to the Forest Department to support forest cover monitoring, and (iv) small grants for best performing companies which successfully complete the Incubator program. Where possible A2C will prioritize grants for women owned businesses, or companies who demonstrate a commitment to gender equality beyond business as usual.

Examples of eligible activities to be supported by the GUC program include:

- Assisting the private sector to build and expand supply chains (including inputs, services, financing, distribution);
- De-risking ATF innovation proofs of concept and subsidizing initial working capital costs;
- Kickstarting ATF adoption through credit provision or reduction of upfront costs to consumers (consumer financing);
- Defraying investment barriers for new ATF technologies and innovations;
- Addressing inefficiencies that hinder uptake of ATFs, such as distribution networks;
- Support for technologies that lower costs and increase efficiencies;
- Strategies that create new customers and change preferences from charcoal to ATFs; and



- Sustainable livelihood and value chain interventions (including forest-based enterprises).

Support to ATF enterprises is likely to take the form of a Request for Applications (RFA) using a tiered competition process which includes a concept paper for tier one and then a full application from a selected number of organizations for tier 2. Alternative livelihoods support for charcoal producers is likely to take the form of an Annual Program Statement (APS) with applications reviewed on a rolling basis. This activity will result in the Notice of Funding Opportunity (deliverable T.5) being released at the start of Q2.

### **1.2.2 Management of Grantees**

A2C will assign two technical leads to each of the grantees contracted in FY23. Technical leads will be responsible for monitoring grant performance, ensuring milestones are being met, identifying challenges and supporting grantees to find solutions, as well as technical approval of deliverables. The leads will also hold regular meetings with grantees to check on progress and identify challenges early on. If appropriate, grantees will be encouraged to participate in A2C's incubator or growth technical assistance programs (activities 1.3.2 and 1.3.3) to access generalized business development support. If required, grantees will be also offered bespoke in-house technical assistance (activity 1.3.4) from A2C to overcome specific business challenges.

## **RESULT 1.3: TECHNICAL ASSISTANCE TO DEVELOP ATF MARKETS AND ENTREPRENEURIAL CAPACITY**

During FY23 A2C will offer a full suite of Technical Assistance (TA) interventions to support ATF companies to improve their business models and accelerate their expansion. At the entry level, A2C will provide short two-day Resource Mobilization Workshops (RMWs) (activity 1.3.1), which will help companies develop a two-page company brief that can be shared with potential partners and funders. The most promising early-stage entrepreneurs/companies from the RMWs will be encouraged to apply for A2C's incubator program (activity 1.3.2), which will provide support to develop an initial business plan, financial model, and pitch deck. More established companies, with existing and viable business plans, will be encouraged to apply for the Growth Technical Assistance program (activity 1.3.3) which provides tailored business development support from a set menu of offerings. The Growth TA will focus on improving business performance and making companies investment ready. Finally, A2C will offer bespoke in-house technical assistance (activity 1.3.4) to companies under our grants program or companies that have successfully completed the Growth TA program. This bespoke assistance will focus on specific challenges that a company is experiencing with its business model. For example, support to LPG companies to identify new distribution points, or support to biomass pellet companies to improve sustainable feedstock supply chains.

### **1.3.1 Resource Mobilization Workshops**

A2C's Private Sector Uptake Coordinator in collaboration with subcontractor SVAS will hold two RMWs in FY23 in Q2 and Q4. The workshops will assist early-stage companies to develop a two-page company brief and other business needs (e.g., business planning and modelling and elevator pitches) which they can share with potential partners and funders to mobilize resources for company growth. During these workshops companies will be supported to think through their initial business plan, vision and mission, target customers, value proposition and elevator pitch. These elements will be combined into a company brief which will be produced by a graphic designer to create a professional finished product. Companies that actively engage and successfully complete the company brief will be encouraged to apply for A2C's Incubator program (activity 1.3.2) to further develop their business plan, financial model, as well as their investor pitch deck.

### **1.3.2 Incubator Technical Assistance**

Launched in FY22, and implemented through a local sub-contractor, A2C's incubator program will aid early-stage ATF companies to move from the ideation stage to developing an initial business plan, financial model, and investor pitch deck. The incubator program will support two cohorts through a

competitive application process. Companies will be onboarded in two cohorts of five companies each and provided with three months' worth business development support covering topics such as: accounting, business planning, business registration, idea validation, fundraising fundamentals, managerial skills, market research and developing pitch decks. At the end of three months, all companies in the cohort will participate in a capstone event where they pitch their business idea to a panel of judges. The best performing company in each cohort will be eligible for a micro-grant from A2C to further develop their business model.

The PSE team will hold regular meetings with the sub-contractor and companies participating in the Incubator program to monitor progress, provide support, and pivot where necessary. At the end of each cohort the team will review company business plans, financial models, and pitch decks, as well as participate in judging the final capstone event. Promising companies will be encouraged to graduate to the Growth TA program for further technical support, or potentially directed to apply for A2C's grant program to secure initial financing for their businesses.

### **1.3.1 Growth Technical Assistance**

The Growth TA activity will support two cohorts of companies (five companies each, up to 10 companies across both cohorts) over a 12-month period. It is envisioned that Growth TA participants will be of varying maturity, size, and investment readiness, but past start-up stage. Therefore, the TA delivered to each company will be varied and tailored to individual needs and capacity. For those companies that are seeking investment and in line with A2C's goal of supporting private sector-led solutions, a particular emphasis will be placed on investment facilitation support for companies. With this program, A2C seeks to support companies that meet the following criteria:

- Have an established business plan;
- Demonstrated minimum viable product of at least one ATF: highly efficient gasifier stoves and associated biomass pellet fuel, bioethanol, biogas, electric cooking, or liquefied petroleum gas;
- Demonstrated market traction (customer base, revenue, partnerships);
- Desire, resources, and capacity to enter into, or expand, operations in Zambia; and
- Credible sources of potential debt or equity investment (preferred, but not required).

Entry into the Growth TA program will be through a competitive process after which they will undergo a needs assessment to determine the type and level of support required from a pre-defined menu of options provided by the sub-contractor. Technical assistance provided includes some, or all, of the following areas: business model review and refinement, pitch deck development/refinement, organizational capacity development, product development, marketing and sales, legal services, and investment facilitation. Each cohort will participate in a final capstone event where they pitch their business to investors with the aim of securing financial support. Investors could include Absa (through the DFC loan guarantee), Spark+, NEFCO or carbon finance/impact investors.

The Private Sector Uptake Team will hold regular meetings with the Growth TA sub-contractor and participating companies to monitor progress, provide support, and pivot where necessary. The team will also review company level pitch books and participate as judges in the final capstone event. Companies who successfully complete the Growth TA program will be assessed for further A2C support and may be eligible for bespoke in-house technical assistance from the A2C team (activity 1.3.4) or encouraged to apply for grant funding (activity 1.2.1).

### **1.3.2 In-House Technical Assistance and Mentorship**

Companies who have either successfully passed through the Growth TA program, or who have been awarded grants from A2C, will be eligible to receive bespoke in-house technical assistance from A2C. This will include one-to-one consultations with A2C experts on specific topics, including but not limited to: mobilizing finance and investment, introduction to potential distribution partners, complying with permitting and regulatory frameworks, marketing and branding, provision of market data, and financial analyses.

## RESULT 1.4: FINANCE AND INVESTMENT MOBILIZED TO SUPPORT ATFS

A2C's stakeholder mapping during Year 2 confirmed access to working capital and credit are significant barriers for businesses and entrepreneurs in Zambia's clean cooking sector. Without access to finance many businesses struggle to earn a profit, expand their market share and/or meet the demand for their products. Likewise, the primary barrier for consumers to switch to cleaner cooking solutions is the inability to afford alternative technologies and fuels – particularly the initial purchase price. The activities within this result area are designed to address these challenges; results will be summarized in the Private Sector ATF Research and Investment Mobilization Report (*deliverable T.6*).

### 1.4.1 Carbon Finance White Paper

According to the Clean Cooking Alliance (CCA), in 2017, cookstove companies reported just over US \$500,000 globally in carbon revenues, representing 1.2% of total carbon revenues. However, this increased almost five-fold in 2018 to US\$ 2.4 million, and more than doubled to US\$ 5.2 million, or 12% of total revenues, in 2019. Almost all the carbon revenues generated between 2017 and 2019 were by biomass stove manufacturers as part of the Clean Development Mechanism (CDM) or voluntary carbon market. Carbon revenues in the coming years are expected to increase even more, considering the emergence of the South Korean Emission Trading Scheme, where several clean cooking projects are already registered, and the upcoming dialogue on Article 6 of the Paris Agreement. In addition, updates to the carbon methodologies that allow continuous monitoring of stove or fuel usage via smart devices will encourage more project registrations by reducing the transaction costs associated with monitoring and verification.

Given the important role that carbon finance can play in financing clean cookstove companies A2C will develop a carbon finance white paper during Q2 on the use of market mechanisms for clean cookstove programs in Zambia. The paper will review existing clean cooking carbon finance programs active in Zambia, analyze business models of those programs and how carbon credits are monitored and monetized, assess how clean cookstove programs could be implemented in Zambia under the new market mechanisms envisaged under Article 6 of the Paris Agreement, determine the benefits of these new market mechanisms as compared to existing programs and identify barriers, institutional frameworks, and capacity building needs required to implement a clean cookstove program under Article 6 by Zambia. Findings from the white paper will be used to inform A2C's level of engagement with the carbon markets as an investment tool for ATF companies to scale up operations.

### 1.4.2 Clean Cooking Solution Finance (CCSF) Model

Led by the Private Sector Finance Advisor, A2C will pilot its innovative CCSF model with Zambeef, Oryx Energies Zambia and United Bank of Africa (UBA). The CCSF model is predicated on using employee payroll deductions to increase consumers' ability to access and afford ATFs. The initial pilot will target Zambeef employees at their Huntley farm in Lusaka to adopt LPG. This activity started in Q4 of FY22 and will continue into Q1 (FY23).

To kickstart the CCSF pilot, A2C will collaborate with Zambeef to conduct sensitization among employees to raise awareness about the benefits of using ATFs, including the long-term cost savings, efficiency, accessibility, and positive environmental impacts. Zambeef will then establish a payroll deduction scheme for employees to guarantee the acquisition of cooking solutions from Oryx Energies on credit. Zambeef employees will then be able to place orders for LPG stoves and gas, and repayment will be made in monthly instalments to be deducted from the employee's salary, with varying repayment periods ranging from 6 to 24 months.

Depending on the number of Zambeef employees wanting to engage with the model, it is possible that Oryx Energies may not have the capacity to meet the growing demand for their products in a timely manner. To address this, United Bank of Africa will also be engaged as a partner to provide bridging finance (such as an overdraft credit) to Oryx Energies for the acquisition of more LPG cooking kits

(stove, fuel, and cylinder). The bank will be engaged to provide concessional rates to Oryx Energies for the overdraft facility to ensure the cost of the ATFs is affordable. If the pilot proves successful, A2C will scale it up to include additional companies with significant numbers of employees and other ATFs such as biomass pellet stoves and efficient electric cookers.

### **1.4.3 Working Capital Access (WCA) model**

Expanding the distribution and reach of LPG as an alternative to charcoal is one of A2C's core strategies. However, LPG distributors experience challenges and barriers to growth and expansion, including:

- Lack of access to working capital to purchase gas and / or cylinders
- Lack of knowledge and access to business development services (BDS), including basic financial skills to run their businesses;
- Lack of capacity to import more gas cylinders due to limited access to letters of credit; and
- Difficulty in financing assets, such as vehicles, which would enable distributors to improve distribution of LPG to consumers.

