



ENERGY TO REDUCE
ENVIRONMENTAL IMPACT



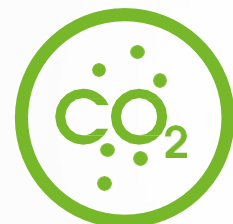
GLOBAL TEXTILE IMPACT

80 Billions of garments / year

ENVIRONMENT



20%
Of water
pollution



10%
Of greenhouse
gas emission



5,2%
Of waste on
landfill – 1 truck
per second



+ 23%
Consumption
of chemicals



SUSTAINABILITY PLAN 2020



DEVELOPED AT
2013 LAUNCHED
IN 2015



PUBLIC
COMMITMENT



FUTURE VISION



MAINTAIN
PIONEERISM



RISK AND
OPPORTUNITY
ANALYSIS



SMART
GOALS

SUSTAINABILITY PLAN 2020



SUSTAINABILITY PLAN 2020



TEXTILE PROCESS

- 15%** LESS ENERGY BY GARMENT PRODUCED
- 20%** LESS GREENHOUSE GAS EMISSION
(SCOPE 1 AND 2 GHG PROTOCOL)
- 40%** LESS WASTE BY GARMENT PRODUCED
- 40%** LESS WATER BY GARMENT PRODUCED



FIELD OF ACTION AND IMPACT OF GOALS



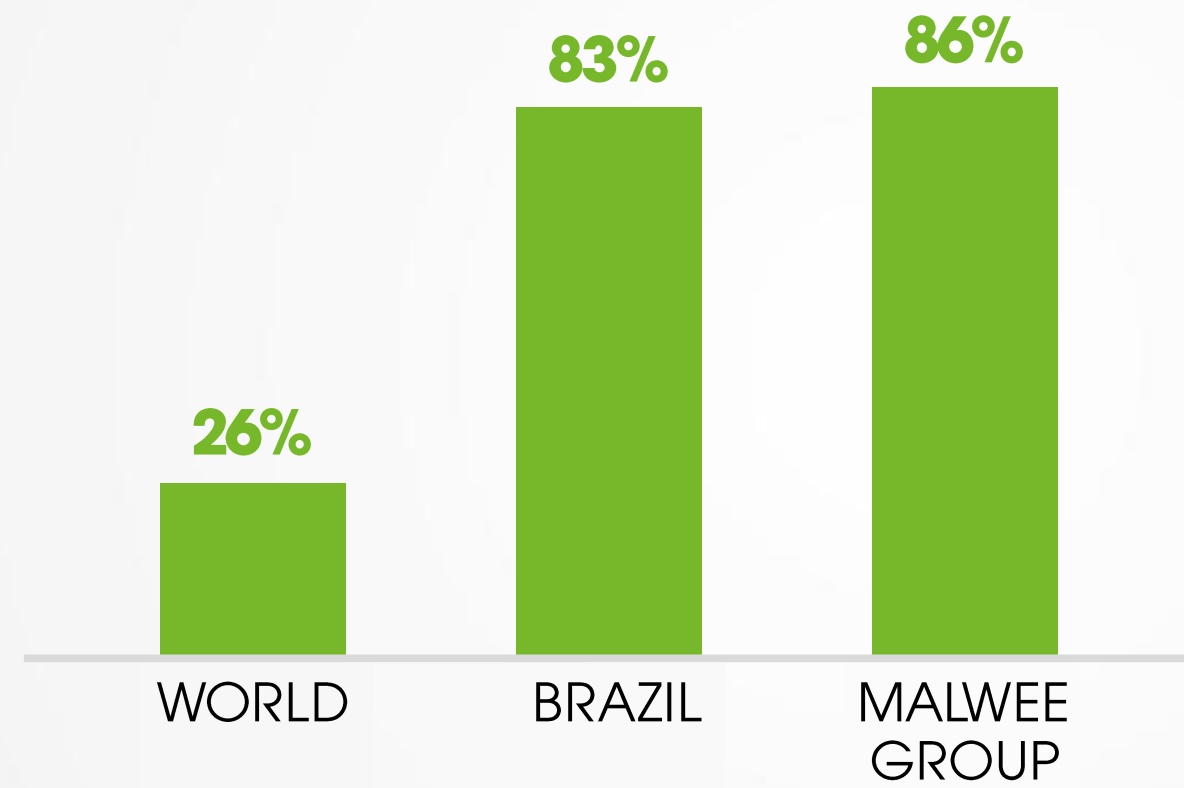
34 MILLION OF APPAREL/YEAR

100% BRAZILIAN MARKET | 96% BRAZILIAN PRODUCTION | 4% ASIA PRODUCTION

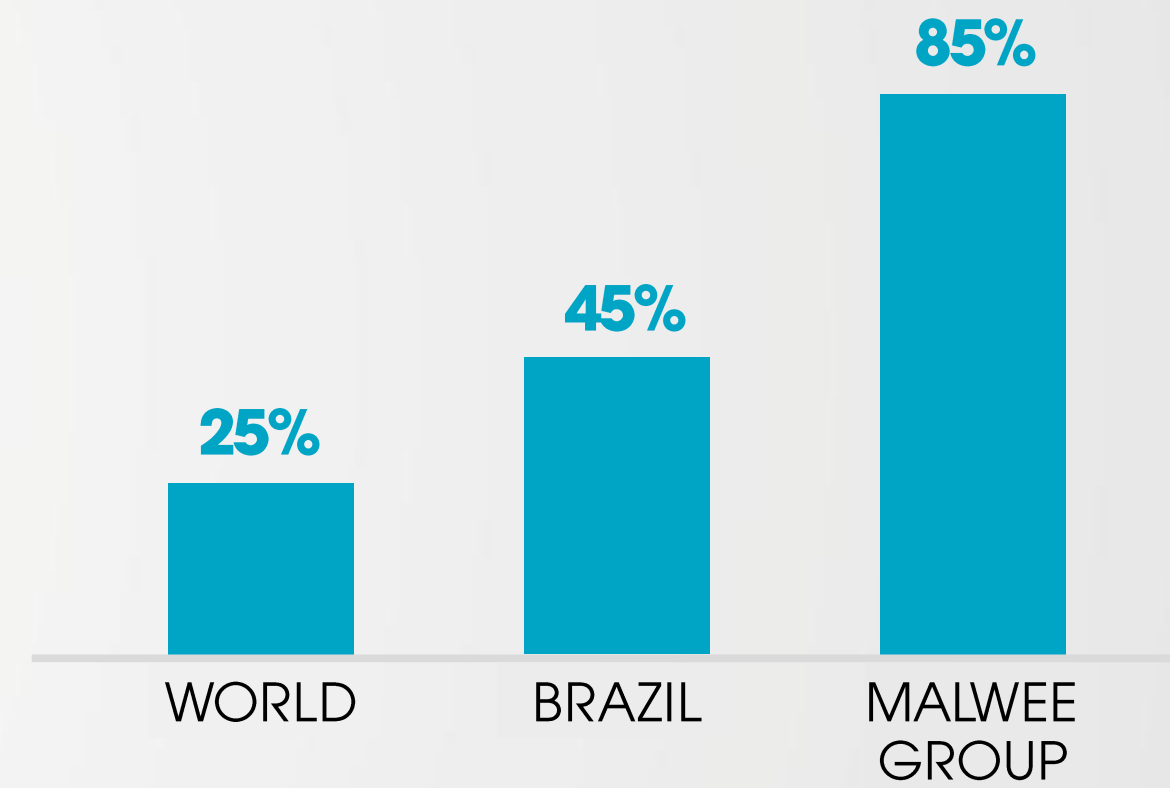


FIELD OF ACTION AND IMPACT OF GOALS

RENEWBLE ELECTRICITY SOURCE (2018)

