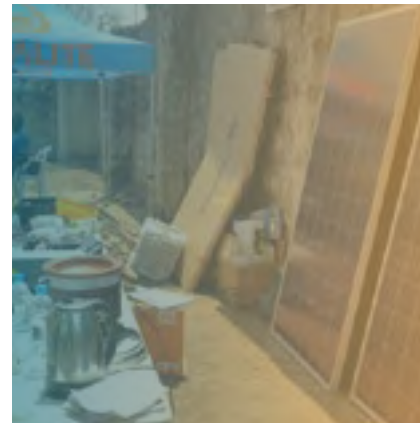
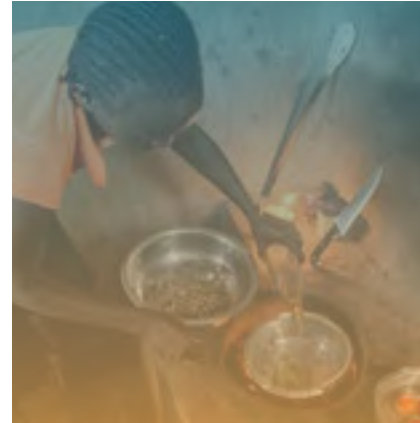




The SMART ECONOMICS of CLEAN COOKING

PLACING WOMEN AT THE CENTER OF
THE ENERGY ACCESS DEVELOPMENT AGENDA



PREFACE

From October 2019 to May 2020, a team of five Paris Institute of Political Studies (Sciences Po) master's students were selected to work with the Energy Sector Management Assistance Program (ESMAP) on a capstone project under the headline “Adopting Modern Energy Cooking Services in Lower Income Countries: Drivers & Constraints.” This broad topic was employed as a baseline to inform initial research and a far-reaching literature review, which ultimately resulted in a narrower research scope: a smart economic analysis of the clean cooking sector with a regional focus on Sub-Saharan Africa. Smart economics, defined for the purpose of this analysis, as a development approach that places women at the center of the agenda, was applied to the clean cooking sector in Africa.

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This approach acknowledges the reality that the inability to access modern cooking solutions primarily affects the lives of women and girls, and that investing in clean cooking leads to positive movement in gender equality, as well as economic growth for the African region as a whole. The analysis resulted in a summative report, which has been condensed into this policy brief: *The Smart Economics of Clean Cooking: Placing Women at the Center of the Energy Access Development Agenda*.

It should be noted that the analysis contained in the following brief is based on existing literature and data; field research was not conducted, and primary data was not collected.

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THE BOTTOM LINE

Half of the world's population does not have access to modern cooking solutions, relying on solid biomass fuels and rudimentary stoves to perform their daily cooking activities. A large proportion of this population resides in Sub-Saharan Africa, where the access rate to clean cooking technologies remains particularly worrisome and is outpaced by the rate of regional population growth. Traditional cooking practices are not only detrimental to the public's health and the environment, but also exasperate gender inequality, as women are often tasked with household cooking responsibilities

and are therefore disproportionately affected by unhealthy cooking practices. This is damaging to women's empowerment and carries serious implications for the wider economy, as half the workforce is less productive, less healthy, and dying earlier. In turn, a smart economics approach, which captures the synergy between gender equity and economic growth, can inform directed policy action from public sector, private sector, and civil society actors to achieve universal access to clean cooking.

1

WHAT IS AT STAKE IF
CLEAN COOKING
TARGETS ARE NOT
ACHIEVED?



THE SMART ECONOMICS OF CLEAN COOKING PLACING WOMEN AT THE CENTER OF THE ENERGY ACCESS DEVELOPMENT AGENDA

Clean cooking remains a crucial development challenge due to its significant negative effects on public health, the environment, the economy, and gender equality.





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Today, more than 2.8 billion people around the world lack access to clean fuels and technologies for cooking, relying instead on polluting materials such as fuelwood, crop waste, and charcoal to fuel open fires and simple stoves. The negative effects of this reliance on public health, the environment, and the economy are significant (see Box 1). Illnesses arising from traditional cooking pose a larger mortality burden than HIV/AIDS, malaria, and tuberculosis combined (Kammila et al. 2014), and household air pollution (HAP) from polluting fuels results in 581,000 premature deaths and 26 million disability-adjusted life years (DALYs) per year in Sub-Saharan Africa (SSA) alone (Kammila et al. 2014). If Sustainable Development Goal 7 (SDG7) – universal access to affordable, reliable, and modern energy services—is not met by 2030, an estimated 870,000 people will die each year in SSA from acute lower respiratory infections (ALRI) and chronic obstructive



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pulmonary diseases (COPD). Alongside HAP-related health issues, women and children collecting fuelwood are exposed to bodily injury and gender-based violence (GBV), especially in conflict and humanitarian settings (ESMAP 2020). Traditional cooking practices also have environmental consequences, as reliance on fuelwood and charcoal causes deforestation and inefficient combustion accounts for up to 58 percent of global black carbon (BC) emissions (CCAC 2019). In economic terms, reliance on traditional cooking solutions costs the economies of SSA an estimated US \$58.2 billion per year (Lambe et al. 2015), as households spend billions of productive hours each day on fuelwood collection, rather than on more economically or educationally productive activities.



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Illnesses arising from traditional cooking pose a larger mortality burden than HIV/AIDS, malaria, and tuberculosis combined.

BOX 1: NEGATIVE EFFECTS OF TRADITIONAL COOKING PRACTICES



1 Health Effects

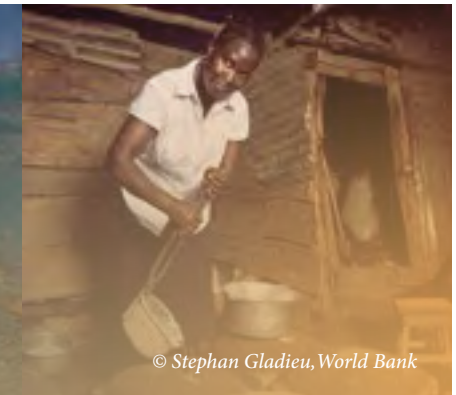
- Release of PM and **carbon monoxide**
- **Diseases** such as ALRI, COPD, cerebrovascular diseases, lung cancer, ischemic heart disease, and cataracts*
- **Adverse pregnancy** effects such as low birth weight and increased risk of stillbirth*
- **Bodily wounds**, skin irritations, infections, bites, spinal injuries, joint pain, and headaches resulting from fuelwood collection*
- **Burn injuries***
- Exposure to **gender-based violence**, sexual violence, and rape*
- Diseases such as asthma, tuberculosis, and bacterial meningitis (weaker epidemiological evidence)

2 Environmental Effects

- **Deforestation**, forest degradation, and soil erosion
- Loss of **biodiversity**
- Release of **Greenhouse Gases (GHG)** and BC into the atmosphere, contributing to **climate change**

3 Economic Effects

- Loss of life and DALYs*
- Efficiency loss from drudgery and slow cooking times*
- Reduced education for children
- Reduced time investment into productive or income-generating activity*



*Disproportionate effect on women and children performing household fuel collection and cooking duties

2

WHY SHOULD WE FOCUS ON SUB-SAHARAN AFRICA?

