



**pivot**

**GLOBAL
BIOETHANOL
COALITION**

GLOBAL CHALLENGE

3 BILLION

PEOPLE COOKING WITH SOLID/FOSSIL FUELS

4 MILLION

DEATHS RELATED TO HOUSEHOLD AIR POLLUTION



Increased GHG Emissions

High Household Expenditure for Energy



Forest and Soil Degradation

Gender and Time Burden

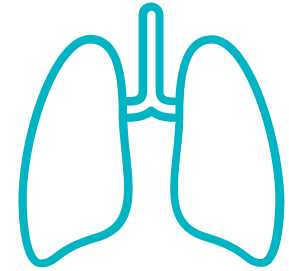




GLOBAL COST

COST OF INACTION OVER THE NEXT 10 YEARS

\$2.4 TRILLION



Health
1.4 TRILLION



Gender
800 BILLION



Climate
200 BILLION

ANNUAL INVESTMENT NEEDED BY 2030

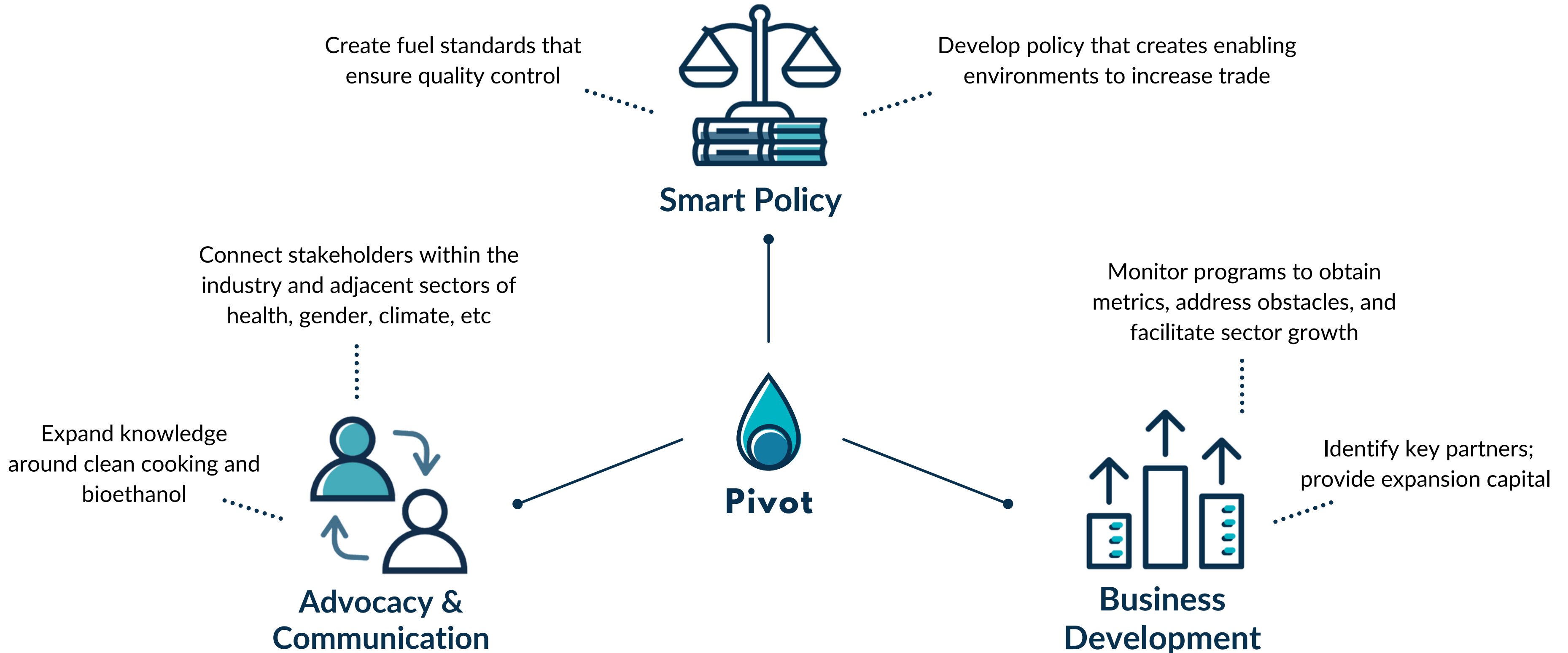
TOTAL
INVESTMENT NEEDED

\$1.5 TRILLION

PRIVATE SECTOR
INVESTMENT NEEDED

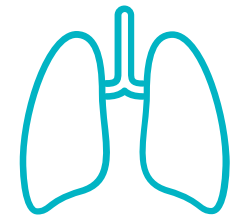
\$11 BILLION

HOW WE WORK



BIOETHANOL SOLUTION

AGRICULTURE + ENERGY



RESTORE HEALTH



EXPAND MARKETS



REDUCE CARBON EMISSIONS



CREATE JOBS



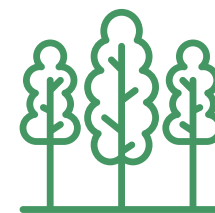
EMPOWER WOMEN



GROW GLOBAL PRODUCTION



STRENGTHEN AGRICULTURE



PROTECT THE ENVIRONMENT