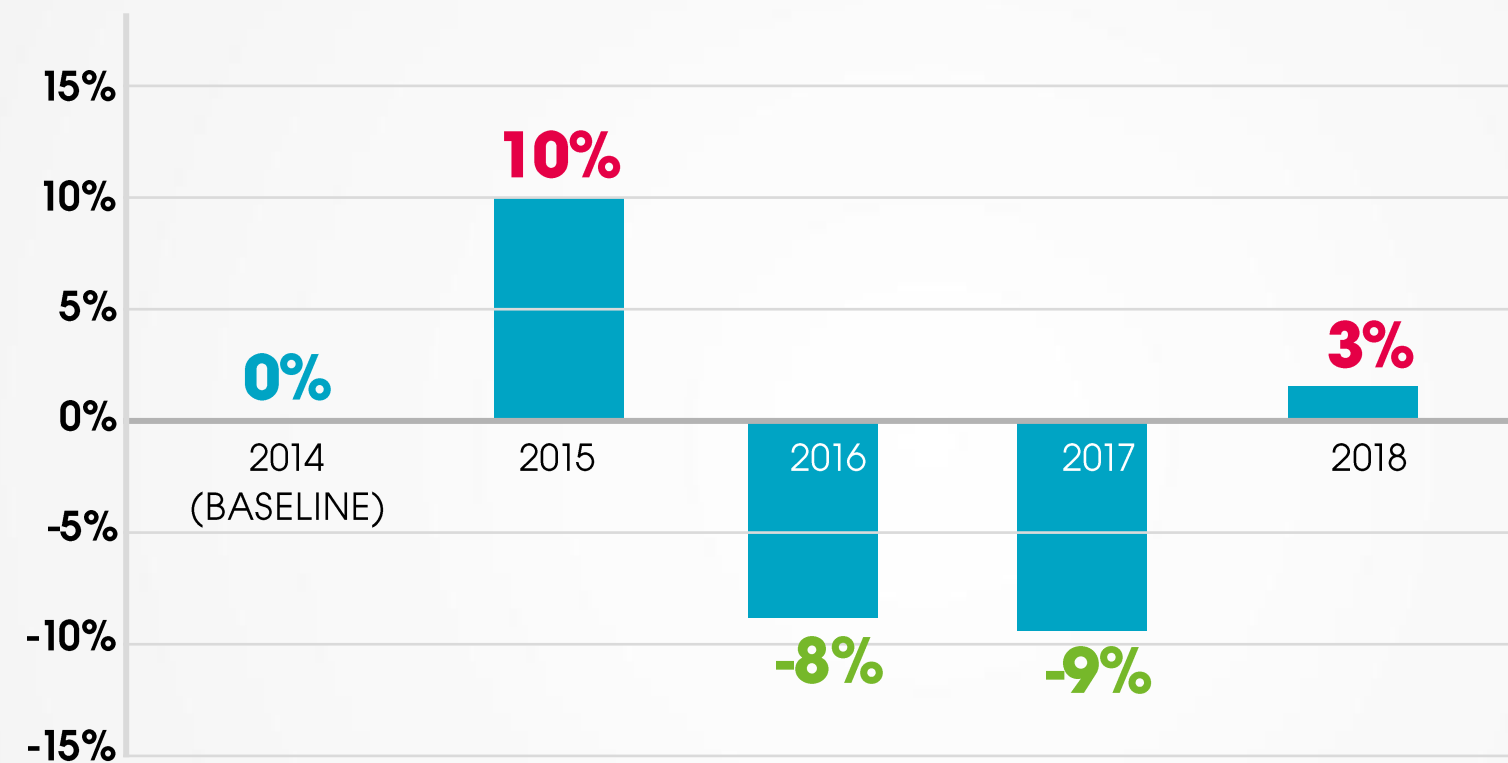


RENEWBLE PRIMARY ENERGY SOURCE (2018)