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Progress on clean cooking access rates in Africa remains below regional population growth, widening the access gap over time.



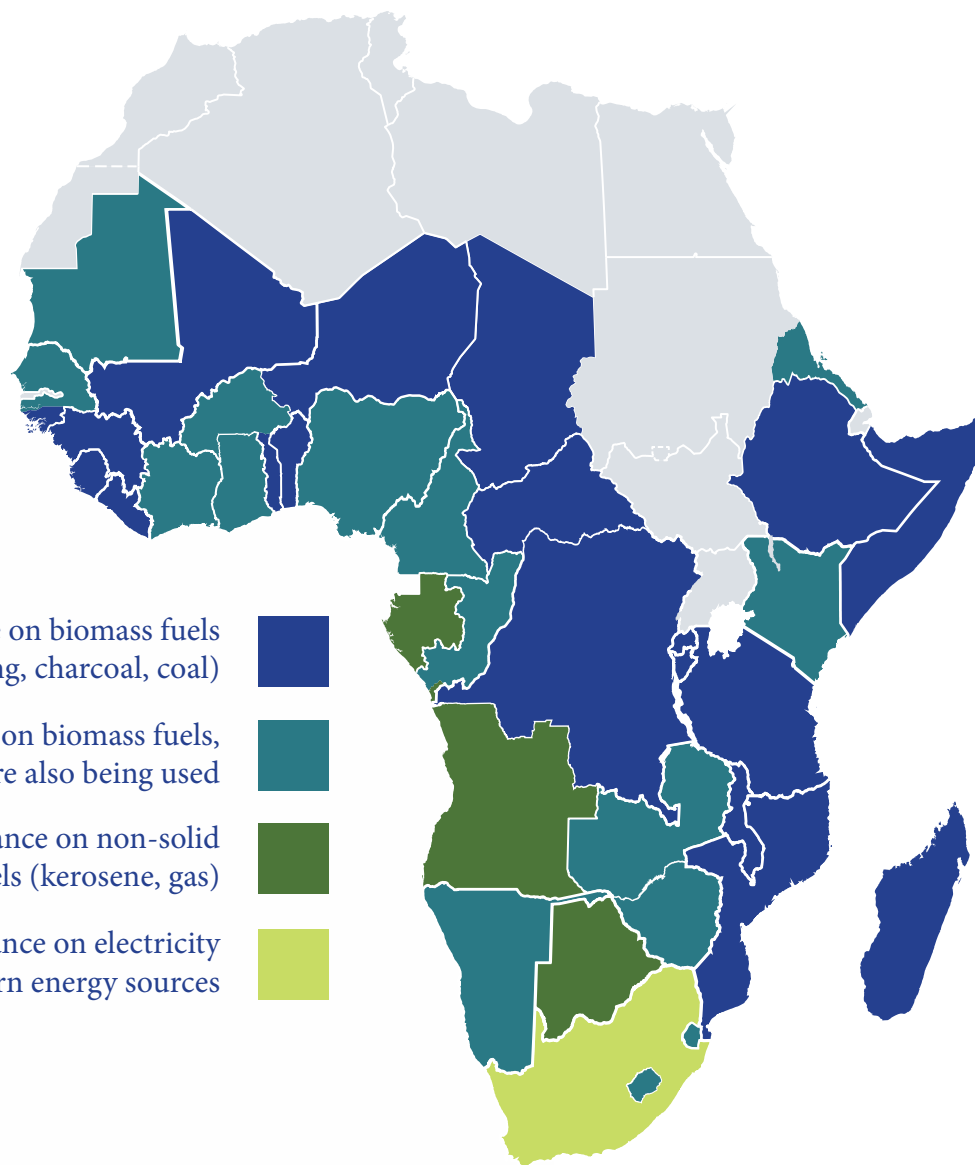
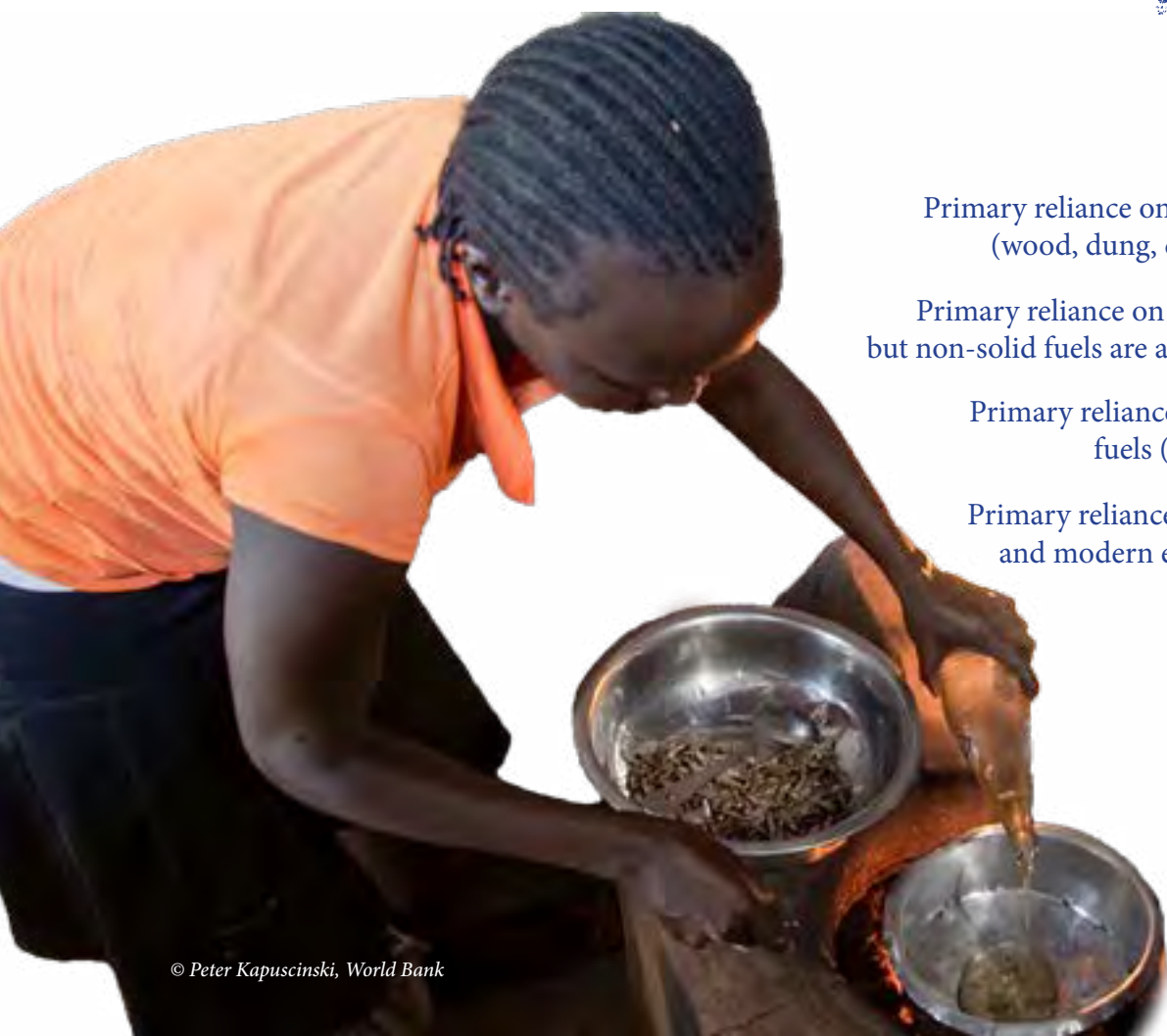
At present, close to 900 million people in SSA - a staggering 81% of the entire regional population - rely on polluting fuels and technologies for their daily cooking needs (IEA et al. 2019). Within the region, the rate at which the clean cooking transition is occurring is only 0.3 percentage points and therefore below the regional population growth, widening the access gap over time. As a whole, SSA has made slow progress in meeting clean cooking targets, but the region is highly heterogeneous, with varying access patterns occurring within countries and rural and urban communities. For example, sub-regional population reliance on solid fuels can be as low as 18% in Southern Africa and as high as 94% in East Africa (See Figure 1) (Clean Cooking Alliance 2019). Furthermore, while only 51% of urban households in the region still rely on traditional stoves, the situation in rural areas is much worse, with figures rising to over 83% (Kammila et al. 2014). Uptake of clean cooking technologies within individual contexts has depended on a variety of factors, such as governmental commitments, the presence of enabling business environments, and cultural acceptance of modern energy solutions.