To address these challenges, A2C expects to award a grant (in early FY23 to Zambia Financial Sector Deepening (FSD) to implement its WCA model to expand access to working capital for LPG distributors in Zambia (as well as other credit facilities such as loan guarantees, letters of credit, and asset finance). The grant will bring together Afrox (Zambia's largest LPG distributor), Afrox distributors in Lusaka and Ndola, Zambia Financial Sector Deepening Limited (FSD Zambia), and a (TBD) commercial bank.

The model will mobilize a minimum of eight LPG distributors operating under Afrox Zambia. The distributors will form a savings group who will open a savings account with the selected commercial bank. The distributors will be allowed to save and borrow working capital from their savings pool; however, these loans will be strictly limited for the acquisition of gas and/or extra cylinders from Afrox Zambia. Throughout the cycle FSD Zambia will provide technical assistance to distributors (on topics such as how to form savings groups and resource mobilization) to support the model and monitor its performance for the first year.

During FY23, A2C's Private Sector Finance Advisor will work with FSD to learn lessons from the model and scale it up with other suppliers of LPG (Oryx Energies, CADAC, Lake Gas, Mt. Meru, etc.). Likewise, the model could be deployed for entrepreneurs looking to start an LPG distribution business, but who do not have enough capital to cover startup funds (LPG, cylinders, pumps, retail containers). Finally, the model could be replicated with other ATF sales agents, such as pellet retailers, who would like to achieve economies of scale by purchasing larger wholesale volumes of stock, but do not have sufficient working capital.

### **1.4.4 Continue Building Investment Networks**

To date, A2C has engaged with a wide range of investors including local commercial banks, as well as impact investors such as Spark+, DFC/Absa, BIX Capital, Gaia Impact Fund and Aera to promote interest in the Zambian ATF sector. Significant progress has been made with draft term sheets provided in FY22 by Spark+ to Atlas Mara and Inde Credit for on-lending to ATF companies. Likewise, DFC/Absa have included clean cooking as one of their four focus areas and a pipeline of 32 ATF companies has been presented to Absa for potential loan support. A2C will continue to strengthen the understanding of market opportunities in the clean cooking among local commercial banks while conveying the investment requirements of external and impact investors to ATF companies as part of the project's efforts to scale up international and local investment and increase awareness about Zambia's ATF sector.

Throughout FY23, A2C will update the pipeline of ATF companies seeking investment. We will draw on feedback from Focus Group Discussions, the Private Sector Annual Workshop, and routine check-ins with ATF companies, as well as companies supported under our grants and technical assistance programs. Briefing papers will be prepared on each ATF company which can be shared with investors, allowing them to make a rapid assessment of the companies they would like to learn more about, at which point match making would be facilitated by the A2C team.

#### **1.4.5 Clean Cooking Alliance Forum**

The Clean Cooking Alliance (CCA) and the Government of Ghana are co-hosting the Clean Cooking Forum 2022 from October 11-13 in Accra, Ghana. The forum will convene global leaders, policymakers, entrepreneurs, investors and donors to pave the way for meeting global clean cooking targets. During FY23 A2C will send a team of key staff to the forum. They will meet with ATF companies and investors with the aim of promoting Zambia as a destination to do business and make investments and engage with policymakers from other nations to understand how they have strengthened the business enabling environment in their respective countries to support the growth of clean cooking.

## **6.2 OBJECTIVE 2: IMPROVE THE ATF BUSINESS ENABLING ENVIRONMENT**

There are numerous barriers in Zambia's business enabling environment which either prevent, delay and/or disincentivize the transition from charcoal to ATFs. These include high tariffs and VAT on imported manufactured goods such as stoves and LPG cylinders, permitting and licensing processes that are not business-friendly, limited distribution networks, a lack of coordination between government agencies regarding policies and regulations related to clean energy, and limited investment incentives. During FY23, A2C will focus on directly addressing the impediments in the enabling environment that affect the uptake of ATFs as well as the entry and growth of the private sector in the ATF sphere. Activities during FY23 include: identifying barriers in the enabling through research, discussion and technical assessments (Result 2.1), initiating policy and regulatory reforms aimed at strengthening the business enabling environment and improving the ease of doing business (Result 2.2); and supporting increased coordination and prioritization across stakeholders in the energy sector, including the development of a national clean cooking strategy with clear targets and action plans (Result 2.3).

### **RESULT 2.1: IDENTIFY BARRIERS IN THE BUSINESS ENABLING ENVIRONMENT**

#### **2.1.1 ATF Regulation Workshop**

While strides have been made by A2C to improve the business enabling environment over the last 12 months (development of ethanol standards, revision of LPG regulations, and request for fiscal waivers on ATFs), ATF regulation is still at a nascent stage, and numerous gaps exist that inhibit the enabling environment. Therefore, during Q3 A2C will support ERB and the MoE to hold a second regulations workshop with a specific focus on ATF private sector barriers, experiences and opportunities in Zambia.

The workshop will engage government authorities and regulators, the private sector, research institutions and civil society to identify barriers and propose solutions related to the regulation of LPG, biogas, ethanol, biomass pellets and grid-based electric cooking. The one-day workshop will be organized in Lusaka and led by the ATF Policy Advisor with support from subcontractor partner Tetra Tech ESI. Speakers will be invited to present challenges and opportunities on the regulation of each ATF, highlighting how policies and procedures can be developed which expand the business enabling environment for the private sector, while simultaneously creating revenue for government and ensuring the health and safety of consumers. The recommendations from the workshop will be presented to the GRZ and if accepted, A2C will support the GRZ in the implementation of the actions.

#### **2.1.2 Political Economy Analysis of LPG**

During Q3, the ATF Policy Advisor (with inputs from Tetra Tech ESI's home office) will design and conduct a political economy assessment (PEA) of Zambia's LPG landscape to better understand the

economic and decision-making dynamics which drive the LPG sector in Zambia. The assessment will include an assessment of how economic incentives and market dynamics differ between oil marketing companies (OMCs) and the corresponding implications for expansion of LPG in Zambia. The PEA will be designed in April with research conducted in May and June and submitted for approval in July (Deliverable T.12). The results of the PEA will allow A2C to better understand LPG sector dynamics, including drivers and barriers to market expansion, how decisions related to standards and regulations differ by market share, political and economic incentives for investing in LPG and where growth in LPG demand is coming from and how will it be met.

### **2.1.3 Pay-As-You-Go Assessment**

Pay-as-you-go (or PAYGO) has significant potential to enable greater uptake of ATFs in Zambia by allowing payments in small installments over time to address the challenge of upfront costs. Several ATF providers and grantees have noted their interest in using PAYGO but are unclear what tax and data protection regulations would apply. A2C, with support from Tetra Tech ESI, will explore financial and data protection regulations related to PAYGO in Zambia during Q2. This may involve desktop research on relevant Zambian regulations, best practices from other countries, and consultations with ATF providers and relevant GRZ entities. Results will be shared with companies working on PAYGO solutions, and, if necessary, A2C will produce a brief with recommendations on modifying or removing barriers to financial and data protections to enable greater uptake of PAYGO.

### **2.1.4 LPG Cylinder Accessibility and Validation Study**

As part of the Energy and Regulatory Board's (ERB) mandate to protect consumers and increase accessibility to energy products, ERB is considering developing a national standard to provide guidance about validation of LPG cylinders to OMCs supplying LPG in Zambia. Validation can be defined as a certification process and periodical testing of LPG cylinders to verify they can safely remain in circulation. In the LPG industry, validation is also often referred to as requalification. Proper requalification of LPG cylinders is important to ensure the safety of consumers and integrity of LPG cylinders in circulation. According to the World LPG Association (WLPGA), proper requalification has an impact on consumer perception of LPG and helps to ensure the consumers' peace of mind regarding safety – factors that influence LPG uptake in Zambia. A2C will hire a technical consultant who will conduct a rapid assessment of current operational practices to validate LPG cylinders in Zambia and propose LPG cylinder requalification measures to the ERB which can be adapted into a national standard. This will be a continuation of the work that commenced in FY22 Q4 and is expected to be completed in Q1 of FY23.

Alongside the cylinder validation/requalification assessment, A2C will finalize an ongoing study in Q1 that identifies opportunities to promote accessibility of validated cylinders in Zambia. The study will present a summary of LPG distribution in Zambia, map LPG retail points, identify opportunities to promote LPG accessibility (last-mile distribution, home delivery), and present relevant case studies from other countries.

### **2.1.5 Conduct Annual Ease of Doing Business Survey**

During Q4, A2C's Policy and Regulatory team will undertake a survey to measure progress against the original Ease of Doing Business baseline to measure what progress has been made in improving the business enabling environment for private sector actors manufacturing, distributing and selling ATFs. Illustrative criteria related to ease of doing business that will be measured include: starting a business, registration, taxation, customs, permitting and licensing and financial fees. The survey will measure progress towards A2C's target of increasing the ease of doing business by 25 percent by the end of the project. A2C has a target of a 10% increase in the ease of doing business by the end of FY23. The survey will be delivered through one-on-one interviews and virtual questionnaires with private sector companies and relevant government agencies such as the Patents and Companies Registration Agency, Zambia Revenue Authority, and Energy Regulation Board. Results will be reported in Q4 under Indicator 10.

## RESULT 2.2: ADDRESS BARRIERS IN THE BUSINESS ENABLING ENVIRONMENT

### 2.2.1 Customs Handbook

Starting in Q2, the Regulatory Advisor will support GRZ to develop an ATF Customs Handbook to provide comprehensive guidance to stakeholders on the process of importing clean cooking products. Further, the Customs Handbook will clarify the tax and duty exemptions for a range of clean cooking products sold in Zambia. This will minimize varying interpretations and misapplication of tax exemptions by stakeholders. The handbook will provide information such as: product descriptions, Harmonized System (HS) codes, packaging and shipping information, illustrations, and applicable duty and VAT rates. The Handbook is envisioned to contribute towards efficiency and easy access to clean cooking products and therefore will help to increase rates of access to clean cooking in Zambia, which are currently low.

### 2.2.2 Revision of LPG Standards

To attract more investment in LPG and improve the scaling of LPG as an alternative to charcoal, A2C worked with the Energy Regulation Board and the Ministry of Energy during FY22 to review five existing LPG standards. The standards targeted issues related to the distribution, storage, and transportation of cylinders. During Q1, A2C will continue to support MoE and ERB to finalize and publish the revision of the five standards. In addition, A2C will support the review and revision of a sixth LPG standard focusing on the design, use and maintenance of LPG cylinders, which will be informed by the LPG Cylinder Accessibility and Revalidation Study (see activity 2.1.4).

### 2.2.3 Streamline Permitting Processes

Beginning in Q1, A2C, with support from Tetra Tech ESI, will collaborate with the USAID Business Enabling Project, the Ministry of Energy, private sector companies and relevant regulatory agencies to identify challenges and barriers in the permitting of ATFs. Energy Sector Advisory Group (ESAG) meetings (activity 2.2.1) will also be a useful platform to collect feedback on permitting impediments. Based on this feedback, A2C will work with the ERB to streamline the permitting processes for select ATFs to reduce the cost, time and ease for permits to be issued. The establishment of streamlined permitting will be summarized in deliverable T.16 (to be submitted in Q3) and is intended to improve the Ease of Doing Business (Indicator 10).

### 2.2.4 LPG Installers Curriculum

Starting in Q4, A2C will engage with the Energy Regulation Board to develop curricula for LPG installers in Lusaka. ERB will revive earlier discussions to develop the curriculum with TEVETA, while A2C will support the constitution of a technical committee to develop the curriculum alongside stakeholder consultations, publication of curricula and adoption by Ministry of Education. The curriculum will be practical and structured to meet all requirements related to handling, storage, distribution and installment and maintenance of LPG for domestic and commercial installations. The expected outcomes of this activity are employment and training opportunities for women and youth as part of Zambia's green economy, increased numbers of technicians for installation and maintenance of LPG cylinders and improved safety and consumer confidence in LPG cylinders.

