

# Ethiopia Impact Assessment of VAT and Duty Exemptions

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**Africa Clean Energy**  
Catalysing Africa's Solar Markets



**TETRA TECH**  
International Development





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## Introduction

**T**his policy brief summarises the socioeconomic impact of VAT and import duty exemptions for standalone solar products in Ethiopia to support public-private sector dialogue. Drawing on growing international literature, local data, and building on ACE TAF's Multi-Country Responsible Taxation report and quantitative tool, this brief summarises a qualitative and quantitative assessment of the impact of VAT and import duty regimes on the Ethiopian standalone solar (SAS) sector, and the results delivered across a range of fiscal, socio-economic, and environmental outcomes. Its purpose is to provide supporting evidence on the importance of achieving the Government of Ethiopia's energy access targets and to support effective implementation of the National Electrification Program 2.0. This brief reinforces the importance of the existing VAT and import duty exemptions alongside other incentives needed to ensure access to clean, modern and sustainable energy for all Ethiopians.

**Around 50% of Ethiopians lack access to energy – leaving 61 million still to be reached to achieve the target of universal access by 2025.** The NEP 2.0 sets out a pathway to achieve this ambition, including 35% of households using SAS technologies by 2025, with a gradual rollout of the main grid to (partially) replace SAS technologies after 2025.

**To realise this ambition, Ethiopia will need to rapidly accelerate growth of the standalone solar market.** The annual unit sales of high-quality SAS systems reaching households in increasingly remote and rural areas will have to increase from under 1 million per year today, to over 4 million each year by 2025. This is a significant rollout of the market and will necessitate a highly favourable policy and enabling environment. In this context, fiscal policy including border tax exemptions can play a significant role in supporting the delivery of Ethiopia's energy access and economic development policy ambitions.

## Methodology

**This brief is based on a light-touch adaptation of existing ACE TAF tools to be relevant for the context in Ethiopia.** It is based on the 'Responsible Taxation' tool developed by ACE TAF which was initially piloted in Malawi, Rwanda and Sierra Leone, and has subsequently been strengthened and used for detailed analysis in Kenya, Nigeria, Sierra Leone and Rwanda. A small number of consultations were held with private sector operators and drafts of the technical report shared with the Ministry of Finance and Ministry of Water and Energy to complete this brief.

main objective of PVoC is to ensure that prior to shipment, all imports of regulated products comply with the Ethiopian quality standards for SAS products (ES IEC TS 62257-9-8: 2020) and the approved Ethiopian technical regulations, or other approved international standards.

The specific objectives of the PVoC programme are to:

Ensure quality of SAS products, health and safety, and environmental protection

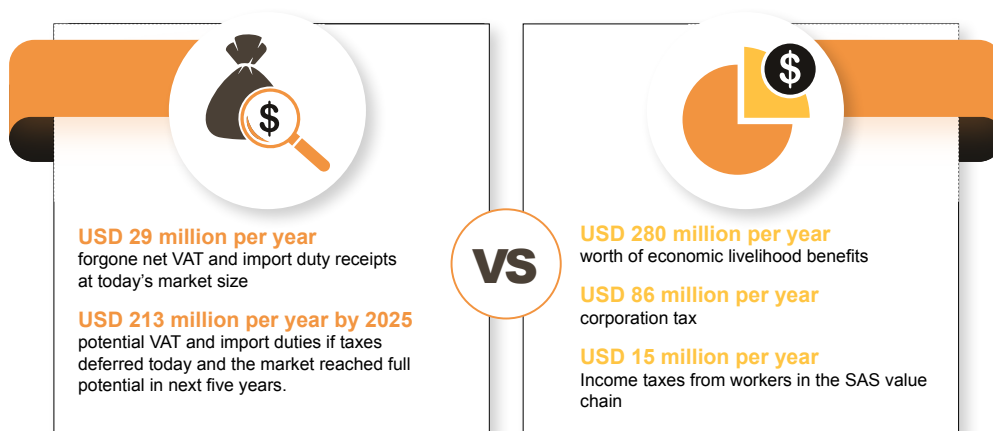
Reduce the risk of unsafe and sub-standard SAS imports entering Ethiopia through the execution of conformity assessment activities from the country of export

Facilitate the clearance process by eradicating bottlenecks caused by the entry point verification performed on arrival

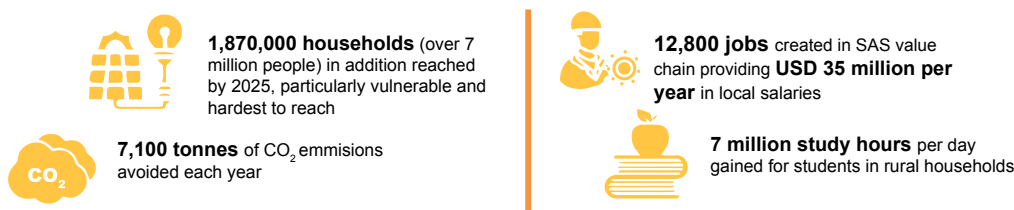
## Subjected Goods

These include products covered by the standard ES IEC TS 62557-9-8, which are DC Plug and Play solar system kits with a peak power rating of the PV module or other power generating devices less than or equal to 350 Wp.

## Overview of Outcomes



### further direct and indirect benefits of tax exemptions



✚ Providing critical services to vulnerable communities which will reduce strain on public sector services, including social safety nets, health care provision, unemployment programs etc.