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FIGURE 1: DISTRIBUTION OF CLEAN COOKING ACCESS DEFICIT (I.E. RELIANCE ON BIOMASS FUELS)



- Primary reliance on biomass fuels (wood, dung, charcoal, coal) ■
- Primary reliance on biomass fuels, but non-solid fuels are also being used ■
- Primary reliance on non-solid fuels (kerosene, gas) ■
- Primary reliance on electricity and modern energy sources ■



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Coupling its challenges in clean cooking, SSA ranks as the third most gender-unequal region in the world, with a gender gap rate of 34% (World Economic Forum 2018). Women in SSA are disproportionately disadvantaged in accessing education, job markets, infrastructure, and credit. These constraints are symptoms of the pervasive gender inequality across SSA, but are particularly problematic in rural areas, where women disproportionately suffer from multiple barriers that inhibit them from accessing basic energy services in clean cooking, entering the labor market, earning decent wages, and gaining control over their economic resources. Furthermore, existing gender norms assign cooking responsibilities to women who face energy poverty—the inability to access efficient energy solutions, such as clean cooking technologies. This results in other forms of poverty, such as time poverty and material poverty. Stagnating progress on universal access to modern cooking solutions exacerbates these issues.

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At present, close to 900 million people in SSA - a staggering 81% of the entire regional population - rely on polluting fuels and technologies for their daily cooking needs.

3

WHAT IS SMART ECONOMICS & WHY IS THIS THE IDEAL DEVELOPMENT APPROACH FOR CLEAN COOKING?

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Because the lack of access to modern cooking services most severely impacts the lives of women, they must be placed at the center of the clean cooking development agenda.



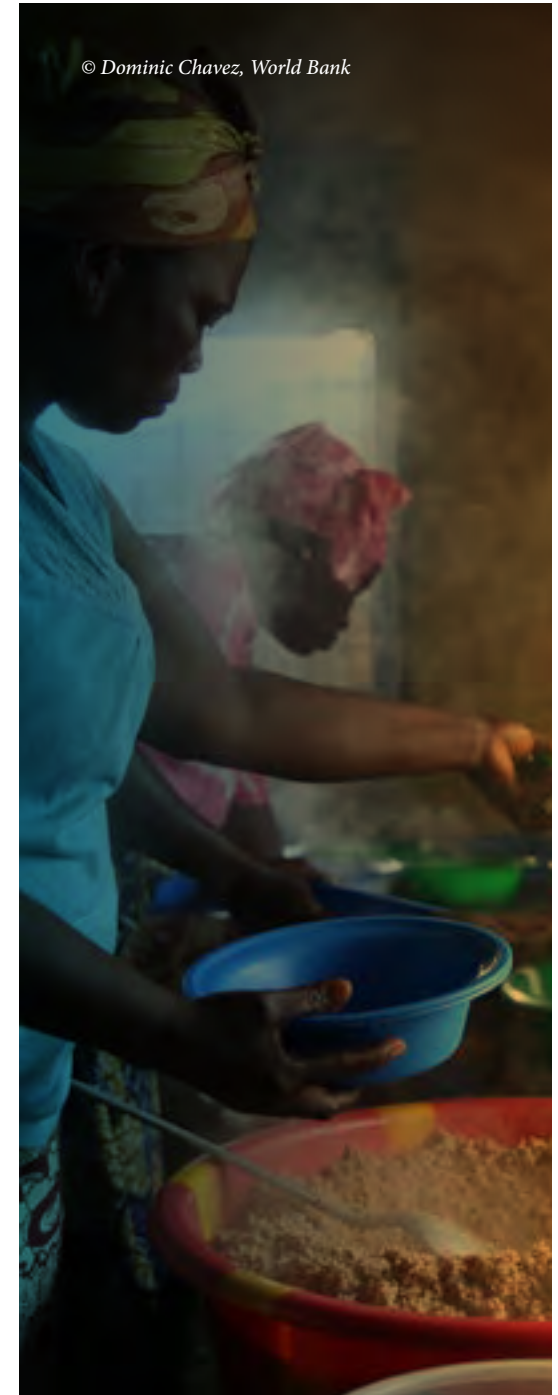
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Women and young girls are most directly impacted by the aforementioned costs and negative externalities of traditional cooking practices. Deeply entrenched gender norms have traditionally assigned household cooking responsibilities—including fuel collection, food preparation, and post-meal cleaning—to women and girls. In turn, it is women and girls who spend several hours per day collecting fuel for cooking purposes, which may heighten their exposure to physical and gender-based violence. While they are cooking, women and girls disproportionately suffer the health consequences associated with continual exposure to household air pollution arising from the use of biomass fuels on poorly ventilated stoves. Taken together, this means that half of the population in SSA is less healthy, less productive, dying earlier, and spending less time on economically productive activities. Furthermore, young girls assisting their mothers spend fewer hours in classrooms, perpetuating an intergenerational cycle of gender-based disadvantages. This has serious implications not only for gender equality and women’s empowerment, but also for the wider regional economy.