## RESULT 2.3: INCREASE ENERGY SECTOR COORDINATION

### 2.2.1 Energy Sector Advisory Group

The Energy Sector Advisory Group (ESAG) is a recently revived platform within the MOE to enhance coordination across Zambia's energy sector by bringing together key stakeholders from government, the private sector, academia, civil society and cooperating partners to advise the GRZ on energy policy issues. The ESAG was active until 2016, when it was replaced with Cluster Advisory Groups which unintentionally generated challenges related to coordination and information dissemination within the energy sector.

A2C will continue to support the MOE to convene ESAG meetings, including sub-committees focused on petroleum, electricity, renewable energy, clean cooking and cross cutting issues. During FY23, A2C will support the convening of two one-day full ESAG meetings in December (Q1) and June (Q3) covering all five sub-committees, as well as quarterly sub-committee meetings for each of the five subcommittees. The meetings will include stakeholders from Lusaka as well as other provinces including line ministries such as Ministry of Lands and Natural Resources, Ministry of Finance and the Zambia Revenue Authority, universities and Research Institutions, Lusaka City Council, a representative from the House of Chiefs, Cooperating Partners (including the Off Grid Task Force), as well as Non-Governmental Organizations and Industry Associations. Expected outcomes from ESAG meetings include contributions to the National Clean Cooking Strategy (activity 2.2.2), drafting of recommendations to advise the GRZ on key policy issues in the energy sector against set national targets and National Development Plan(s) including those related to ATFs; and monitoring and reporting progress against targets outlined in the National Energy Policy and related strategies.

### **2.2.2 Zambia Gender and Energy Network**

The Zambian Government recognizes that a clean energy transition requires a holistic approach and as such has committed to enhancing capacity for gender mainstreaming to ensure gender is mainstreamed into policies, plans, programs, projects, activities, and budgets. The gender-energy nexus is critical because women are the primary users of energy at the household level and most affected by unclean cooking; they suffer ill health effects, time poverty, drudgery, and lack of resources for clean cooking. Further to this, women are negatively affected by factors such as low representation in decision making positions, and lack of access to funding and opportunities to venture into energy projects either as entrepreneurs or at larger scales.

One of the vehicles for promoting gender balanced development by the Ministry of Energy is the Zambia Gender and Energy Network (ZGEN). The main objective for the ZGEN is to create a platform that will spearhead the implementation and actualization of policy measures on gender in the National Energy Policy and associated strategies such as the Gender Strategy and Action Plan as well as bring to the attention of the GRZ the gender specific requirements in the Energy Sector. During FY23 A2C will continue to support the MoE to hold quarterly ZGEN subcommittee meetings which bring together a wide range of stakeholders to identify, and undertake, priority activities and advance the gender and energy agenda in Zambia. In addition to the above, two main meetings of the ZGEN will be held during FY23 in Q2 and Q4.

To ensure the long-term sustainability of the network, A2C will support the Ministry of Energy and ZGEN to expand its membership and identify other cooperating partners and organizations that can provide funding to the network. Further, A2C will engage the Ministry of Energy and Ministry of Gender to identify either direct and in-kind support for the network and will advocate that direct support be budgeted for under the Ministerial Annual Budgets. With the National Gender Strategy for Energy in place, A2C is confident new organizations will be interested in supporting activities that will increase gender equity and empowerment in the energy sector. A2C will also promote linkages between the ZGEN to the NGO forum for identification of potential partners.

### **2.2.3 Develop a National Clean Cooking Strategy**

Currently, Zambia's commitment to clean cooking is governed and regulated by several policies, strategies, and regulations, including but not limited to Zambia's Vision 2030, 8th National Development Plan, National Energy Policy, Energy Efficiency Strategy and Action Plan, and the National Renewable Energy Strategy and Action Plan. However, while these documents broadly communicate the GRZ's interest in clean cooking technologies and fuels there are no coherent linkages across sectors to demonstrate a holistic way forward to achieve targets. In addition, these policy directives (i) are not consistently enforced, (ii) lack quantitative targets and (iii) do not include tangible interventions.



Furthermore, (iv) they often do not provide for cooperative mechanisms among GRZ entities to improve governance.

Zambia's Sustainable Energy for All Action Agenda (SEforAll) has stressed the need to develop a comprehensive strategic plan and roadmap for clean cooking, if the Zambian government is to achieve its 2030 goal of 100% access to modern and clean cooking solutions for urban and rural areas. Currently, the positive support for clean cooking by GRZ, and presence of multiple international donors that support clean cooking in different capacities, represents a timely opportunity to create an impactful and inclusive clean cooking strategy that can unite GRZ, civil society, and the private sector in reducing the environmental and human impact of unsustainably sourced, and consumed, biomass fuels for cooking.

During FY22 A2C consulted widely with GRZ ministries and cooperating partners to gauge interest in, and demand for, a National Clean Cooking Strategy and Action Plan (CCSAP). The broad objective of the CCSAP would be to solidify the GRZ's vision for the future of the clean cooking sector, present the case for the benefits of clean cooking in Zambia, identify actionable targets, interventions and public-private cooperation and accountability mechanisms, as well as a pathway to achieving universal access to clean cooking leveraging all technology tiers. Based on positive feedback about the concept, and a subsequent formal request from the MoE, A2C will support the Ministry to develop the CCSAP.

By the end of FY22, A2C will have drafted the CCSAP terms of reference, conducted desktop research and drafted an outline. The key tasks to be undertaken in FY23 will include:

- Convene first stakeholder workshop to solicit feedback on the outline (Q1)
- Prepare the first full draft of the CCSAP (Q1)
- Circulate first draft and receive stakeholder feedback (Q1)
- Revise the CCSAP based on feedback (Q2)
- Convene a validation workshop to solicit final inputs (Q2)
- Finalize the CCSAP (Q3)
- MoE approval and public launch of CCSAP (Q3)

### **6.3 OBJECTIVE 3: SOCIAL BEHAVIOR CHANGE FOR ATFs**

A2C will continue to ramp up SBC and communication initiatives during FY23, with the goal of ensuring a significant uptake of ATFs and the provision of timely information about the affordability, accessibility and acceptability of ATFs. During FY23 the SBC team will focus on transforming research results to produce clear and concise messages for consumers and monitoring the impact of SBC interventions (Result 3.1); expand the use of community influencers and religious leaders and provide information directly to consumers through the hotline, TV, radio and social media (Result 3.2), and expand collaboration with media, youth and private sector partners (activities 3.3.5-3.3.7).

SBC interventions will be led by the SBC Coordinator with support from the Communication Specialist, Knowledge Management (KM) and Analytics Specialist, and the Gender and Youth Specialist. A2C will take into consideration the differentiated roles and perceptions of women and youth when developing interventions

#### **RESULT 3.1: KEY BEHAVIORS AND MOTIVATIONS UNDERSTOOD IN TARGET AUDIENCES**

##### **3.1.1 Lessons from A2C Research Inform SBC Programming**

Effective SBC programming needs to be grounded in empirical research regarding current behaviors and preferences, as well as the underlying factors that motivate these behaviors and related consumer preferences. Starting in Q1, the SBC Coordinator will review results from the Cost of Cooking Study, the annual household survey and call center data to produce clear and concise messages for consumers and to train influencers. For example, the Cost of Cooking Study will result in data that will help call

center operators and community influencers to clearly explain the costs savings associated with ATFs as compared to charcoal. Likewise, private sector players can also use the data to understand how they rank compared to other alternatives (in terms of cost and time) and position their messaging appropriately. Results will be used to inform and improve the efficacy of SBC messaging, campaigns and events.

### **3.1.2 Support private sector partners around awareness raising and marketing:**

A2C will work during Q1 with individual ATF businesses and A2C grantees to support their marketing efforts. Tailored technical support will then be provided starting in Q2 by the SBC Team related to branding, outreach, awareness raising, product placement and sales events.

### **3.1.3 Monitoring**

To better understand the impact of SBC programming, in particular the efforts led by community influencers and religious leaders (see activity 3.2.1 and 3.2.2 below), the SBC and MEL teams will jointly facilitate a mix of Focus Group Discussions and in-depth interviews during Q2 with randomly selected households in A2C's target neighborhoods within Lusaka. Questions will examine respondents' familiarity with A2C messaging, inquire if the information received resulted in any behavior change such as buying an ATF or reducing charcoal usage, identify challenges households face when looking to reduce charcoal use, as well as information gaps and needs. Results will complement the survey data collected under activity 5.1.2 and will be shared with community influencers and religious leaders as part of the regular feedback meetings A2C convenes.

## **RESULT 3.2: IMPLEMENT AND SCALE UP SOCIAL BEHAVIOR CHANGE MODELS**

### **3.2.1 Community Influencers**

A2C will continue to collaborate with community influencers to raise awareness and promote the adoption of ATFs, including through door-to-door sensitization campaigns and community-led clean cooking demonstrations (see Figure 2 below) that enable consumers to interact with ATFs and make purchases. Throughout FY23, A2C will retain community influencers in seven residential areas of Lusaka, namely: Kalingalinga, Mtendere, Matero, George, Ng'ombe, Kamwala South and Chawama. During Q2, two more (TBD) residential areas in Lusaka will be added (for a total of nine). The number of influencers in Kitwe, Ndola and Solwezi will be retained. The expected number of community influencers will therefore increase from 175 to 220 in FY23.

**Figure 2: Community Influencers Cooking Eggs on an ATF during a Demonstration Event in Lusaka**



Each of the seven residential areas will conduct two demonstration days per quarter, for a total of 56 clean cooking events. At the end of each quarter, A2C will hold feedback meetings with the community influencers to assess the impact of their interventions, discuss ways to overcome challenges and identify areas for further training. The SBC Coordinator will oversee the activities and coordination of all community influencers.

### 3.2.2 Religious Influencers

Given the church's strategic role in influencing people's behaviors and attitudes, A2C initiated collaboration with female religious leaders from various mother church bodies in FY22 to promote ATFs (see Figure 3 below). In FY23, A2C will pivot to working with individual churches domiciled in communities. This will enable A2C to directly reach consumers in areas that predominantly use charcoal. Focal point persons from each church will take the lead in identifying and organizing demonstration activities. To encourage participation, churches will also be encouraged to make announcements about clean cooking events during worship days. Each quarter, a minimum of eight demonstration events will be convened by churches in Lusaka. At the end of every quarter, the SBC team and Gender and Youth Specialist will hold feedback meetings with focal point persons to review activities undertaken, lessons learned, and plan for future activities.

**Figure 3: Lusaka's Catholic Church Leadership Members after an A2C Awareness Raising Meeting**



### 3.2.3 Clean Cooking Hotline

A2C's clean cooking hotline is a toll-free number (3838) that provides detailed information about ATFs to consumers. Hotline operators use scripts developed by A2C to answer the questions about alternatives to charcoal. Data indicate the majority of calls received are regarding affordability (cost) and accessibility (where can the alternative be purchased). During Q1, the SBC and private sector teams will update the operator scripts for LPG, pellets and ethanol as well as develop a new script for induction stoves (which will be promoted under the Grants program). A2C will also develop short, pre-recorded messages in the form of "Did You Know" statements about clean cooking to be played when the hotline is busy or closed. Data from the call center - including the number of calls received and answered and the subject of the callers' inquiries - are logged into a database and reported to A2C daily. A2C's knowledge management team will analyze the data quarterly to identify trends including related to peak calling times, types of questions asked and length of call.

**3.2.4 Television, Radio and Social Media** Television has proven to be A2C's most successful mass media tool, enabling the project to disseminate information to hundreds of thousands people about ATF affordability, accessibility and acceptability. During Q2 and Q3, A2C will air television and radio

advertisements featuring project ambassador and television star, Ms. Wanga Zulu. The one and half minute videos (see Figure 4) will air during prime time on ZNBC television, alongside prerecorded audio messages which will be aired twice daily on community radio stations in Lusaka and Ndola. The timing of the television and radio campaign is intended to align with A2C grants program, which will increase the availability and affordability of ATFs. Throughout FY23, A2C will also collaborate with individual influencers in Zambia with a significant social media following to post clean cooking messages on their social media accounts (namely Facebook and Instagram).