Source: ACE TAF analysis

Figure 1: Summary of the case for VAT and import duty exemptions

## Energy Access Outcomes

The first and most important impact of VAT and import duty exemptions is to accelerate access to energy for Ethiopian households by around 1.9 million additional households by 2025. To achieve the policy goal of universal access by 2025 and 35% of households using SAS technologies, over 10 million households will need to be reached with SAS technologies in the next few years. This is an ambitious target that will need a range of policies and incentive schemes to unlock success. If all other conditions for market development to reach this target are put in place, levying VAT and import duties alone would increase prices to the extent that 1.9 million fewer households would be able to access to energy. Furthermore, companies and investors are less likely to enter and seek to grow their presence in what is still a relatively young market, which would amplify the impact on affordability and would likely result in a further 1.5 million households being left without access to energy.

## Fiscal Outcomes

While VAT and import duty exemption would result in a short-term reduction in fiscal receipts, this is rapidly overtaken by gains to the fiscal base in the medium term. At the current market size, VAT and import duty combined could generate up to USD 29 million in annual tax receipts. However, if the market grows to its full potential and in line with national targets, then at a much higher volume of sales the fiscal receipts from direct corporation tax and employee income tax could be generating USD 86m and USD 15m respectively. This more than compensates for the short-term reduction in border taxes in the short term.





If VAT and import duties are to be introduced, it would be better to do so when the market conditions are right. As the market grows, so too does its potential to generate public revenue from border taxes on a wider unit sales base. By allowing the market to get to its full potential, the potential revenue from VAT and import duties combined would rise from USD 29 million to over USD 200 million each year.

## Wider Socio-Economic Benefits Delivered

Accelerating development of the SAS sector would deliver socioeconomic impacts far in excess of any loss in public revenue from tax exemptions. The additional benefit to (mostly rural) livelihoods from accelerating access to energy is estimated to be worth USD 280 million each year through increased productivity and income generating activities. By reducing reliance on conventional lighting and energy sources households could reduce expenditure on polluting and lower quality forms of energy access by around USD 400m per year.

Furthermore, a range of other non-monetized economic benefits could be unlocked, including the creation of up to 50,000 clean energy jobs worth USD 135 million in salaries every year, longer study hours for millions of children daily, and CO2 emissions reductions of up to 40,000 tonnes per year, worth just under USD 2 million at a conservative global social cost of carbon of USD 50.



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## Recommendations and next steps

Four main tax policy recommendations would support achievement of the Government of Ethiopia's goal of achieving universal access to electricity within the next decade.

1

### Recommendation #1: Extend VAT exemptions to support income-generating potential of solar home systems.



VAT exemptions should be extended to lanterns and larger solar home systems (SHS) (above 15Wp) and appliances that are destined for use as part of an integrated SHS as these systems deliver the most potential for income generating opportunities.

The case for tax exemptions for smaller systems is clear in (at least partly) addressing the affordability barrier and supporting a minimum level of energy access for poorer, rural communities. However, exemptions should also support access to solar home systems and larger capacity productive use technologies and appliances, which offer greater income-generating potential to lift households and communities out of poverty.

2

### Recommendation #2: Commit to import duty exemptions to provide a stable environment for investors and companies.



Import duty exemptions should be maintained with commitment for the next five years and implementation strengthened to give companies and investors confidence in the market.

While circumstances may change – and the granting of tax exemptions should be revisited periodically to determine both the need and effectiveness of the policy, it is essential that companies have a degree of certainty over policy in the medium term to raise capital from investors and have the confidence to enter and deepen their activities in the Ethiopian market.

3

### Recommendation #3: enhance capacity at the border.



The capacity and transparency of implementing agencies should be reinforced both to (1) ensure tax exemptions enacted in policy are implemented in practice and (2) to make sure only eligible products benefit from the exemptions.

In particular, tax exemptions granted to solar component products and kits should only be available to items that can be clearly identified as being used as part of an integrated off-grid solar system. For example, some component parts such as batteries and fittings need to be identifiable as only serving as part of a SHS to avoid 'leakage' of tax exemptions, to make sure customs agencies can effectively enforce tax collection on ineligible products.

To do this, government and development partners will need to work closely with and support the capacity of customs agencies and officials.

4

### Recommendation #4: use targeted subsidies to complement tax exemptions.



Further incentives should be explored to support SAS expansion to achieve universal access through additional fiscal strategies, such as targeted results-based finance schemes.

While such subsidies may increase complexity and administration costs, they are better able to target finance to those who are least able to pay and accelerate the rollout of energy access technologies.



## Useful Further Resources

ACE TAF (2021) “Stand Alone Solar (SAS) Market Update: Ethiopia”.

ACE TAF (2021) “Pre-Export Verification of Conformity (PVoC) Enforcement and Implementation Plan – Ethiopia”.

ACE TAF (2021) “Economic Impact Assessment on Removal of Tax Exemptions on Stand-Alone Solar Products in Kenya: Technical Report”.

ACE TAF (2021) “Impact of Tax Incentives on Access to Stand-Alone Solar: Policy recommendations from analysis in Malawi, Rwanda, and Sierra Leone”.

ACE TAF (2021) “Impact Assessment of VAT and Import Duty Exemptions for Stand-Alone Solar in Nigeria – Technical Report”.

Energy Africa (2021) “Energy Africa – Ethiopia Refreshed Compact 2021”.

Fetter, Rob, and Jonathan Phillips (2019) “The True Cost of Solar Tariffs in East Africa”.

GOGLA (2019) “Powering Opportunity”.

GOGLA (2019) “Off-Grid Solar – A Growth Engine for Jobs”.

Jobs Creation Commission Ethiopia (2021) “Ethiopia: Job creation through off-grid energy access”.

Power Africa (2019) “Off-Grid Solar Market Assessment Ethiopia”.

Power for All et al (2021) “Catalyzing Investment for Energy Access: Making the Case for Change (Ethiopia)”.







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