IMPROVE LIVELIHOODS





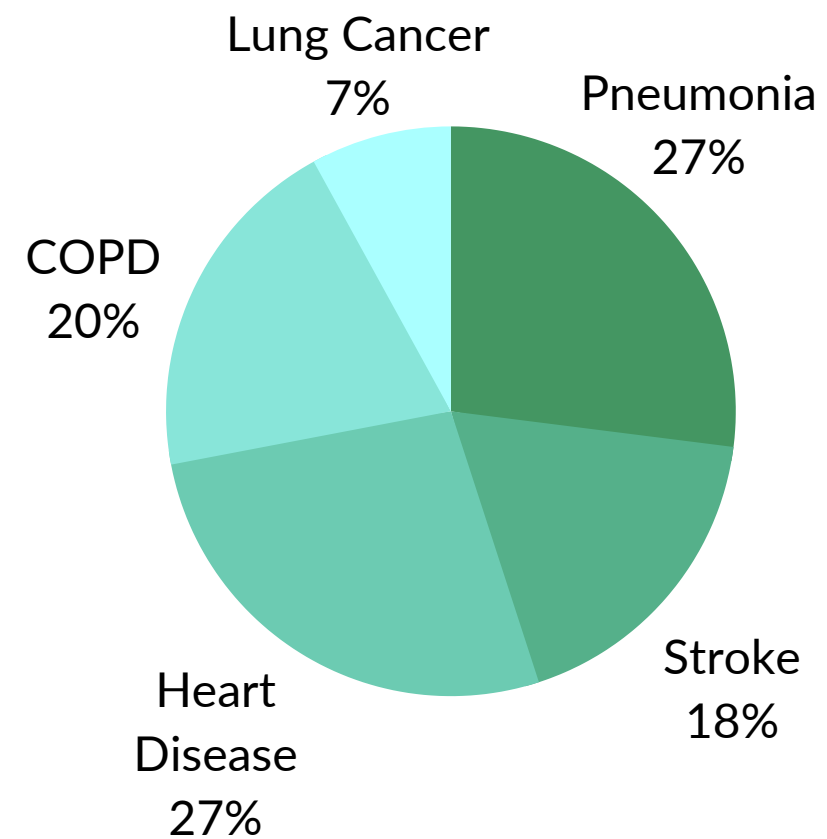
HEALTH

FUEL PROCUREMENT → PHYSICAL AILMENTS

Walking long distances + Carrying heavy loads of wood/charcoal

COOKING & CLEANING → DISEASE

Household Air Pollution + Frequent exposure to PM 2.5



DISEASE BURDEN FROM HAP

ACCESS TO CLEAN COOKING | TOGO

9%

of total population

GENDER

HEALTH

As women are tasked with most of the cooking, their exposure levels are 2 - 4 times that of men

EMPLOYMENT

Meaningful employment outside of the home is difficult due to household duties or health problems



SAFETY

Fuel gathering results in greater instances of Gender Based Violence (GBV)

TIME

The tasks of fuel procurement, cooking and cleaning take an average of 5 hours from a woman's day

EDUCATION

Girls are often kept at home to help with chores, and adult women are prevented from pursuing further education



CLIMATE

Residential cooking, domestic heating, and lamps contribute to:

58%

BLACK CARBON



2%

GLOBAL CO2 EMISSIONS

BY 2030

UNCONDITIONAL NDC

11.14% emission reduction below business-as-usual

CONDITIONAL NDC

31.14% emission reduction below business-as-usual

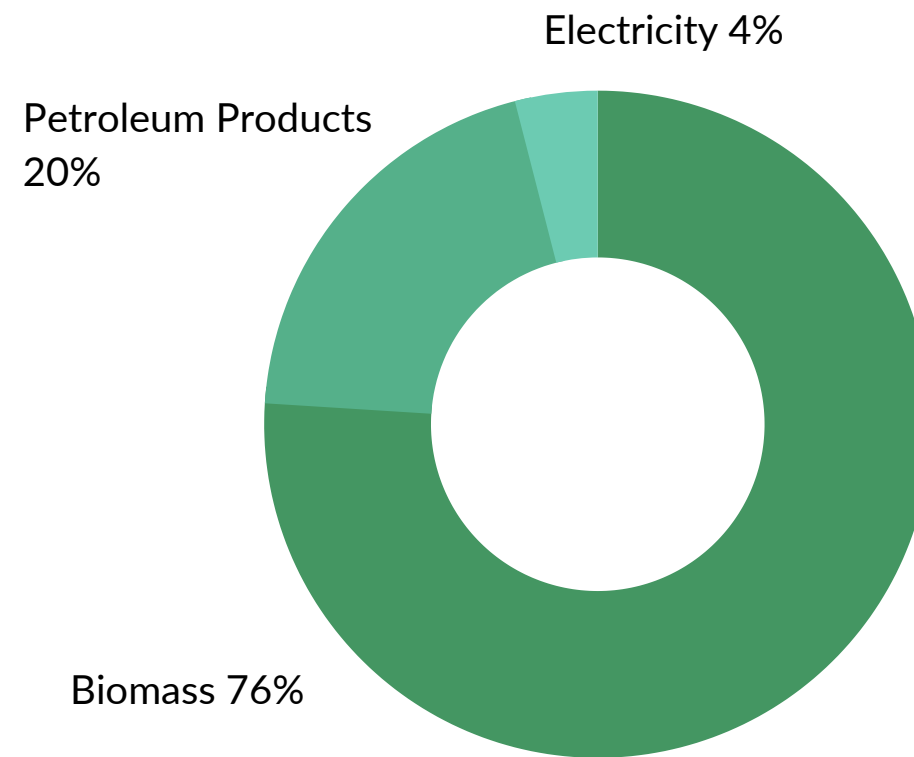
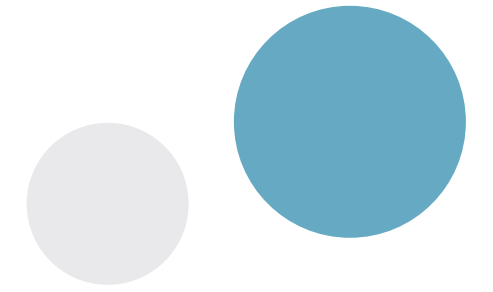
Bioethanol cookstoves and fuel

3.5-4 TONS CO2 saved per stove/year

Burn clean, reducing particulates and harmful emissions

Protect forests and fuel harvesting which release carbon

ENVIRONMENT



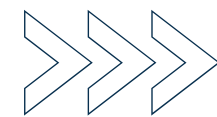
ENERGY SOURCES | TOGO

ANNUAL WOOD-ENERGY CONSUMPTION

7,500,000 m³

National Action Plan for Renewable Energies (PANER)

- Grow the use of improved stoves for cooking
 - 27% in 2020 and 80% in 2030
- Increase the charcoal production efficiency
 - 15% to 25% through improved Kilns
- Increase LPG use in domestic energy
 - 25% in 2020 and 75% in 2030

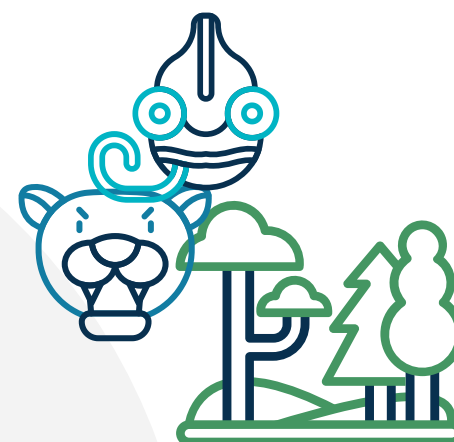


Bioethanol eliminates the pressure on forests harvested for wood/charcoal production

Protects endemic species and habitat

Prevents erosion and desertification

Reduces carbon emissions through reduced harvesting;
capture carbon through remaining forest



ECONOMY



AGRICULTURE

Increase feedstock value chain for both large scale and small holder farms

Increase demand for agricultural inputs like equipment and fertilizer

Improved farming techniques that produce higher yields

BIOETHANOL PRODUCTION

Investment in production facilities

Job creation through plant operations and downstream opportunities like blending and bottling, packaging, etc

Multiple value streams from bioethanol, including transportation blending opportunities

MANUFACTURING AND OPERATIONS

Job creation along the value chain in appliance assembly, bottling, distribution, sales, marketing, management, etc

Broad range of skill levels required provides opportunities for most individuals

Couple with existing networks (such as distribution or marketing) when possible and boost multiple industries simultaneously

THANK YOU!

FOR YOUR ATTENTION