### 3.2.5 Media Engagement

Zambia's media plays an important role in raising awareness about the impact of climate change and the role charcoal plays in fueling deforestation and forest degradation. It is therefore important to support and recognize the work of journalists reporting accurately on environment issues. The Zambian chapter of the Media Institute of Southern Africa (MISA) hosts a media award ceremony annually to recognize and honor outstanding journalists. In FY23, A2C will sponsor a clean cooking category to recognize excellence in journalistic coverage (television, radio, print and online media) about the impacts of charcoal on the environment and benefits of adopting ATFs.

A2C's communications and gender specialists will work with MISA Zambia to develop the selection criteria for print, television, radio, and online media categories. The selection criteria will focus on the depth of reporting, benefits of adopting ATFs, and simplicity of the message in a way that makes it easy for people to understand. The awards will motivate the media to have more interest in clean cooking and environment; thus, leading to increased awareness.

### 3.2.6 Engage Youth Organizations

Youth constitute 36% of Zambia's total population and are a key target demographic for A2C. Starting in Q2, the SBC Coordinator and Gender and Youth Specialist will initiate discussions with the Ministry of General Education (MoE) and the Lusaka District Education Board Secretary (DEBS) to allow sensitization meetings about the impacts of charcoal and the benefits of ATFs in select secondary schools in Lusaka compounds targeted by A2C. The sensitization will target teachers and pupils and are expected to result in messages transmitting onwards to parents, guardians and community members. After sensitization, teachers will facilitate formal debates about clean cooking and the impact of charcoal on the environment which will prompt debate teams to undertake research and support a position during the debate. A2C's Gender and Youth will serve as a judge for the debates, and the winning debate team will receive branded t-shirts and caps.

### 3.2.7. Public Partnerships

Partnership with the public sector is vital for awareness raising on environmental issues and building national acceptance of ATFs. In Q1, A2C will partner with the Ministry of Energy to commemorate Energy Week with a focus on promoting ATFs. The Communication Specialist will be part of the organizing committee for the event and will ensure A2C will support activities taking place in Lusaka. In Q3, A2C will collaborate with the Ministry of Energy and the Energy Regulation Board (ERB) to participate in Agriculture and Commercial Society Show and the Zambia International Trade Fair, both held in Lusaka. Attracting hundreds of thousands of visitors, the show is an excellent opportunity to promote alternatives to charcoal. For both events, A2C will host booths and invite private sector partners to offer special incentives on their products to encourage greater uptake.

**Figure 4: Behind the Scenes During the Filming of TV Advertisements**



## **6.4 OBJECTIVE 4: IMPROVED REGULATION OF CHARCOAL SUPPLY CHAINS, AND SUSTAINABLE LIVELIHOODS**

Objective 4 focuses on improving the regulation of the charcoal value chain, including: support for the Inter-governmental Charcoal Taskforce, building the capacity of the Forestry Department (FD) and strengthening policies and regulations to regulate the charcoal trade, support for forest cover monitoring of select sites, and strengthening community management of forests. Objective 4 is also designed to support alternative livelihoods for charcoal producers (forest-based enterprises and agricultural value chains) once a measurable decrease of charcoal is measured in urban areas. During FY22 A2C completed the identification of sites where the project will promote alternative livelihood opportunities for charcoal producers, establish community forest management groups (CGMGs) and conduct forest cover monitoring. The four districts are: Kalumbila, Lufwanyama, Mumbwa and Solwezi with Mukumbo, Kyangozhi, Kaindu and Kapijimpanga identified in each respective district as operational sites.

### **RESULT 4.1: IMPROVED REGULATION AND ENFORCEMENT OF THE CHARCOAL SECTOR**

#### **4.1.1. Support Inter-Governmental Charcoal Task Force**

The Intergovernmental Charcoal Taskforce, which is co-chaired by the Forestry Department (under the Ministry of Green Economy and Environment) and the Ministry of Energy, brings together stakeholders from government, civil society and cooperating partners to share information and collectively identify priority actions to strengthen the monitoring and enforcement of the charcoal sector. During FY23, A2C will support the Taskforce's sub-committees to identify and undertake concrete actions designed to improve regulation and oversight over charcoal such as: improving the efficacy of charcoal permitting, revenue collection and checkpoints; streamlining record-keeping and reporting for permits and licenses within the Forestry Department, decentralizing the taskforce to the district level, and providing recommendations for policies and legislation under review such as the Forest Act and the revised charcoal regulations. A2C will support four quarterly meetings of the Taskforce in FY23, starting in Q1.

#### **4.1.2 Support Revised Charcoal Regulations**

The FD was expected to complete the revision and promulgation of national charcoal regulations during FY22. This was not however achieved due to the Cabinet's decision to revise the Forestry Policy of 2014 and amend the Forests Act No. 4 of 2015 at the end of FY22. The Ministry of Green Economy and Environment is likely to only revise the charcoal regulations after the Forestry Act is amended. As a result, A2C will pivot during FY23 from a focus on revising the charcoal regulations to supporting (as requested by the FD) the revision of the Forestry Policy and subsequent amendment of the Forest Act. During Q1, A2C's Charcoal Legality Advisor will meet with the FD and MGEE leadership to identify what, if any, support is needed from A2C including technical assistance in reviewing and drafting legal texts, convening feedback and validation meetings, and/or supporting the public comment processes.

#### **4.1.3 Capacity Building to Improve Oversight and Regulation of the Charcoal Sector**

During FY23, A2C will continue building capacity to improve oversight and regulation over charcoal value chains. Capacity building will focus on institutions and individuals with authority over charcoal production, conveyance and sales including the Forestry Department (FD), Anti-Corruption Commission (ACC), Zambia Police Service (ZPS) and the Department of National Parks and Wildlife (DNPW), Wildlife Police, the Zambia Environmental Management Agency (ZEMA) and honorary forestry officers (HFOs). A2C will also engage the FD to consider recruitment of HFOs to supplement the staffing gap in selected charcoal production and trading hotspots.

Trainings for GRZ authorities and HFOs will focus on increasing understanding of current (or revised, if applicable) legislation such as the Forests Act, Forestry Policy and charcoal regulations. Participants will gain understanding of how forests and forest products (such as charcoal) are governed in Zambia, the different categories of officers authorized to enforce legislation and their respective duties and

authorities, the different types of forest-related permits and licenses which may be issued, as well as enforcement procedures and methods. Methods will include role plays, lectures and small group discussions. Training and awareness raising materials will be summarized in Deliverable T.18, and the results of trainings reported to USAID on a quarterly basis (Indicator 15).

#### **4.1.4 Monitoring of the Charcoal Supply Chain**

Starting in Q4, subcontractor PMTC Zambia will conduct a follow-up survey in the four selected sites (Mukumbo, Kyangozhi, Kaindu and Kapijimpanga) to measure the percent change in the number of people engaged in the charcoal value chain in targeted areas (Indicator 16). The survey will measure:

- The extent to which community members in the value chain have a) switched entirely to alternative livelihoods, b) reduced their participation in the charcoal value chain (and at which times during the season), or c) entered the charcoal value chain (new individuals). A2C will calculate the percent change of total number of people expressed as a number of person-months (to account for and measure full-and part-time producers) engaged in the charcoal value chain from the initial baseline at selected sites.
- The presence or absence of “non-residents” at the site (contractors or agents for charcoal cartels, made up of outsiders and/or immigrants hired to harvest forest and produce charcoal in organized and systematic ways). In recognition of this complexity, A2C will split the number of people involved in the charcoal value chain, per site, into people who are involved in the charcoal value chain *occasionally and at specific times of the year*, and people who are engaged in the charcoal value chain *as their main occupation* (either existing participants or new participants).

The survey will be conducted in Q4, and results will be included in the Annual Charcoal Monitoring Report (Deliverable T.22).

### **RESULT 4.2: SUPPORT COMMUNITY FOREST MANAGEMENT**

#### **4.2.1 Support the Establishment of Community Forestry Management Groups (CFMG)**

Effective monitoring, regulation and enforcement of the charcoal supply chain cannot be achieved by the FD alone given its limited human and financial resources, and the widespread practice of charcoal production. While A2C will strengthen the efficacy of FD efforts to enforce charcoal regulations (see Result 4.1), it is local communities who will provide the most effective and viable enforcement over charcoal production. The Forest Policy of 2014 encourages the participation of local communities living in and around the forest areas to actively engage in the conservation of forests. Likewise, the Forest Act provides the legal foundations for significant shifts in control and rights to communities over forest resources.

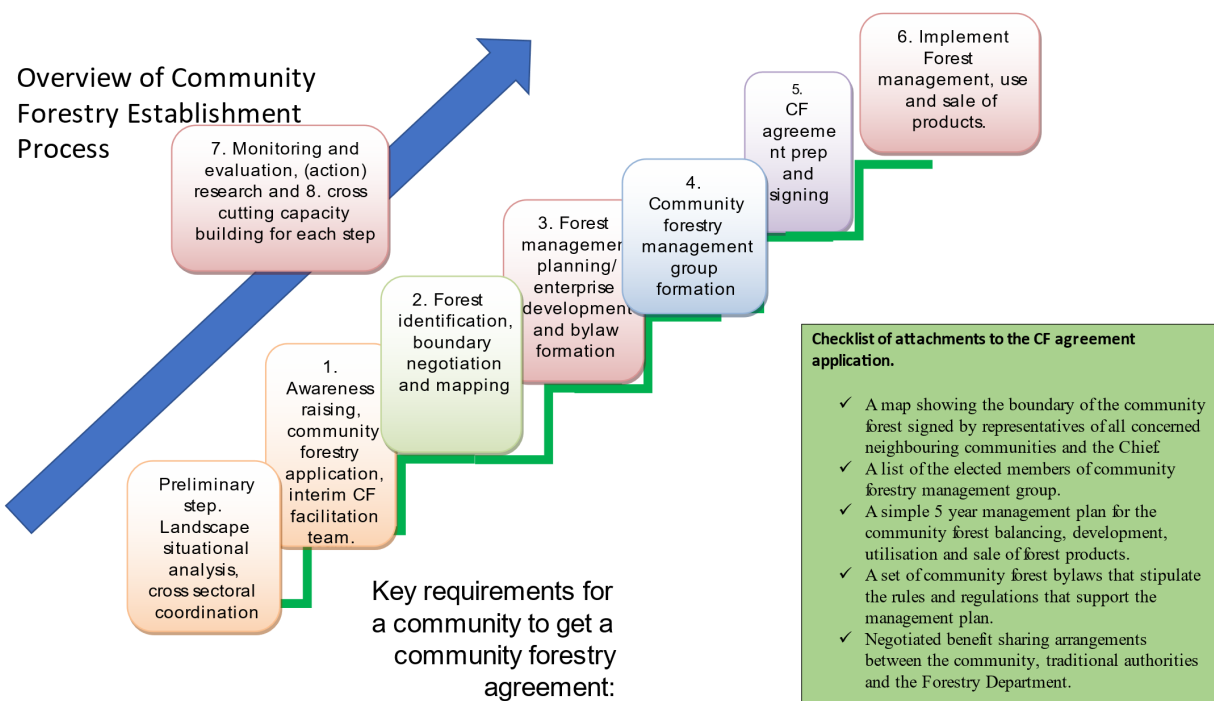
The establishment of a CFMG is an intensive, multi-stage process (summarized in Figure 5, next page), which requires sustained engagement, commitment and ownership by local communities and authorities. The establishment of CFMGs is intended to devolve greater authority to communities to both regulate charcoal production and earn revenue from forest-friendly enterprises. Any forest friendly value chain or alternative livelihood will be screened for sustainability beyond the life of A2C, and partnerships with exiting private sector partners and value chains will be prioritized.