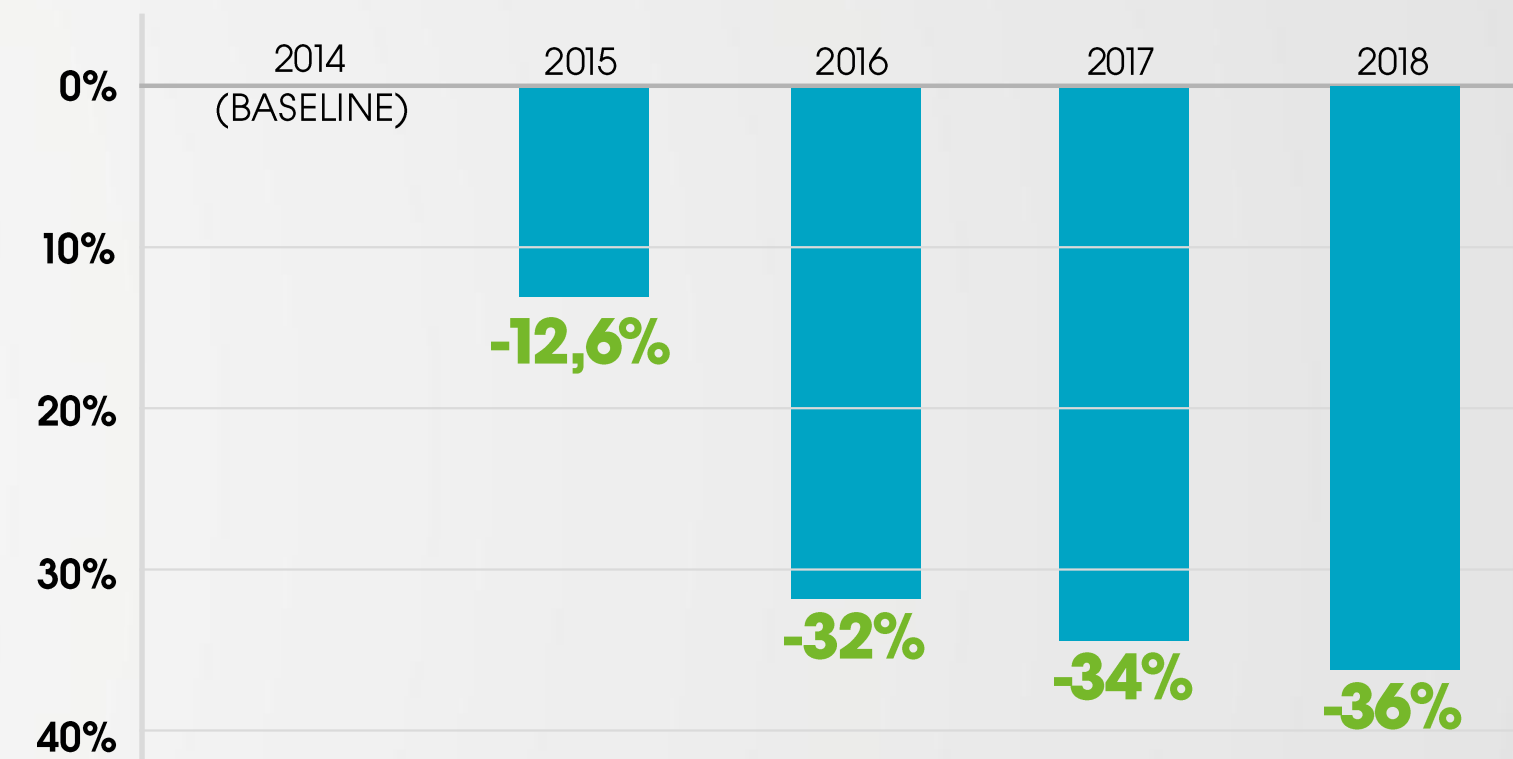


15% LESS ELECTRICITY BY GARMENT PRODUCED

ELECTRICITY CONSUMPTION VARIATION BY GARMENT BY YEAR



MALWEE GROUP'S ELECTRICITY DEMAND BY YEAR



INITIATIVES AND PROJECTS TO ACHIEVE THIS GOAL



Efficiency Initiatives	Energy Saving (Mwh/year)	Status	Payback (Years)
Substitution of conventional light to Light Emitting Diode (LED) 120 MWh	120	Concluded 2019	5
Replacement of non-efficient electric motors (50/197)	417	In process	3-15
Improvement of water chillers	517	Planned 2020	3,9
Centralized compressed-air system	580	Planned 2020	5