Smart economics captures this synergy between gender equality and economic growth, where investments in women are instrumental in achieving their empowerment while simultaneously boosting the economy (see Box 2). There is considerable evidence suggesting that centering development efforts around women creates exponential positive drivers for the economy, and that gender equality accelerates progress on other development goals, such as improved health outcomes for families and increased workforce participation (Bloom et al. 2017). Clean cooking must be evaluated using a smart economics analysis, as stagnation on achieving universal access to modern cooking solutions has negative implications for women and the wider economy.



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BOX 2: DEFINITION OF SMART ECONOMICS

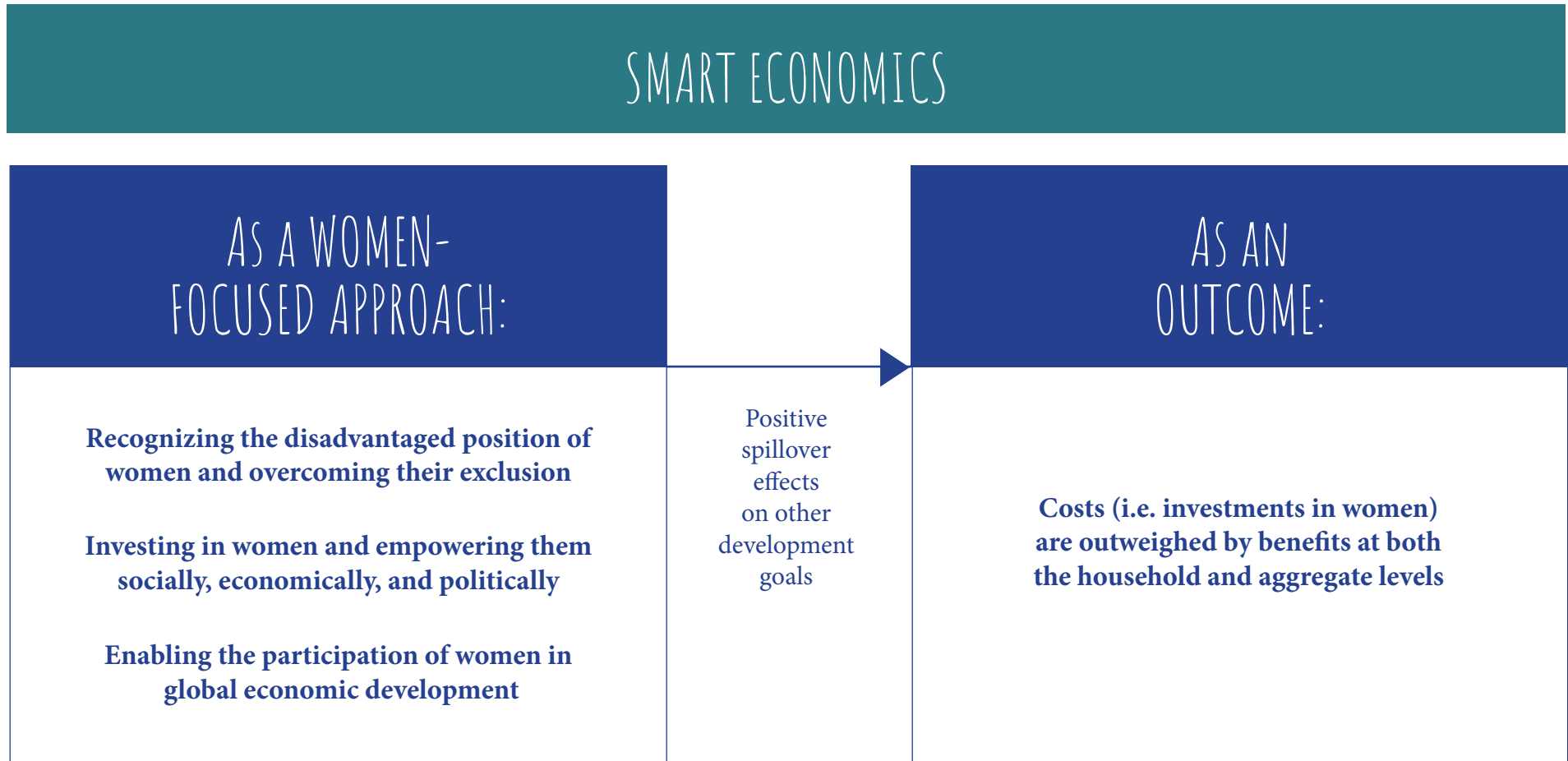
Smart economics is a women-focused approach to development issues that captures the synergy between economic growth and gender equality. It is an approach that results in outcomes in which the costs of investing in women are significantly outweighed by the benefits for the women themselves, as well as for their families, communities, and countries.

Smart economics is a strategic approach, as well as an outcome. As an approach, it is a tactical development process that places women at the center of the development agenda - in this case, the clean cooking agenda (See Figure 2). By analyzing clean cooking through a gendered lens, women who have long been left out of the picture—and negatively affected by this exclusion—can be increasingly recognized as important drivers of clean cooking

adoption. As an outcome, smart economics implies that the investments are outweighed by the benefits. In this case, the investments required to achieve women's access to modern cooking solutions are outweighed by larger benefits for the entire household and aggregate economy. In simple terms, there is an exponential growth effect from investing in women's access to clean cooking.