During FY23, A2C will support the establishment of community forest management groups (CFMGs) in the selected districts, with the objective of having four CFMGs established by the end of FY23, and an additional two CFMGs under development. A2C will also ensure membership of CFMGs promote meaningful participation of women and youth including during sensitization, CFMG elections and the design and implementation of conservation-friendly value chains to support the establishment of CFMGs, A2C will onboard a Community Forestry Specialist in Q1, who will oversee field-based interventions and community mobilizers (see Appendix C).

At the end FY22, A2C will have completed steps 1 and 2 in the CFMG process as shown in Figure 5. This includes: sensitization of district authorities, community leaders and traditional authorities about the concept of community forestry and the process required to establish a CFMG; submission of expressions of interest to the FD to establish an CFMG; identification and agreement among community members regarding the boundaries of the community forest and the completion of a rapid appraisal of forest-based enterprises at each site.

**Figure 5: Steps in Establishing a Community Forest Management Group**

Steps in Community Forestry. Ideas for awareness raising tool



Building on progress achieved in FY22, starting in Q1 FY23 the Charcoal Legality Advisor will work with CFMGs and the FD to complete Steps 3 and 4 of the process. A2C will work directly with communities and district forest officers within each of the selected sites (Mukumbo, Kyangozhi, Kaindu and Kapijimpanga) to: support the election of CFMG executive committees, draft committee by laws and identify forest-based value chains for potential support under A2C’s grants program as well as training on leadership, governance, as well as financial and business skills.

A2C will ensure bylaws balance ‘dos’ and ‘don’ts’ (incentives and prohibitions) and are the result of active participation and agreement among community members. In support of identifying forest-based value chains, A2C will work with communities to conduct a value chain and resource assessment which will: identify conservation-friendly forest products available in the identified community forestry areas; discuss the current condition of the forest, identify existing forest uses and enterprises (including informal ones) and any existing forest management practices/indigenous knowledge including forest product use, processing and sale. The exercise shall pay particular attention to analyzing the existing the supply and demand for forest products including potential markets and off takers.

Forest-based value chains shall be assessed based on demonstrated supply and demand; private sector partnership potential; income streams; sustainability post-A2C; opportunities for women/youth engagement; scalability; and ability to reduce deforestation and contribute to climate change resilience. Results from the value chain assessment will feed into the community forest management planning

process and management plan, and the drafting of an Annual Program Statement (APS) to be released at the start of Q2 (activity 1.2.1) to support forest-based enterprise development at selected sites. A2C will identify private sector partners that will either apply to the APS to support forest-based enterprises in collaboration with CFMGs, or serve as off takers for products produced by CFMGs; the latter arrangement will be codified by an MoU between A2C and the private sector entity clarifying respective roles and responsibilities (Deliverable T.29).

Q2 and Q3 will focus on preparing community forest management plans using participatory methods, vision exercises and field work. The management plan will: map proposed areas for community forests, identify current management issues, identify the objectives, activities and outputs of the management plan, list natural resource uses and users in the proposed area, proposed forest-based enterprises to be established, implementation schedule, and roles and responsibilities. During Q2, A2C will also collaborate with local communities and district officials to analyze and identify an additional two CFMGs to be established.

A2C is conscious of the pitfalls that have arisen with community forestry planning in the past, as summarized in Figure 6 below, and will pay special attention during management planning to avoid these missteps. This will require deeply understanding the context specific dynamics within each 'community' including local power dynamics, land tenure tensions, while also ensuring members of the community have equal voice and input into the process and that benefits are distributed equitably.

**Figure 6: Common Problems with Community Forestry Plans and Planning (Source: USAID ILRG)**

## Problems with Community forest management plans/planning process in the past

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- Focused on delegating forest protection/conservation to communities, often combined with alternative livelihoods, often did not really focus on sustainable forest management at all, full of 'don'ts' with few 'dos'
- When forest management rights were given to communities overly complex management plans and forest resource assessments were developed which were of no practical use to communities.
- Community forest management plans often developed with the primary aim of being a controlling mechanism of communities, not as something useful for communities to practically manage the forest with.
- Assumption by technicians that once a plan is prepared it will be implemented.
- Rigid in past so limited the ability of communities to learn by doing and experiment.
- When forest enterprises were part of the management planning process new forest enterprises were often introduced which failed because of lack of supply/demand analysis, skills, equipment or servicing.

By Q4, each CMFG should have a community forestry management plan developed, and will formally submit their application to the FD for recognition and signing.

### **4.2.2 Support organizational and technical capacity of CFMGs**

Capacity building and training for CFMG members will occur throughout Quarters 1-3 and will draw heavily from the Community Forest Training Manual developed by the USAID Integrated Land Resource and Governance (ILRG) project. The manual includes trainings on the legal basis for community forestry, followed by the detailed steps required to establish and govern community managed forest areas and groups. Methods will include a mix of practical field-based exercises, lectures and small group work with a focus on adult learning which recognizes the value of participants being able to draw upon their direct experiences.



In Q1 A2C will conduct a capacity assessment of the CFMGs to understand what skills, knowledge and experience members have. In the latter half of Q1, A2C's Charcoal Advisor (supported by two local facilitators) and the FD will lead a series of capacity building workshops to support the formation of forest user groups within each CFMG and provide user groups with training about how to form a savings group. The purpose of the savings groups is to ensure each forest user group has sufficient financial resources to contribute towards forest-based value chains.

Starting in Q2, savings groups will be formed within each of the four CFMGs and basic financial literacy training will be provided by A2C's Livelihoods Coordinator to build basic skills in budget planning, basic bookkeeping, savings plans, and entrepreneurship. This will be accompanied by capacity building for enterprise development such as bee keeping, mushroom farming and horticulture on an as needed basis. A2C's interventions will be undertaken in close collaboration/partnership with traditional authorities, local communities and District Forest officers to determine their interest, and ensure buy-in, engagement and support. Progress towards establishing the four CFMGs will be summarized in Deliverable T.19 and will contribute to Indicator 17 (number of hectares under improved management expected to reduce greenhouse gas emissions).

### RESULT 4.3: FOREST COVER MONITORING

#### 4.3.1 Support Forest Cover Monitoring in Four Select Districts

To monitor the impact of establishing CFMGs and providing alternative livelihoods for charcoal producers, A2C will support the FD to conduct forest cover monitoring in four selected districts (Solwezi, Mumbwa, Lufwanyama and Kalumbila).

Starting in Q1, A2C's GIS Specialist will support the FD to develop a business-as-usual (BAU) model for the sites documenting past deforestation rates and projecting future rates without interventions. The FD will then calculate actual deforestation rates in future years on an annual basis. Deforestation rates will be compared to the projected BAU rates to determine if the emissions curve has been reduced and if A2C (or other) rural activities are having an impact on deforestation. These FD figures will also be useful for the GRZ's official NDC reports.<sup>2</sup>

Based on an FY22 assessment of equipment gaps within the FD, A2C will award an In-Kind Grant in Q1 to purchase the necessary remote sensing and satellite imagery, GIS software, laptops, and/or printers necessary to conduct forest cover monitoring. A2C will also provide targeted training on using remote sensing technologies and GIS mapping and will work with the FD to prepare standard operating procedures to guide staff on the precise processes and steps required for forest cover monitoring building on previous training activities.

### RESULT 4.4: AGRICULTURE-BASED LIVELIHOOD ALTERNATIVES FOR CHARCOAL PRODUCERS

A2C's theory of change posits that if charcoal consumption is reduced in urban areas, this will in turn have a negative impact on communities that rely on charcoal production for their livelihood (either seasonally or year-round). To mitigate this impact, A2C was designed to support sustainable livelihood opportunities for charcoal producers *after* a reduction of urban charcoal consumption has been observed. Sustainable livelihood alternatives include both conservation-friendly forest-based enterprises managed by CFMGs (as described above), as well as agricultural value chains that link directly with private sector partners to ensure sustainability.

In early Q1, A2C will report on the results from the 2<sup>nd</sup> annual household survey of charcoal consumption and ATF use (activity 5.1.1 and Deliverable A.7). The survey will sample approximately 2,400 households in Lusaka, Ndola and Solwezi to measure changes in charcoal consumption and uptake of ATFs. Also during Q1, A2C will have results from contextual monitoring of households in Lusaka

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<sup>2</sup> [https://unfccc.int/sites/default/files/NDC/202206/Final%20Zambia\\_Revised%20and%20Updated\\_NDC\\_2021\\_.pdf](https://unfccc.int/sites/default/files/NDC/202206/Final%20Zambia_Revised%20and%20Updated_NDC_2021_.pdf)

where A2C community influencers are working (activity 5.1.2). Assuming results verify there has been a reduction in urban charcoal consumption, A2C will seek approval from USAID to formally launch the agricultural value chains. Should there not be evidence of a reduction of charcoal consumption, A2C will discuss with USAID how and when to proceed with agricultural value chains for charcoal producers.

Assuming approval is granted to launch the agricultural value chains in Q1, A2C will initiate stakeholder consultations with targeted communities to discuss and decide upon the most viable agricultural value chains to be supported. Consultations will focus on ensuring CFMGs and charcoal producers are key decision makers in selecting livelihood interventions. The rationale, objectives, process and benefits associated with each alternative livelihood intervention will be discussed and debated. The negative impacts of charcoal production on the surrounding forest will also be conveyed. Sensitization materials including guidelines, posters, brochures, and infographics will be developed and disseminated by A2C's Communication Specialist in collaboration with the Livelihoods Coordinator.

#### **4.3.1 Value Chain Analyses to Identify Market-Based Livelihood Options**

During FY22 A2C completed a Value Chain Analyses (VCA) to identify the most promising and sustainable market-based options for agriculture-based livelihood interventions in the four districts. The study concluded that food insecurity and insufficient income to meet basic needs were the primary drivers behind people's decision to produce charcoal. The study proposed value chains that provide an alternative income stream to charcoal, while ensuring increased food security. For example in Mumbwa and Lufwanyama districts, maize, sunflower, soya beans and groundnuts are the most promising alternative value chains for charcoal producers based on their commercial viability, potential to offer food security/improved nutrition and rapid income generation. In Solwezi and Kalumbila, the alternative value chains identified were maize, soybeans, groundnuts. In all four districts these value chains could be supplemented by horticulture for farmers with adequate access to water and poultry production.

During Q1 A2C will draw on the resource assessments and community consultations mentioned above to produce an implementation road map for both forest-based and agricultural value chains; the roadmap will identify private sector partners for collaboration (including as off takers) and focus on climate smart crops which can withstand climate shocks and not result in forest cover change. Value chains will also pay particular attention to engage youth in a direct and meaningful way (youth comprise a significant portion of charcoal producers in rural areas given the lack of other livelihood options, low entry barrier and access to cash). Opportunities to collaborate with USAID's Feed the Future programming, civil society organizations and others working on livelihoods issues will also be described in the roadmap. Agreements with the private sector partners to support agricultural or forest-based value chains will be completed by the end of Q2 and will outline the mutual objectives, respective roles and responsibilities, cost sharing details and schedule for implementation (Deliverable T.29).

**4.3.2 Strengthen Financial Literacy and Technical Skills** Successful livelihood interventions require that charcoal producers in Forest User Groups have sufficient financial literacy to establish and manage value chains. In preparation for the launch of the livelihoods program, at the start of Q2 A2C's Livelihoods Coordinator and team will deliver tailored trainings to build basic skills in budget planning, basic bookkeeping, savings plans, and entrepreneurship (see also activity 4.2.2). If USAID approval is granted to launch the agricultural value chains, during Q1 A2C will provide selected enterprise trainings (e.g., bee keeping, horticulture/improved gardening, poultry/small livestock rearing, conservation farming) on a need basis. Trainings will be delivered to charcoal producers in Forest User Groups which will double up as Saving Groups for community resource mobilization in each of the sites (Mukumbo, Kyangozhi, Kaindu and Kapijimpanga). Training will employ the principles of adult literacy and practical exercises to ensure learning is appropriate and sustained. A2C's MEL Team will also conduct rapid pre- and post-tests to measure the learning achieved.