TOTAL: 6% OF CONSUMPTION REDUCTION

SOURCE REPLACE INITIATIVES

Solar Energy systems for the sewing facility in Brazilian northwest

PLANNED 2020

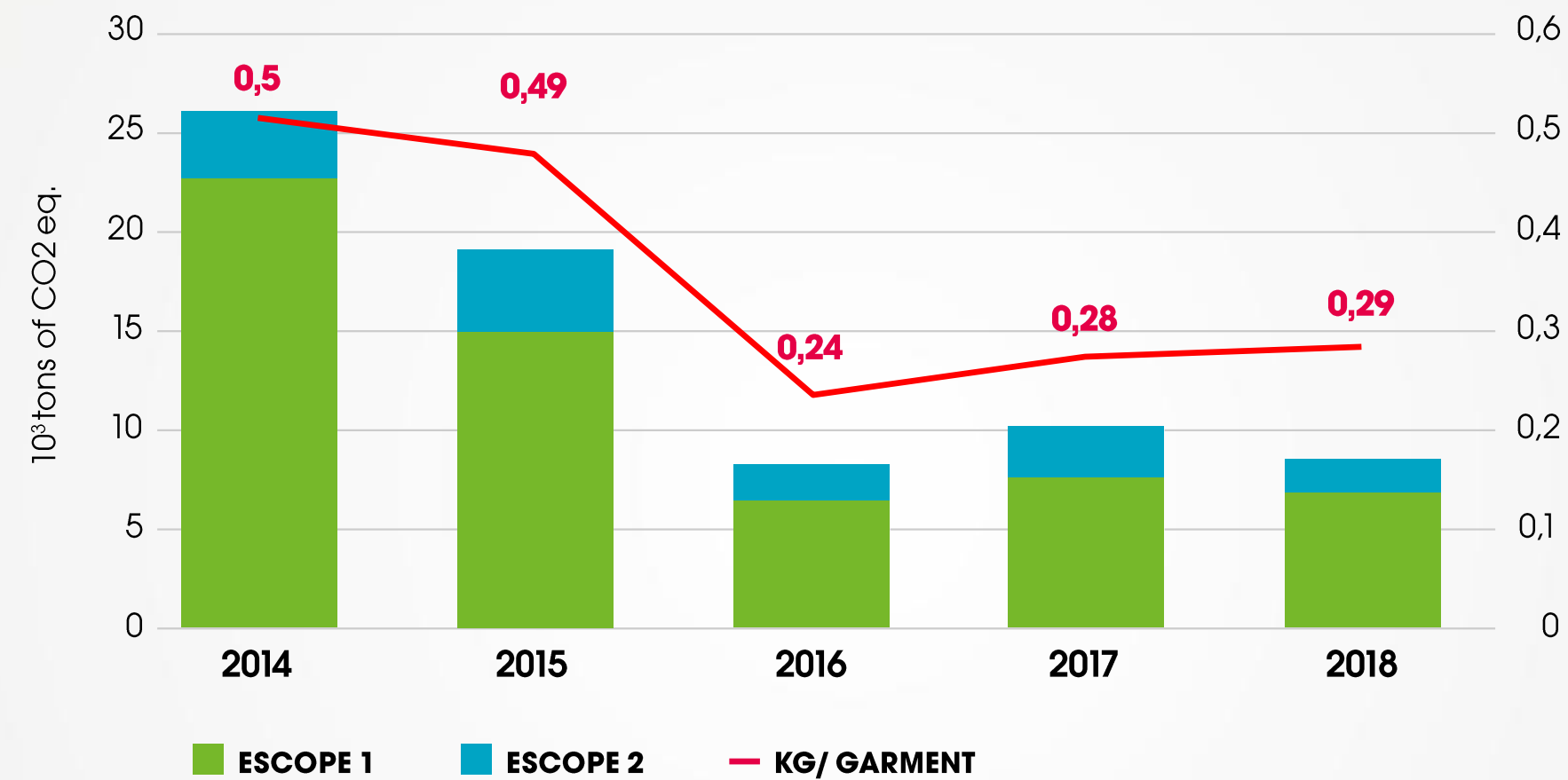
100% Renewable electricity supply for the knitting facility