FIGURE 2: TWO-PRONGED DEFINITION OF SMART ECONOMICS



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Clean cooking is an ideal development goal to evaluate with a smart economics approach because a low access rate is a concurrent drain on women's equality and economic growth. Women must be placed at the center of the clean cooking development agenda, as they make up the overwhelming majority of end-users of cooking technology, especially in developing contexts. In turn, their lives are most directly disadvantaged by a stagnation on clean cooking access and most directly advantaged by the benefits achieved through a transition to clean cooking. Investing in women's access to clean cooking fuels and cookstoves is not only a positive force for their empowerment, but also collectively affects the economy by creating a stronger, longer living, and more productive workforce capable of engaging productively in the economy.

In order to show that the transition to clean cooking is smart economics, the investments and costs associated with achieving universal access to clean cooking can be weighed against the benefits and positive spillover effects.



“



Clean cooking is an ideal development goal to evaluate with a smart economics approach because the low access rate is a concurrent drain on women's equality and economic growth.

4

WHAT ARE THE COSTS & NEGATIVE EXTERNALITIES FOR WOMEN END-USERS OF TRANSITIONING TO CLEAN COOKING?

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Costs for women end-users include the direct financial burden of purchasing modern cooking services, as well as negative externalities such as loss of employment and heightened risk of GBV.



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The price tag of cleaner fuels and cookstoves is the most immediate cost that households will face in a transition to clean cooking. Traditional cooking solutions, including biomass fuels and homemade cookstoves, remain a low-cost option for women in SSA when compared to cleaner cooking solutions, primarily due to lower upfront costs. Transitioning to clean cooking requires the adoption of improved cookstoves and cleaner fuels. The price tag of such technologies must be carried by households themselves, government subsidies or assistance programs, through donor and development partner grants, or through investor programs. In all scenarios, a direct financial cost is incurred.

These costs vary significantly based on the type and quality of the fuel and stove acquired. In some scenarios, cost savings with modern solutions are possible, for instance in communities in which the government has developed a reliable electric grid and households can purchase lower-end electric stoves. Other fuel prices, such as those for LPG, biogas, alcohol-based fuels, and processed biomass, vary widely and depend on supply dynamics and government policies. Stoves that are low in quality, distributed by aid agencies for free, or subsidized by the government can be acquired affordably, but may not be sustainable for long-term household energy needs. Despite significant price heterogeneity depending on the country context, the financial costs of converting to modern solutions is not negligible, especially when this price tag is considered on a regional scale.





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The loss of livelihood and employment opportunities that are currently based in the biomass fuel and traditional cookstove sectors is another cost of the transition. It is estimated that 15 million people, a large proportion of which are women, currently work in the fuelwood collection, charcoal production, cookstove artisanry, small-scale sawmilling, and fuelwood and timber sales across SSA (Putti et al. 2015). Furthermore, women's participation in the charcoal sector has been linked to financial independence (Jones et al. 2016), poverty reduction, and increased spending on education and healthcare (Vollmer et al. 2017). These livelihoods and positive effects are threatened by a transition where biomass fuels are completely replaced by cleaner fuels. A transition to clean cooking that fails to create new income-generating activities, especially for women who face barriers to participating in formal job settings, could precipitate current employment vulnerabilities and exacerbate gender divides in the labor market.




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The last potential negative spillover effect considered in this analysis is the heightened risk of GBV at the household and community level. Traditional cooking practices are deeply entrenched in the existing structure of household chores and domestic activity distribution between men and women in SSA. Freeing women's time for other productive activities, raising their incomes, or improving the educational attainment of girls—all positive impacts of transitioning to cleaner cooking practices—may carry negative implications such as increased violence against women (Chichester et al. 2017). This could occur through the extraction effect (Bolis & Hughes, 2015), where violence is used as an instrument to confiscate or exert authority over a women's income, or through the backlash effect, which occurs when men are dissatisfied with shifting household roles.

Domestic violence has a disempowering effect on women, is likely to reduce productivity, and may augment household health expenditures, partially reversing the gains in productivity and health cost savings made from transitioning to clean cooking. However, it is important to note that the extraction and backlash effects may be short-term in nature and may not present long-term risks for women. On the contrary, a conversion to clean cooking carries long-term positive effects on women's opportunities, their decision-making power, their time investment in productive activities, and their health cost savings.





“ *A transition to clean cooking that fails to create new income-generating activities, especially for women who face barriers to participating in formal job settings, could precipitate current employment vulnerabilities and exacerbate gender divides in the labor market.* ”

5

WHAT ARE THE BENEFITS
& POSITIVE SPILLOVER
EFFECTS FOR WOMEN
END-USERS OF
TRANSITIONING TO
CLEAN COOKING?

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Benefits for women end-users include long-term financial savings, time savings, productivity gains, and more sustainable employment opportunities.



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The benefits of transitioning to cleaner cooking technologies are significant and increase with the sophistication of fuel and cookstove technologies. Firstly, long-term financial savings are possible through a transition to clean cooking. Many poor urban dwellers spend over 7% of their household budgets on biomass fuel, often paying a higher price because they purchase it in small quantities (Daurella & Foster, 2009). If high upfront costs can be overcome, for example through innovative financing schemes or credit programs, clean fuels can be the less expensive option for income-constrained households. Furthermore, in rural areas, many families will experience increasing prices for biomass inputs due to wood scarcity in some regions (Kappen et al. 2017). Meanwhile, the price of cleaner inputs continues to fall, raising the opportunity for long-term savings. Alongside the long-term savings in adopting clean fuels, purchasing more efficient and longer-lasting cookstoves results in savings over time, as these solutions are more durable and require less fuel inputs than biomass-reliant cookstoves.