### **4.3.3 Screen Livelihood Interventions for Environmental Impacts**

During Q2, the value chains will be screened by the Environmental Compliance Specialist to ensure compliance with A2C's Environmental Management and Mitigation Plan (EMMP). This will include identifying which interventions have any potential for negative impacts and then identifying/developing appropriate mitigation measures that are specific, implementable, and verifiable. If necessary, the EMMP will be updated to include the potential negative environmental impacts and site-specific mitigation measures to be undertaken.

### **4.3.4 Pilot Agriculture-Based Livelihood Opportunities**

Assuming measurable impact has been achieved, A2C will begin piloting a subset of alternative livelihood interventions with charcoal producers and CFMGs starting in Q2. The pilots will be led by the Livelihoods Manager, with support from the Livelihood Coordinator, Charcoal Advisor and Community Mobilizers. It is envisaged the first livelihood interventions will be supported by the Grants Under Contract program. A2C will release an Annual Program Statement (APS) at the start of Q2 (activity 1.2.1) intended to generate competition and support a variety of creative approaches towards implementing alternative livelihoods for charcoal producers. The APS will remain open for a minimum of six months (per the approved GUC manual); however, concept papers will be reviewed quarterly and successful offerors will proceed in cycle to the full application stage. It is envisaged the first grants awards could be awarded by the end of Q2.

## **6.5 OBJECTIVE 5: ADAPTIVE MANAGEMENT**

Objective 5 oversees A2C's Collaboration, Learning and Adaptive Management (CLA) approach, including regular data collection and analyses to inform project interventions, and advising A2C of changes in the dynamic domestic energy sector and larger political economy. This evidence-based approach enables A2C to monitor progress against identified targets and adapt interventions to take advantage of new developments. A2C's CLA approach is integrated into all A2C objectives to incentivize real-time learning and adaptation. Objective 5 is led by the Knowledge Management (KM) Specialist and her team (including a GIS Specialist and Data IT Specialist). During FY23, Objective 5 will oversee a range of context monitoring activities, including a longitudinal survey to measure changes in household's use of charcoal and ATFs over time, monthly data metrics, on-demand research. Knowledge Sharing Platforms. Finally two Pause Reflect and Pivot workshops will be organized in November 2022 and June 2023 respectively.

### **RESULT 5.1: DATA COLLECTION**

#### **5.1.1 Conduct Annual Survey on Household Charcoal Consumption and Use of ATFs**

During Q1, A2C will report on the results from the 2<sup>nd</sup> annual household survey of charcoal consumption and ATF use (Deliverable A.7). Results will be critical to informing the decision whether to proceed with rural livelihoods programming, as this is not intended to begin until there is evidence of reduced charcoal demand in A2C's targeted urban areas.

Starting in Q4, A2C will undertake the third annual survey of charcoal consumption and ATF use to monitor progress against project indicators. The A2C MEL Manager (with support from the Knowledge Management Unit) will oversee the subcontractor responsible for conducting the survey (IAPRI) including participating in pre-testing, observing enumerators during survey implementation and providing troubleshooting guidance.

As done previously, the survey will be conducted in Lusaka, Ndola and Solwezi across approximately 2,440 households and will be used to inform the project's MEL framework and provide relevant data for stakeholders including the private sector, cooperating partners and the GRZ. The annual surveys will serve as the basis to calculate the change (%) in charcoal energy consumption by households, and the change (%) in use of ATFs in use by households among other indicators. The study will also assist A2C

and our partners to identify which segments of the population are best positioned to adopt alternative cooking energies and/or fuel-efficient cooking technologies.

### 5.1.2 Household Cooking Energy Consumption Survey

As part of A2C’s contextual monitoring, a longitudinal survey will begin in FY23 to measure changes in a household’s use of charcoal and ATFs over time. The survey will complement the annual baseline survey described above by focusing specifically on households located in neighborhoods where A2C community influencers are working in Lusaka to elucidate the impact of A2C’s investments. Results will also provide a bi-annual ‘snapshot’ between the broader operating environment and what is happening at household level (e.g., if ZESCO increases tariffs A2C can determine the relative impact on charcoal and ATF usage).

The survey will be completed bi-annually in Q1 and Q3 and will be led by the Knowledge Management Specialist and subcontractor PMTC. Data to be collected includes but is not limited to: the amount (kilograms) of charcoal consumed by a household per month, the average monthly amount households spend on charcoal, if the household has an ATF and/or has acquired an ATF in the past 12 months, and if the household has been exposed to messages about clean cooking and/or alternatives to charcoal.

## RESULT 5.2: DATA AND INFORMATION REGULARLY COLLECTED AND ANALYZED

### 5.2.1 Collect Data on Key Metrics

As part of A2C’s implementation of adaptive management, the Knowledge Management (KM) unit will continue to collect data on key metrics (see Figure 7) to monitor the impact of A2C programming. Data will be collected by part-time enumerators in Lusaka, Ndola and Solwezi as well as from secondary sources such as ZAMSTATS. The results from the 2022 National Census of Population and Housing will also have data and information of relevance to A2C, such as income levels. Analysis of the data will be presented monthly to staff to review trends and discuss the impact of metric data on programming.

Figure 7: Illustrative Key Metrics

- Price of charcoal (per kg)
- Price of Electricity (per KWH)
- Price of LPG (per kg)
- Price of pellets (per kg)
- Price of biofuels (per liter)

**Macroeconomic indicators**  
Inflation rate  
Foreign exchange rate

Data will also be captured in a web-based dashboard developed by the A2C’s Data/IT Specialist and made available to partners through knowledge sharing platforms (activity 5.2.3), the newsletter (activity 1.1.1) and on demand.

### 5.2.2 On-Demand Applied Research and Assessments

Throughout FY23 the KM Unit will be available to lead applied research, assessment, studies, or surveys as identified by A2C technical staff, grantees and/or private sector collaborators. Examples of potential research include: i) analysis of data from the clean cooking hotline to understand consumer demands and questions, and sharing results with A2C staff and ATF suppliers; (ii) a study on the potential of ethanol for clean cooking and what it would take to bring it to scale in Zambia; and (iii) in-depth analysis of the annual household survey to unpack the rich dataset and draw inferences. For example, this could include the relationship between ATF uptake and gender, the role of income and gender in influencing how often ATFs are used in the home, or how consumers receive information disaggregated by location, gender and age.

### 5.2.3 Convene Knowledge Sharing Platforms

As part of its CLA approach, A2C will liaise with key stakeholders and partners in the clean cooking space to promote broad-based learning and adaptive management through theme-based Knowledge Sharing Platforms (KSPs). The platforms are envisioned as face-to-face events to disseminate A2C research and findings to a wider group of stakeholders including GRZ, the private sector, academia, civil society and cooperating partners among other. KSPs will help to build and strengthen relationships

between and among partners, generate data-driven innovations for evidence-based programming, provide opportunities to discuss areas for collaboration and coordination and identify promising initiatives that could be scaled by further investment.

Building on the success of the Charcoal KSP held during Year 2, A2C will plan during FY23 to hold two (2) KSP events. The first will focus will be held in Q2 and will focus on the cost of clean cooking to provide evidence-based data regarding the comparative affordability of using different ATFs versus charcoal. Results from the Cost of Cooking study will be the primary data source presented, augmented by presentations from A2C grantees and personal testimonies by community influencers and religious leaders who have adopted ATFs.

The second KSP will take place in Q4 in collaboration with the Forestry Department and will focus on forest cover monitoring. The event will include a joint presentation by the Forestry Department and A2C of existing data about forest cover loss in Zambia and validate a formal SOP that establishes how forest monitoring data should be produced and can be considered official government data. Participants will include the FD, other donors and NGOs (such as WeForest and WWF) to exchange information about building capacity using cost-effective technologies and innovations for improved forest covering monitoring by the Forestry Department.

#### **5.2.4 A2C Data Repository**

As part of A2C's knowledge management and learning platform, an internal cloud-based data repository was established during Year 1 which includes relevant reports, datasets, presentations and other documents relevant to the project. The repository will be utilized to update metrics in A2C's data dashboard and continue to be updated regularly throughout FY23 with information generated from A2C, other clean cooking projects, cooperating partners, GRZ, the private sector and civil society.

#### **5.2.5 Lunchtime Learning**

As part of the CLA lifecycle, the Knowledge Management Specialist will convene lunchtime learning sessions once each quarter to provide an opportunity for A2C staff to be kept abreast of and discuss findings from A2C research and surveys and review progress towards indicator targets. This is intended to build collaboration across objectives, ensure that staff are aware of what is happening across the entire breadth of the project, and generate awareness about progress and impact on the ground.

### **RESULT 5.3: A2C ADAPTED FOLLOWING PAUSE, REFLECT AND PIVOT SESSIONS**

#### **5.3.1 Convene Pause and Reflect Sessions**

A2C will convene Pause, Reflect and Pivot sessions in November 2022 and June 2023. The sessions will provide an opportunity to reflect on activities, accelerate learning, convert analysis into action, and adapt programming as needed. Led by the KM and Analytics Specialist and her team, participation in the Pause, Reflect and Pivot sessions will include A2C technical leads and subcontractors, as well as USAID staff. The overall purpose of workshops is to ensure A2C has in place an intentional, systematic and resourced approach to adaptive management to improve organizational effectiveness and development outcomes. The workshops will identify, for example: under-performing activities that need to be adapted; opportunities for scale-up or replication of activities that show promise; use of interesting findings to inform additional research, studies, and surveys; and identification of data gaps to inform data collection revisions. A summary of workshop findings, discussions and recommendations will be summarized in concise reports submitted bi-annually (deliverable T.31).

## 7.0 CROSS-CUTTING AREAS

### 7.1 COMMUNICATIONS

Communications are central to the successful implementation of A2C across all five objectives. During FY23, A2C will use a wide range of mediums and strategies to reach target audiences in Lusaka, Ndola/Kitwe and Solwezi. These include promoting the three 'A's of ATFs: Affordability, Accessibility, and Acceptability on television, radio, social media and via the clean cooking hotline. During Q2 A2C will also work with script writers from the hit television series *Mpali* to integrate positive messages within the plot about the benefits of cooking with alternatives to charcoal. Storyline integration will be subtle and weaved seamlessly into the plot such that viewers will implicitly absorb the messaging. With more than three million viewers, integrating messages about clean cooking within the plot of *Mpali* is anticipated to significantly raise awareness and promote behavior change.

A2C's communication strategy will continue to integrate SBC tools such as social diffusion using community influencers, religious leaders, community-based social marketing, competitions, incentives, and focus groups among others. A2C will also ensure communications are 'gender lensed' to consider the different ways men and women receive and process information, make decisions and access resources.

Under Objectives 1 and 2, the A2C Communication Specialist will use and disseminate information gleaned from ongoing research such as the Cost of Cooking Study to produce clear and concise messages that will help community influencers clearly explain the costs savings associated with ATFs (activity 3.1.1). Market research will also assist the ATF companies and investors to understand ATF markets and support increased investment in clean cooking. Effective communication is also central to Objective 4, including clearly explaining the steps required to establish CFMGs and initiating sustainable livelihood opportunities in communities that are producing charcoal.

Communication materials will succinctly and clearly convey the benefits of ATF adoption, including addressing social and cultural perceptions and providing timely information about the cost and availability of ATFs. A2C will focus on women and youth as both producers and consumers of communication products and will identify women and youth community influencers to support SBC efforts. Social champions/community leaders/local influencers (for example traditional authorities, religious leaders, district authorities including forest officers, leaders of women's groups, and women's saving groups) shall be used to achieve this end.