CONCLUDED

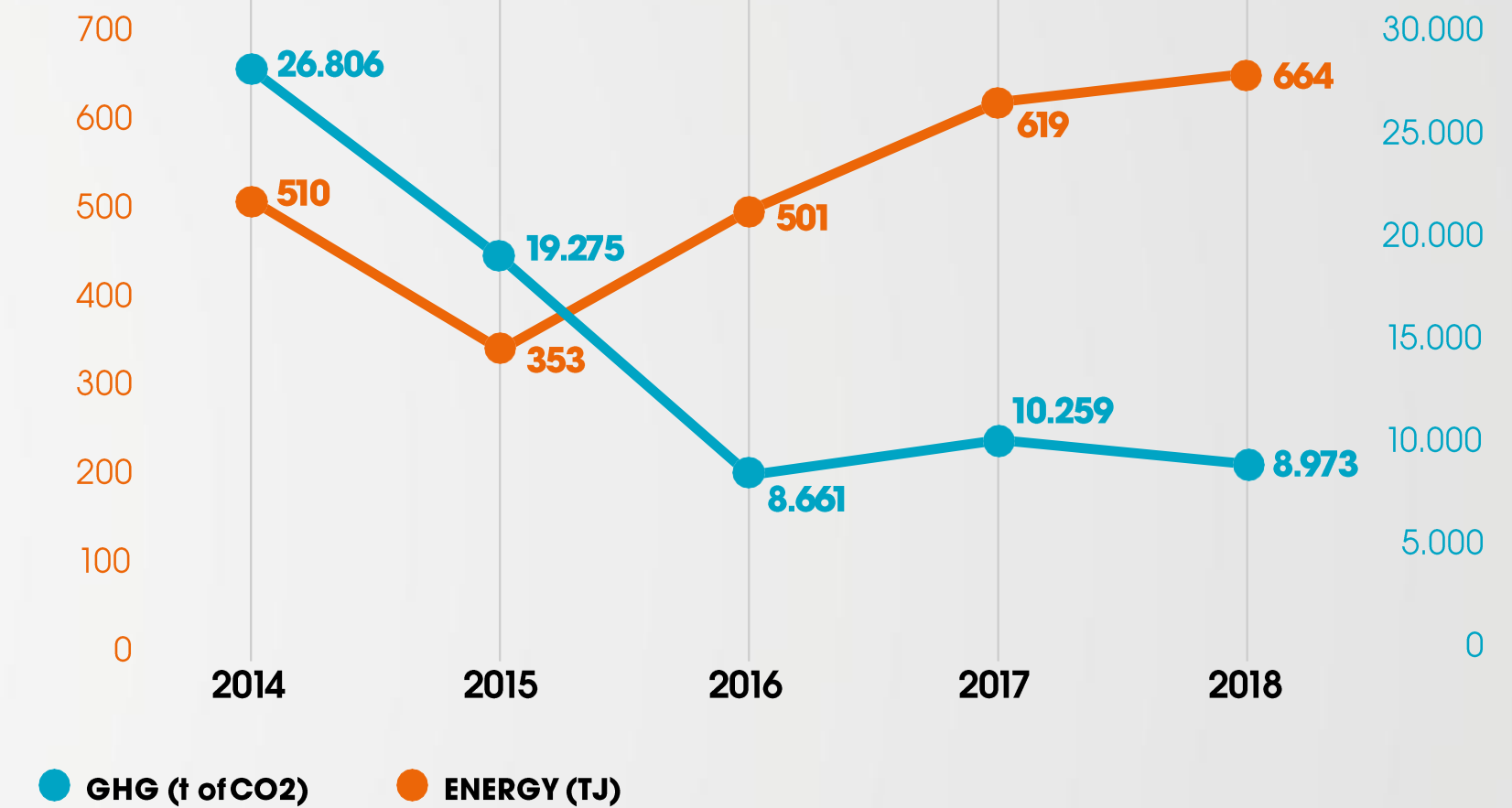
20% LESS GREENHOUSE GAS EMISSION

(Scope 1 and 2 GHG Protocol)

GREENHOUSE GAS EMISSION



MALWEE: ENERGY X TONS CO2



INITIATIVES AND PROJECTS TO ACHIEVE THIS GOAL

REPLACE THERMAL FLUID HEATING AND STEAM BOILER FROM NATURAL GAS TO BIOMASS

INVESTMENT: U\$ 1,7 MILLION

- IMPROVING EFFICIENCY
Biomass Dryer Installation
(Biomass average humidity 52%)
ENERGY SOURCE: heat recovered from the boiler and
heater emission

RESULT:

40 - 50% Increasing the combustion efficiency

10% biomass consumption reduction

Payback – 6 months

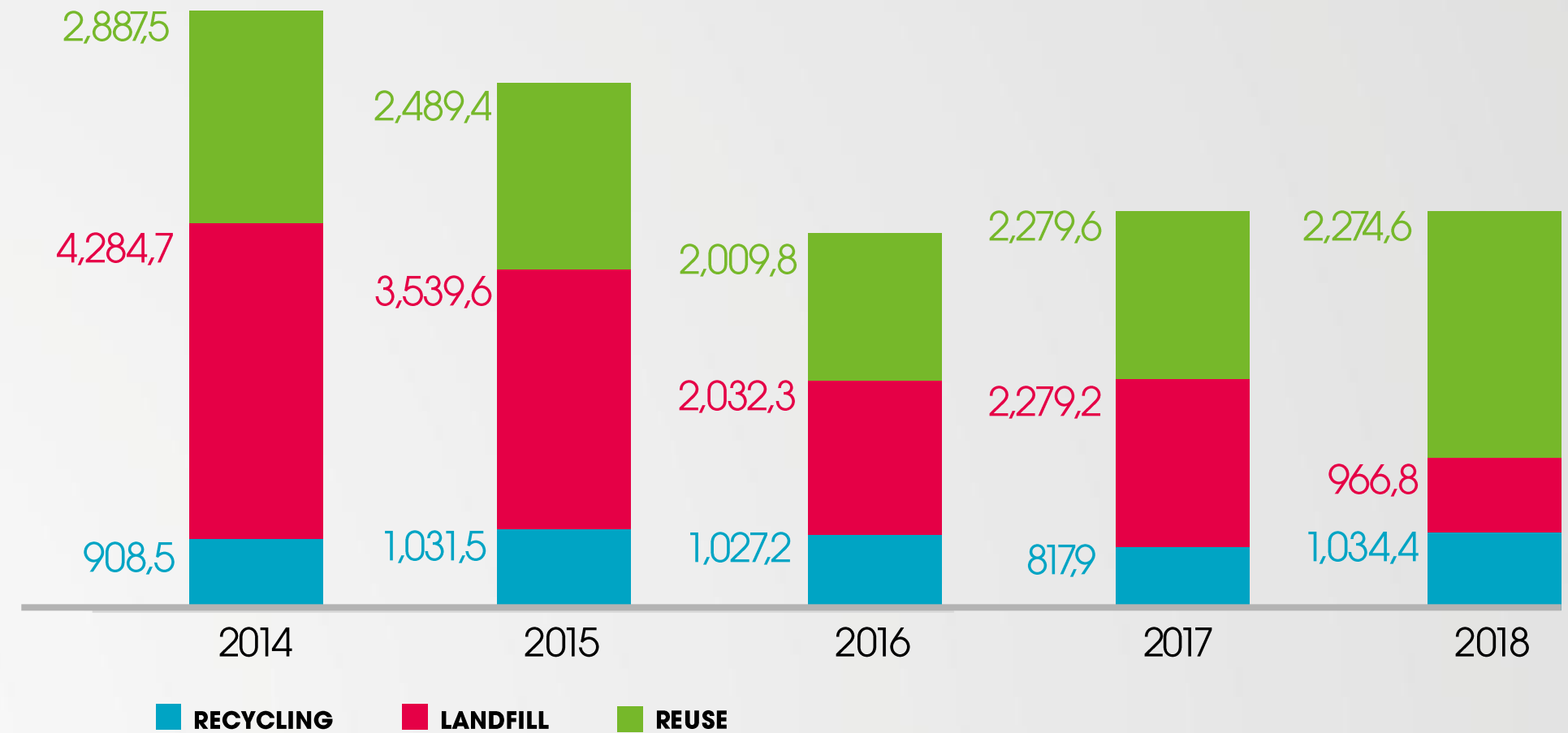
- RENEWBLE ENERGY CONSUMPTION:
Increase the number of equipment with biomass as fuel
instead of natural gas:
 - Finishing equipment
 - Knitted fabric dryer