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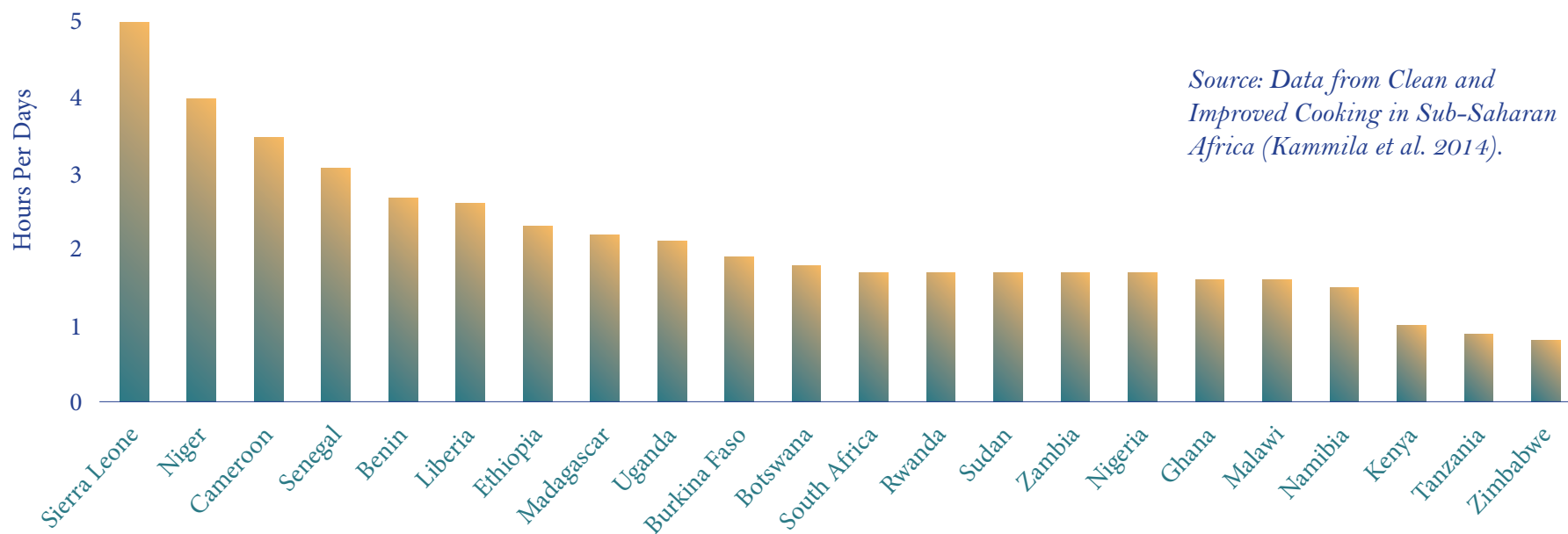


Another aspect of financial savings is spending on healthcare, which currently represents 4% of household budgets in SSA (Hammond et al. 2007). Reducing out-of-pocket health expenses for resource-constrained households by reducing the negative health effects arising from traditional cooking practices would provide a significant savings boost. As households save money from less fuel consumption, improved cookstove efficiencies, and reduced health expenses, households will have more resources available to consume other products and services. In line with a smart economics perspective, women are likely to spend extra income on better nutrition and health services for themselves and for their children (Hoddinott & Haddad 1995) (World Bank 2012) (Quisumbing & Maluccio 2003).

Adopting clean cooking will also have a positive impact on women's time by eliminating hours spent collecting fuelwood and reducing

cooking times by introducing more efficient cookstoves. Almost half of the households across SSA collect biomass, primarily fuelwood, to meet their daily cooking needs. This exhausting activity can absorb on average two hours per day (see Figure 3) and is mainly carried out by women and children (ESMAP 2020). On an aggregate scale, this is a major opportunity cost, as women have less time to devote to economically productive work or education. Furthermore, cooking with traditional fuels and inefficient stoves requires between one and five hours daily (Kammila et al. 2014), further increasing the opportunity cost of traditional cooking. Clean cooking, by reducing fuel collection and cooking times, could provide opportunities for women to participate in familial, social, and economically productive activities. In fact, household survey data suggest that around 15 - 35% of time savings could be redirected into income-generating activities (Global Alliance for Clean Cookstoves 2015).

FIGURE 3: AVERAGE DAILY TIME SPENT COLLECTING FUELWOOD (IN HOURS)



Source: Data from *Clean and Improved Cooking in Sub-Saharan Africa* (Kammila et al. 2014).

A further benefit of the clean cooking transition is increased long-term productivity for women. Currently, many women face productivity losses arising from various interactions with their

cooking solutions throughout the day. During the fuel collection process, they experience drudgery and bodily injuries and may be exposed to a greater risk of gender-based violence (ESMAP 2020).



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While cooking, they breathe in toxic fumes and smoke, resulting in a variety of health conditions. The resulting disabilities and early deaths lead to significantly lower productivity levels for individual women, but also for Sub-Saharan Africa on an aggregate scale. As households switch to cleaner cooking solutions, they reduce their exposure to HAP and eliminate the need for biomass collection, boosting overall productivity significantly.

Young girls assisting their mothers with cooking duties may also experience lifetime productivity losses. These arise through the same channels previously discussed, including exposure to HAP, drudgery, and bodily injury. In addition, their involvement in daily cooking-related activities may prevent them from attending school, producing long term negative effects on girls' human capital development, employment opportunity, and productivity. A switch to modern cooking services would partially remediate these negative impacts.

“

Clean cooking, by reducing fuel collection and cooking times could provide opportunities for women to participate in familial, social, and economically productive activities.



6

EXAMINING THE COSTS AND BENEFITS COLLECTIVELY, IS CLEAN COOKING SMART ECONOMICS?

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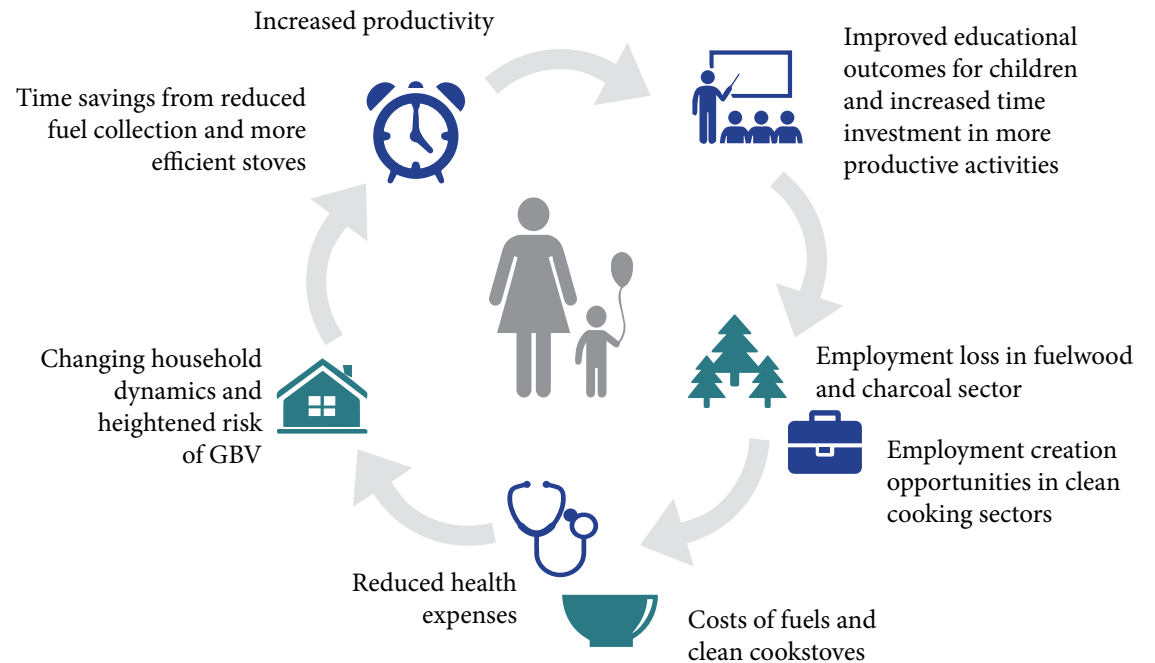
Under the right policy environments that minimize the costs and negative externalities and maximize the benefits and positive externalities, clean cooking can be considered smart economics.