### 7.2 GENDER AND YOUTH INTEGRATION

**Empower Women.** The engagement and empowerment of women cross-cuts all aspects of A2C. Women are, for example, the primary users of charcoal and are actively engaged along the charcoal value chain, predominantly in packing and selling. Likewise, reducing household consumption of charcoal and promoting the uptake of ATFs to replace charcoal will depend largely upon A2C's ability to communicate with, engage and incentivize the active participation of Zambian women. Finally, advancing gender equity and improving access to finance and credit for these female entrepreneurs is essential.

During FY23, A2C's Gender and Youth Specialist will implement practical gender-based solutions and interventions across all five strategic objectives. This includes improving women's ability to afford ATFs through engagement with existing savings groups and supporting female ATF entrepreneurs to access finance (Objective 1), strengthening the business enabling environment to address the specific barriers that women and youth face in accessing and affording ATFs and reviving the Zambia Gender and Energy Network (Objective 2); designing SBC materials that address the needs and perceptions of women and engaging female religious leaders (Objective 3); ensuring gender equity within the establishment of CFMGs and sustainable livelihood opportunities (Objective 4). A2C's Knowledge Management team will

also continue to track the percentage of female and youth participants and/or beneficiaries within A2C activities to assess the effectiveness of A2C gender integration interventions. Finally, the Gender and Youth Specialist will update A2C's Gender and Youth Strategy in Q2, taking into account research results, lessons learned, and feedback from community influencers and the private sector. All activities will be summarized in the Annual Progress Report in Women's Engagement in Q4 (deliverable T.15).

**Engage Youth.** While gendered roles and responsibilities are widely recognized, it is important A2C consider the roles of youth from both the consumer and producer perspective. Youth (defined as ages 15-29 in Zambia) are deeply involved in the charcoal value chain as producers, transporters, distributors, retailers and consumers. Per A2C's baseline charcoal producer survey a majority of producers fall in the 18 to 35 years age category and close to 70% of all respondents entered the value chain in the last six years. This is attributed to the ability of this age group to meet the labor demanded in charcoal production, as well as the age range being the child-bearing age when household heads take the responsibility of providing for their families.

Participation in the charcoal value chain is particularly attractive to youth, both young women and men, given the relatively low entry barriers to the market, in-demand labor needs, and access to quick cash. As the primary users and target beneficiaries of clean cooking and energy solutions, youth must also be actively engaged to raise awareness and engage in sales of ATF products, including through A2C's grants program which places a specific emphasis on women and youth engagement.

Additionally, youth are very keen to participate in the domestic energy market as ATF entrepreneurs and small business owners and are increasingly interested in inventing and adopting new environmentally friendly technologies – including related to clean cooking. A2C will prioritize youth under Objective 1 for example by prioritizing youth applicants to the business incubator, scoring of grant applications and identifying employment and mentorship opportunities for youth among private sector partners.

Under Objective 3 youth will continue to serve as community influencers in Lusaka and the Copperbelt, and A2C's SBC campaigns will increase its focus on platforms with high youth engagement, particularly social media and engagement with local influencers. Also under Objective 3 (and as described in Activity 3.3.6), starting Q2, the SBC Coordinator and Gender and Youth Specialist will initiate discussions with the Ministry of General Education (MoE) and the Lusaka District Education Board Secretary (DEBS) to allow sensitization meetings about the impacts of charcoal and the benefits of ATFs in select secondary schools in Lusaka. The sensitization will target teachers and pupils and are expected to result in messages transmitting onwards to parents, guardians and communities.

Objective 4 will also have an especially strong youth focus. The establishment of community forests will for example ensure there is youth representation within community forest management groups and are actively engaged in overseeing and benefitting from the management of community forests. Likewise, any alternative livelihood strategies will need to have the same low entry barrier and the ability to generate income as quickly as charcoal.

A2C's Gender and Youth Specialist will also update the Women and Youth Engagement Strategy, which was produced in Year 1. Drawing on research results and lessons learned, the strategy will be updated to identify practical and impactful ways of engaging youth as part of A2C's implementation.

### **7.3 ENVIRONMENTAL COMPLIANCE**

A2C's interventions for Year 1 and 2 were largely focused on work planning, stakeholder engagement, research and baseline surveys required to inform and shape activities in the subsequent years. No direct environmental impacts were identified resulting in categorical exclusion status of the interventions as described in the (original) approved EMMP.

Following the selection of sites for community forestry and sustainable livelihood alternatives as well as the commencement of the grants program, several activities planned for FY23 have the potential for

adverse environmental impacts. As such, A2C's focus will be to identify these impacts, and develop appropriate mitigation measures prior to implementation.

Environmental sustainability is integral to USAID's overall goal, and therefore requires specific, implementable, and verifiable actions mainstreamed into all interventions to achieve optimal results, and avoid inadvertent environmental or social risks. To meet this goal, A2C will throughout FY23 continuously monitor its interventions and incorporate environmental considerations into results-based planning, adaptation and learning. This will include:

- Screening the approved FY23 workplan for identification of activities with potential environmental impacts across each of the five Objectives and, accordingly, seek to integrate mitigation and monitoring actions directly into implementation, including climate risk management (CRM) measures such as .....
- Based on the screening results, revise and update the EMMP for all activities that may result in a negative determination with conditions
- Determine the training, capacity building and technical assistance needed to successfully implement the provisions of the EMMP for grantees under the Grants program and stakeholders involved in community forestry and sustainable livelihood alternatives.

#### **7.4 MONITORING, EVALUATION AND LEARNING**

##### **Conduct Annual Survey on Household Charcoal Consumption and Use of ATFs**

During Q1, A2C's MEL Team will report on the results from the second annual household survey of charcoal consumption and use of ATFs (activity 5.1.1 and Deliverable A.7). Results will be critical to informing the decision whether to proceed with rural livelihoods programming, as this is not intended to begin until there is evidence of reduced charcoal demand in A2C's targeted urban areas.

Starting in Q4, A2C will undertake the third annual survey of charcoal consumption and use of ATFs to monitor progress toward project targets. The A2C MEL Manager (with support from the Knowledge Management Unit) will oversee the subcontractor responsible for conducting the survey (IAPRI) including participating in pre-testing, observing enumerators during survey implementation, and troubleshooting.

As before, the survey will be conducted in Lusaka, Ndola and Solwezi across approximately 2,440 households and will be used to inform the project's MEL framework and provide relevant data for stakeholders including the private sector, cooperating partners and the GRZ. The annual surveys will serve as the basis to calculate the change (%) in charcoal energy consumption by households, and the change (%) in use of ATFs in use by households among other indicators. The study will also assist A2C and our partners to identify which segments of the population are best positioned to adopt alternative cooking energies and/or fuel-efficient cooking technologies.

##### **Collect performance monitoring data routinely, manage datasets and provide updates during monthly feedback sessions**

In close collaboration with Objective Leads, the MEL Team will collect monitoring data for the project's 12 non-survey-based indicators to track progress towards indicator targets, which will be reported in quarterly and annual reports. The MEL Team will also conduct joint field monitoring and spot checks together with Objective Leads to assess, verify and validate the data submitted by A2C staff. On a quarterly basis, the program will hold in-house technical review meetings with program staff to review progress in activities implementation against the annual work plan to enable decision makings/remedial actions that may be required. This will help to increase the engagement of project staff in reviewing and understanding indicator data. Before submitting the datasets to the USAID Development Data Library (DDL), the MEL Team will ensure all survey datasets for FY23 are anonymized to remove personal



identifiers. The MEL Team will also ensure that indicator data and relevant supporting documents are uploaded to the Development Information Solution platform on a quarterly and annual basis as required.

During Q3 and Q4, A2C will undergo a mid-term review. The mid-term review will be conducted by an independent evaluator hired by USAID to assess project achievements, and determine the efficiency and effectiveness of program implementation, institutional arrangements, partnership strategies and sustainability of the results. The mid-term will also focus on documenting best practices and lessons learned, provide recommendations, and propose directions for future programming and sustainability.

### **Provide Training in Data Collection, Analysis and Reporting**

Following the completion of the internal data quality audit by the Home Office during FY22, A2C will incorporate recommended corrective actions to ensure continuous data quality improvement and Standard Operating Procedures (SOPs) will be finalized based on the audit recommendations. The revised SOPs will be used to guide the MEL platform, including data collection, quality checks, entry, analysis, and reporting. On a monthly basis, the MEL Team will train A2C project staff, grantees and partners in data collection procedures and quality assurance. These training efforts will lead to improvements in the validity, integrity, precision, reliability and timeliness of data collected that will inform programmatic decision-making. The MEL Team will work with the Objective Leads, grantees and partners to review, update and harmonize data collection tools as need arises.

During FY23, the MEL Team will focus on continuous quality improvement through supportive monitoring and supervision visits as well as coaching of grantees on monitoring and evaluation tools. MEL staff will also continue conducting quarterly data quality audits to ensure data sources are well documented, stored and reported. The Activity is also scheduled for an official data quality audit by USAID in FY23 (date TBD).

# **APPENDICES**

**Appendix A: A2C YEAR 2 ACTIVITY INDICATORS AND TARGETS**

**Appendix B: A2C GANTT CHART**

**Appendix C: A2C ORGANIZATIONAL CHART**

**Appendix D: A2C DETAILED BUDGET**

**Appendix E: A2C YEAR 2 DELIVERABLE SCHEDULE**

## APPENDIX A: YEAR 3 ACTIVITY INDICATORS AND TARGETS

N°	Performance Indicator	Frequency	Baseline	TARGETS		Notes
				FY 23 Target	LOA Target	
<b>Activity Level Indicators</b>						
1	Change (%) in charcoal energy consumption in Lusaka	Annual	660 kg/HH/Year	-10%	-25%	
2	Change (%) in charcoal energy consumption in select urban areas outside of Lusaka	Annual	820 kg/HH/Year	-2%	-5%	
3	Change (%) in use of low emissions charcoal alternative technologies and/or fuels (ATFs) in Lusaka and select urban areas outside of Lusaka	Annual	23.7% of HH	15%	+38%	
4	Number of metric tons of GHG emissions reduced, sequestered, or avoided through sustainable landscapes activities supported by USG assistance (EG.13-6),	Annual	3,964,486 Tons/year	147,020	735,100	
5	Change (%) in deforestation directly attributable to charcoal production (charcoal production is estimated to be 25% of national deforestation)	Annual	28,690 Hectares/year	-4%	-6.7%	
6	Percent of female participants in USG-assisted programs designed to increase access to productive economic resources (GNDR-2)	Annual	0	30%	40%	
<b>Objective 1: Increase households' use of low emissions charcoal alternative technologies and/or fuels in target areas</b>						
7	Value of investment (USD) mobilized for sustainable landscapes as supported by USG assistance (EG.13-4)	Quarterly	0	\$3.5M	\$10M	
8	Number of private sector enterprises newly supplying ATFs as a result of USG assistance	Annual	0	10	35	
9	Number of Zambian households using ATFs	Annual	292,669	15,000	83,700	
<b>Objective 2: Support GRZ to improve the business enabling environment for the private sector-led low emissions charcoal alternative technologies and/or fuels industry</b>						
10	Change (%) in Ease of Doing Business score for "starting a business" for ATF-related enterprises as a result of USG assistance	Annual	0	+10%	25%	
11	Number of improvements made to the ATF business enabling environment as a result of USG assistance	Quarterly	0	3	12	
12	Number of laws, policies, regulations, or standards addressing sustainable landscapes formally proposed, adopted, or implemented as supported by USG assistance (EG.13-3)	Annual	0	2	8	
13	Number of innovations supported through USG assistance (STIR-10)	Semi-annual	0	2	6	