As the clean cooking contexts for women across SSA differ widely, the cost-benefit equation is incredibly complex. It is difficult to determine how the varying positive and negative externalities should be weighed against each other, especially in different national and local settings (for a summary of the costs and benefits see Figure 4). The household expenditure dynamic of a modern cooking conversion is particularly complicated, with costs and benefits for women interacting in diverging ways. In unfavorable price settings, the costs of fuels and cookstoves can pose insurmountable challenges to wider adoption, while under more favorable conditions, long-term savings are possible. Further household savings can be derived from a reduction in health expenditure from the elimination of HAP, drudgery, and GBV currently linked to biomass collection.

FIGURE 4: THE COST & BENEFITS OF THE CLEAN COOKING TRANSITION FOR WOMEN END-USERS





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A clean cooking transition will result in significant job loss in the biomass fuel sector, an industry that employs vulnerable populations, provides meaningful income generation for millions of people, and gives women agency within their households. Supplanting reliance on biomass fuels therefore has significant economic and household-level consequences. The gains in employment arising from the clean fuel and cookstove sectors is one avenue through which job loss can be remediated, but the earnings and labor market potentials remain largely unexplored and difficult to assess due to the fragmented nature of most clean cooking enterprises. There is reason to believe that women's employment in clean cooking could be

more empowering and more sustainable, as biomass fuels become scarcer and costlier for households to purchase. However, with limited data about job creation in the clean cooking sector, this conclusion must be further substantiated.

What has become increasingly clear is that aggregating time savings, productivity gains, and reductions in deaths and DALYs from a transition to clean cooking provides a massive boost to women's empowerment and economic growth. Time previously spent collecting fuels and injuries arising from HAP and drudgery are virtually eliminated, leading to major productivity gains, potential for increased income, greater educational outcomes for girls, and

many positive effects on women's agency. Women can lead healthier and more fulfilled lives, participate in their communities and in political capacities, engage in revenue-generating activity, or spend more time with their children. Over the long term, these effects are major economic drivers, as half of the population across the region becomes more productive.

This assessment provides a clear impetus for governments, private enterprises, and civil society groups to act decisively and to drive efforts towards clean cooking forward. With the right policies, context-specific efforts, and concerted action across all sectors, clean cooking can be smart economics.



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Time previously spent collecting fuels and injuries arising from HAP and drudgery are virtually eliminated, leading to major productivity gains, potential for increased income, greater educational outcomes for girls, and many positive effects on women's agency.

7

HOW CAN STAKEHOLDERS USE
A SMART ECONOMICS LENS
TO ACHIEVE PROGRESS ON THE
CLEAN COOKING AGENDA?

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Targeted commitments and cross-sectoral coordination among actors from the public sector, private sector, and civil society sector are necessary to meet the objectives of SDG 7.





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The smart economics analysis signals the need for governments, private actors, and civil society organizations to act decisively to reduce the negative externalities and costs arising from clean cooking, while enhancing the positive aspects and long-term benefits. Clean cooking is not automatically smart economics; for the transition to empower women and drive economic growth forward in SSA, the right policy environment must be in place and play an enabling role. The cost-benefit analysis strongly justifies the need to intensify interventions and drive up financial investments to a level that is commensurate with the urgency and scale of the challenge that currently exists in SSA.

For practitioners to apply a smart economics lens to the clean cooking sector and make informed policy choices based on this framework, more research on the nexus of women's access to modern energy services and economic growth is needed. Foremost, more evidence should be gathered on the costs and benefits of transitioning to clean cooking to women end-users in SSA in order to understand what it really takes to deliver the goals of SDG 7 by 2030. A non-exhaustive list of areas for further research can be found in Box 3.



BOX 3: AREAS FOR FUTURE RESEARCH

- Usage levels of different fuel and cookstove types in the region, regularly collected by sub-region and by country.
- Average market price of different fuels and cookstoves available for women's purchase, collected by country and in rural and urban areas.
- The number of jobs and level of income that will be lost in the traditional fuel and cookstove sectors upon the achievement clean cooking across the region.
- Estimation of the number of jobs potentially created at all stages of the clean cooking value chain, and the mapping of women's participation in each stage.
- Sex-disaggregated data on HAP exposure and deaths as a result of lack of access to clean cooking solutions.
- Data on health expenditures resulting from clean cooking (e.g. HAP-related diseases and GBV).
- Types of economically productive activities and reinvestment strategies in which women engage before and after the adoption of clean cooking solutions.
- Qualitative data on how household dynamics shift due to women end-user's economic empowerment.



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Public sector actors hold a central role in facilitating the adoption of clean cooking and its effect on women's empowerment through the legislative and regulatory frameworks of a country's political and economic environment. In order to reduce costs of clean cooking solutions for women end-users, it is vital that governments create favorable business environments for private entrepreneurs, ease taxes on the imports of fuels and cookstoves, and implement programs that support and invest in nascent clean cooking startups. Furthermore, fuel and ICS subsidies, which are often missed by the poorest quintiles, must be scaled up and be made more effective to reach the last mile. To mitigate employment losses in the traditional cooking sector and encourage livelihood creation in the emerging field of clean cooking, governments should provide economic incentives for businesses hiring local women and provide training programs for women seeking employment opportunities in the clean cooking sector, in cooperation with local civil society.

Private sector actors, such as small and medium clean cooking enterprises, investors, microfinance institutions, and energy

corporations, possess a certain amount of flexibility to engage with local consumers, expand to meet disenfranchised populations, and innovate around supply chain, design, and market challenges. Individually and collaboratively, these actors are well-positioned to drive towards product diversification and innovation, not only in cookstove design but also in financing mechanisms for women end-users. These financing mechanisms include credit programs, installment plans, rent-to-own models, and other flexible payment plans that distribute risks between end-users and stakeholders, and help end-users overcome initial barriers to clean cooking technology adoption. Also, decisions made by private sector organizations have the potential to create employment opportunities for women in the clean cooking sector. Engaging local women in the design, manufacturing, distribution, and sale of cookstove and fuel technologies is one mechanism through which private sector actors can act decisively to protect and diversify the women's labor market.

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Civil society actors, including grassroots and village-based women's groups, international development institutions, and the academic community, play a crucial role in steering the direction of and determining the messaging around the clean cooking agenda. They are crucial to establishing cross-sectoral ties, maintaining the vibrancy of the clean cooking actor ecosystem in SSA, building public support for the clean cooking agenda, securing buy-in from the private sector, and making clean cooking a priority for national governments. Civil society organizations function at the wider strategy-setting level, as well as at the local grassroots level where they have the power to convert strategy into directed action. These organizations can spearhead capacity-building initiatives and trainings for women seeking employment in the clean cooking sector, identify productive opportunities for women to engage in with new time savings, and provide awareness for and mobilization around clean cooking initiatives. Civil society organizations should also contribute research to enhance the knowledge base around the gender-energy-economy nexus and support the sharing of knowledge across country borders in SSA (see Box 3 on areas for further research). Finally, civil society organizations must play a central role



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in communicating the close relationships between clean cooking, women's empowerment, and economic growth to the wider development community, serving as a crucial mouthpiece to attract much needed funding to the sector.

Lastly, system-wide changes, involving strategic collaboration between high-level actors across sectors, are necessary to guide communities in SSA towards and through durable clean cooking transitions. It will be close to impossible to achieve universal clean cooking adoption by 2030 without an increase in the number and level of commitment of investors. Innovative finance mechanisms, such as Development Impact Bonds, thematic clean cooking investment portfolios, carbon market credits, and cross-subsidies, can encourage diverse actors to take risks in clean cooking. Outside the realm of financing, collaboration can occur through clean cooking conferences, forums, and start-up competitions. Actors can create educational materials about clean cooking, sharing the urgency of this field's development targets with diverse audiences. Corporations can work with national governments and local

populations to cater corporate social responsibility strategies to meet clean cooking needs where they are the severest. Governments and large energy companies can develop blended advertising schemes to spread investment between stakeholders while enhancing widespread understanding of clean cooking and working to increase adoption. Furthermore, considering the high stakes of the clean cooking agenda not only for SSA, but also for Southeast Asia and other developing regions, South-South cooperation provides a pathway for knowledge sharing, best practices, and financial support. Lastly, higher visibility of clean cooking in the energy sector is needed, and many actors can work together to enhance support and funding for clean cooking programs within energy actors' budgets.

With strategic, locally focused collaboration between these many stakeholders and a significant increase in sustained, innovative investment, the smart economics approach to clean cooking will support the achievement of multiple development goals.



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Clean cooking is not automatically smart economics—for the transition to empower women and drive economic growth forward in SSA, the right enabling policy environment must be in place.



8

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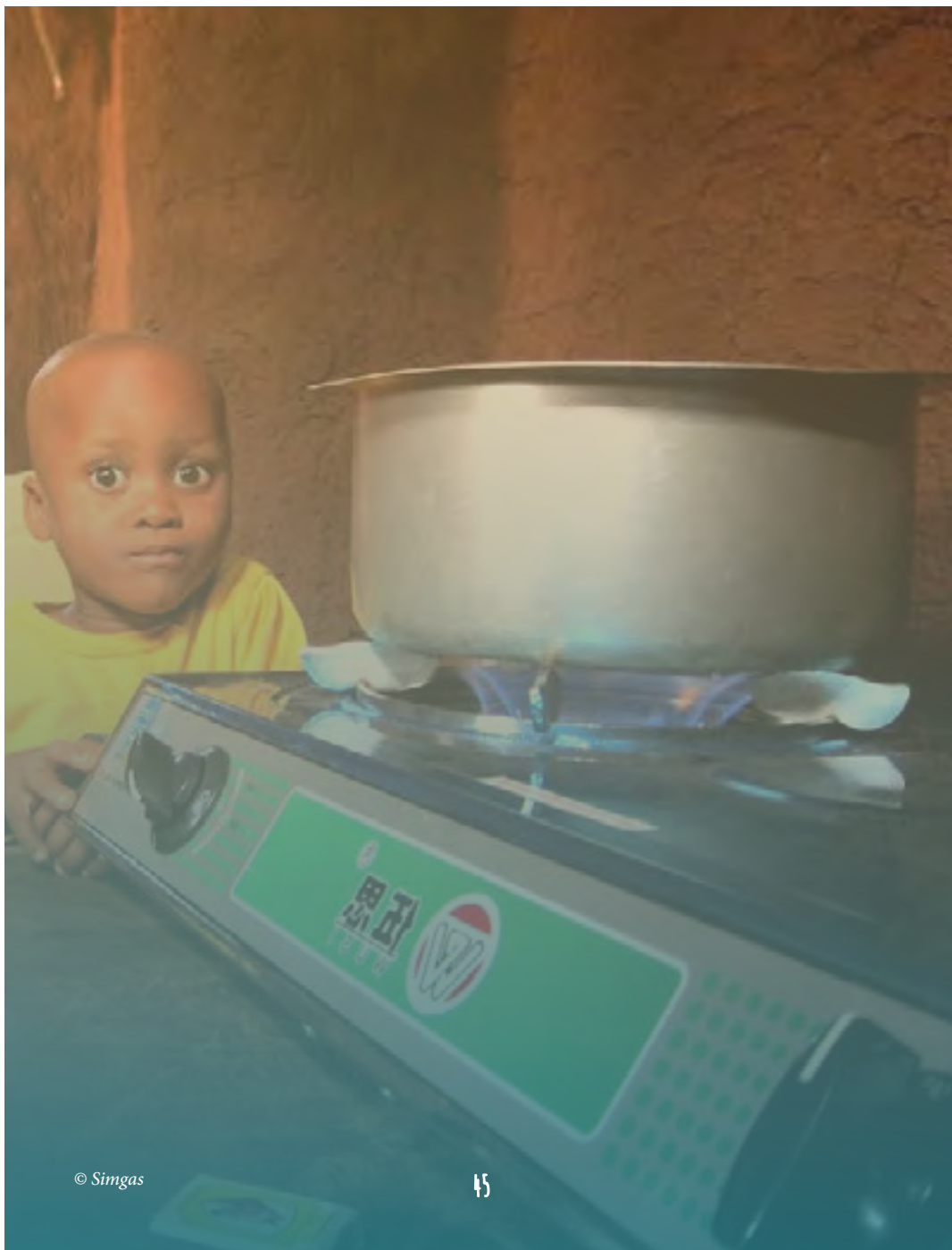


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