N°	Performance Indicator	Frequency	Baseline	TARGETS		Notes
				FY 23 Target	LOA Target	
<b>Objective 3: Implement a social behavior change and product marketing initiative to increase consumer use of low emissions charcoal alternative technologies and/or fuels and increase public perception on the negative impact of charcoal production on forests</b>						
14	Number of people reached with SBC campaigns, advertisements, and other related outreach as a result of USG assistance	Quarterly	0	3,000,000	7,500,000	
<b>Objective 4: Support alternative sustainable livelihoods to charcoal producing communities, particularly when there is an impact to livelihoods due to increased use of low emissions ATFs and improve charcoal law enforcement capacity</b>						
15	Number of people that apply improved conservation law enforcement practices as a result of USG assistance (EG.10.2-6)	Quarterly	0	500	1,247	
16	Change (%) in number of people engaged in the charcoal value chain in targeted areas as a result of USG assistance	Annual	6.46 months/person /year	-15%	-33%	
17	Number of hectares under improved management expected to reduce greenhouse gas emissions as a result of USG assistance (EG.13-8)	Semi-annual	0	TBD	TBD	Selected areas in the targeted districts have been identified. Currently undertaking boundary mapping for the CFMAs which will inform the target.
18	Number of people receiving livelihood co-benefits (monetary or nonmonetary) associated with implementation of USG sustainable landscape activities (EG.13-5)	Quarterly	0	TBD	TBD	Waiting for the Value Chain Analysis (VCA) and livelihoods approach to be approved
19	Number of institutions with improved capacity to address sustainable landscape issues as supported by USG assistance (EG.13-2)	Annual	0	8	20	

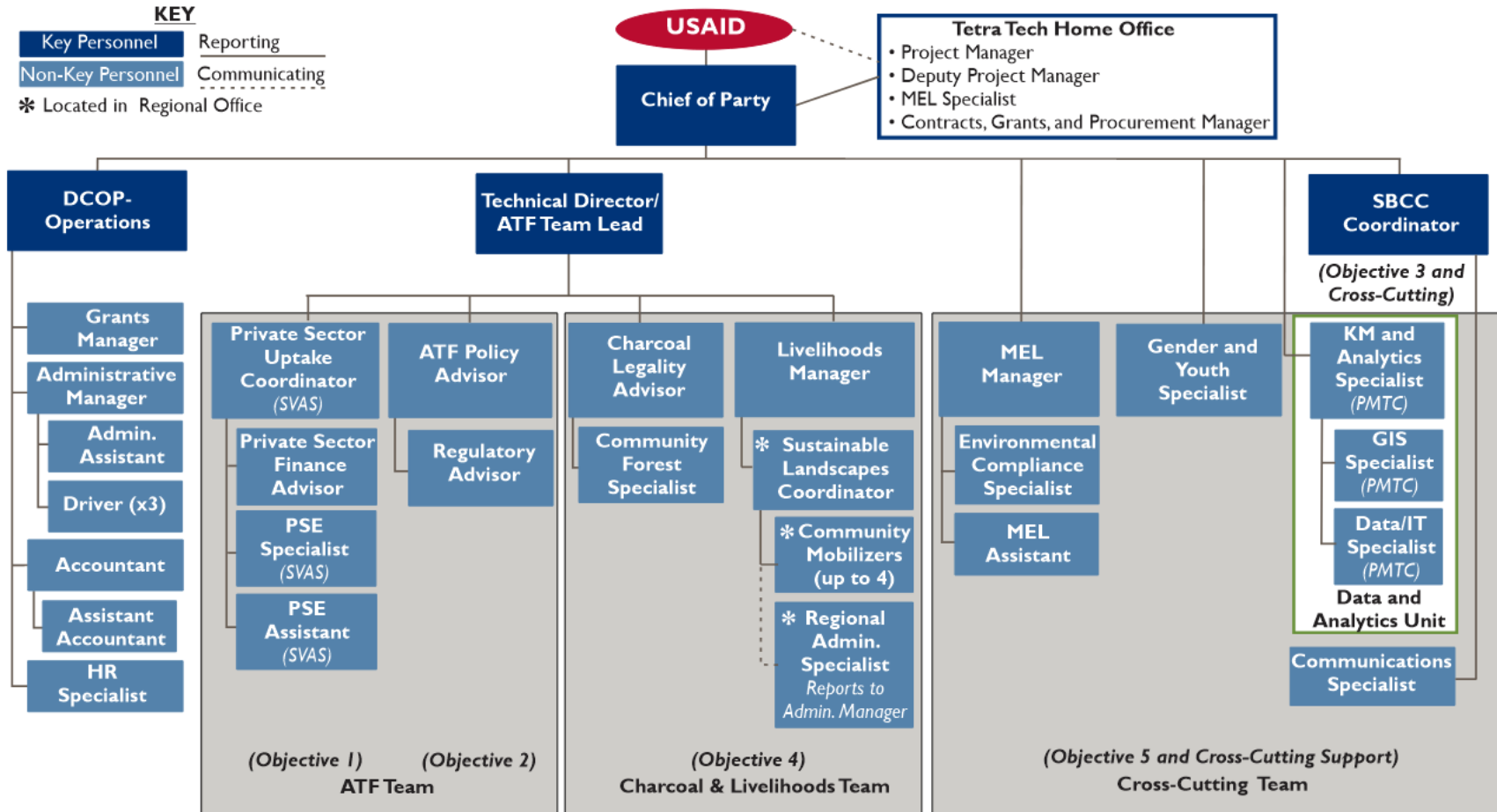
## APPENDIX B: GANTT CHART

Objective	Activities	Q1			Q2			Q3			Q4		
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>OBJECTIVE 1: REMOVE MARKET BARRIERS AND SUPPORT ATF UPTAKE</b>													
1.1 Market Information is Accessible	Private Sector Engagement (ongoing)												
	Demonstration and Roadshow Tracking Tool												
	Resource Mobilization Workshops												
	Incubator Technical Assistance												
	Growth Technical Assistance												
	In House Technical Assistance and Mentorship												
	Carbon Finance White Paper												
	CCSF Model												
	Continue Building Investment Networks (ongoing)												
	Clean Cooking Alliance Forum												
<b>OBJECTIVE 2: STRENGTHEN THE BUSINESS ENABLING ENVIRONMENT</b>													
2.1 Identify Barriers in the Business Enabling Environment	ATF Regulatory Workshop												
	Political Economy Analysis												
	PayGo Assessment												
	LPG Cylinder Accessibility and Validation Study												
	Annual Ease of Doing Business Survey												
2.2 Address Barriers in the Business Enabling Environment	Customs Handbook												
	LPG Standards Revised												
	Permitting Streamlined												
	LPG Installers Curriculum												
2.2 Increase Energy Sector Coordination	Energy Sector Advisory Group												
	Support the Re-establishment of the Zambia Gender and Energy Network (ZGEN)												
	National Clean Cooking Strategy and Action Plan (CCSAP)												

Objective	Activities	Q1			Q2			Q3			Q4		
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>OBJECTIVE 3: SBC</b>													
3.1 Key Behaviors and Motivations Understood in Target Audiences	Harvest Lessons from A2C Research Inform SBC Programming												
	Support private sector partners around awareness raising and marketing												
3.2 Social Marketing Strategy Developed & Implemented	Community Influencers (2 demos per quarter)												
	Religious Leaders (minimum of eight demos convened per quarter)												
	Clean Cooking Hotline												
	Television, Radio and Social Media												
	Media Engagement												
	Sensitization Meeting in Select Secondary Schools												
	Energy Week and Agricultural and Commercial Show												
<b>OBJECTIVE 4: CHARCOAL REGULATION AND SUSTAINABLE LIVELIHOODS</b>													
Enforcement of the Charcoal Sector	Support Intergovernmental Charcoal Taskforce												
	Support Revision of Forest Policy, Forest Act & Charcoal Regulations												
	Capacity Building to Improve Oversight of Charcoal Sector												
	Monitoring of the Charcoal Supply Chain												
	Election of CFMG Executive Committees												
	Draft Committee By Laws												
	Identify forest-based value chains												
	Community Forest Management Planning												
	Identify an additional two CFMGs												
	Submit formal application for CFMG to FD												
	Capacity Assessment of CFMGs												
	Formation of Forest User Groups												
	Formation of Savings Groups												
	Basic Financial Literacy Training												
	Capacity building for enterprise development												
	Annual Program Statement (APS) released for forest-based VCs												
	Agreements with private sector to support value chain development												
		Business as usual modelling documenting deforestation rates											
Calculate actual deforestation rates in future years on an annual basis													
In Kind Grant and procurement in support of forest cover monitoring													

Objective	Activities	Q1			Q2			Q3			Q4		
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Training on Forest Cover Monitoring												
	Standard Operating Procedures for forest cover monitoring												
4.4 Agriculture Based Livelihood Alternatives	Approval from USAID to formally launch the agricultural value chains												
	Stakeholder consultation and ag value chains												
	Implementation Roadmap for Value Chains												
	Agreements signed with the private sector partners												
	Capacity building for enterprise development												
<b>OBJECTIVE 5: ADAPTIVE MANAGEMENT</b>													
5.1 Baseline Data Collected	Annual Household Survey of Charcoal Consumption and ATF use												
	Household Cooking Energy Consumption Survey												
5.2 Data & Information Analyzed & Interpreted	Collect Data on Key Metrics												
	On-Demand Applied Research												
	Convene Knowledge Sharing Platforms												
	A2C Data Repository												
	Lunchtime Learning												
5.3 Pause, Reflect and Pivot	Convene Pause and Reflect Sessions												

# APPENDIX C: ORGANIZATIONAL CHART





**APPENDIX D: ILLUSTRATIVE BUDGET**

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## APPENDIX E: FY23 DELIVERABLE SCHEDULE

No.	DESCRIPTION	DATE DUE
<b>GENERAL DELIVERABLES</b>		
A.2	Annual Work Plan	45 days before end of Fiscal Year
A.3	Activity Monitoring Evaluation and Learning Plan (AMELP)	Updated as needed
A.6	Quarterly Progress Reports	15 business days after the quarter
A.7	Annual Progress Reports	(20 days after end of FY) (45 days after end of FY)
A.8	Quarterly Financial Reports	With quarterly progress report
A.10	EMMP	Submitted w/ Annual Workplan

No.	DESCRIPTION	QUARTER DUE
T.3	Annual Monitoring Report on ATFs and Technological Advances	Q3
T.4	Annual stakeholder workshop to disseminate information to stakeholders with Zambia Gender and Energy Network (ZGEN)	Q4
T.5	Notice of Funding Opportunity released	TBD
T.6	Private Sector ATF Research and Investment Mobilization Report	Q3
T.7	Incubator program described in Annual Progress Report	Q4
T.8	Training programs delivered through incubator program	Q4
T.9	Documentation of information provided to investors on Zambian ATF market innovations	Q1
T.10	Matchmaking provided between investor(s) and entrepreneur(s)	Q3
T.12	Political Economy and Policy Analysis	Q4
T.13	Annual Report outlining policy recommendations to support enabling environment, including progress report and updated information	Q4
T.15	Annual Progress Report on Women's Engagement Strategy	Q4
T.16	Streamlined permitting process in place and operating	Q3
T.17	Demonstration Days	Qs 1-4
T.18	Training materials developed and used to support enforcement efforts	Q3
T.19	Four Community Forestry Management Groups (CFMGs) established	Q4
T.20	Charcoal Taskforce Established and Functioning	Q3
T.21	Awareness materials developed and in use by enforcement agents	Q3
T.22	Annual charcoal production and monitoring report	Q4
T.25	Communications strategies tested by focus groups	Q2
T.28	Training and extension materials developed for value chains	Q4
T.29	Agreements with private sector to support value chains	Q3
T.30	Report on livelihoods value chains strengthened	Q4
T.31	Pause, Reflect and Pivot Reports (held in November and June)	Q1 and Q4

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