40% LESS WASTE
BY GARMENT
PRODUCED



WASTE GENERATION REDUCTION



INITIATIVES AND PROJECTS TO ACHIEVE THIS GOAL

INVESTMENT:
Effluent Sludge
Dryer

CHALLENGE:
Dry the sludge
without
spending more
energy

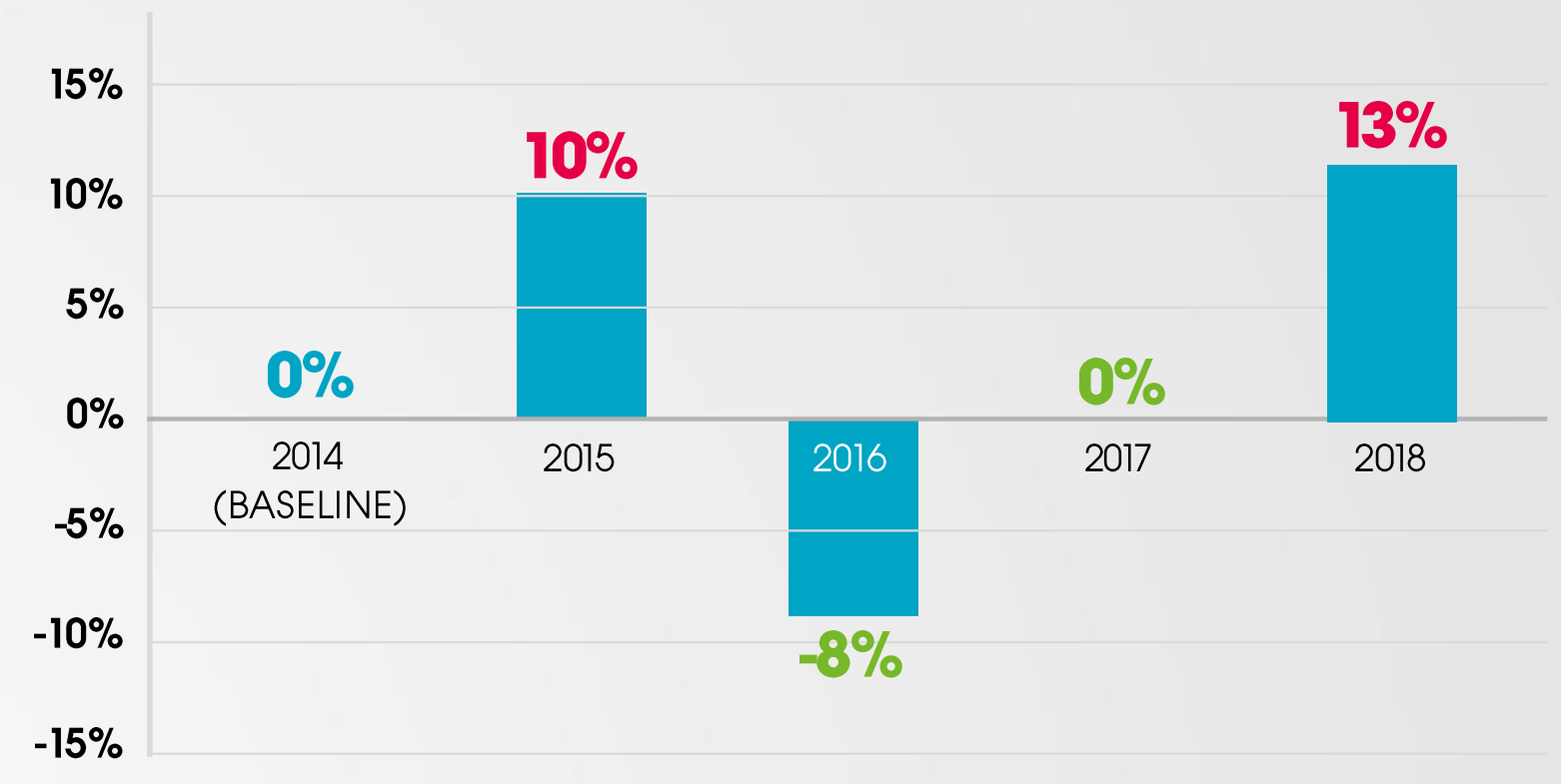
SOLUTION:
Use the energy
recovered
from boiler
and heater
emissions.

NEXT STEP:
Apply the
dry sludge to
achieve zero
industrial waste
at landfill

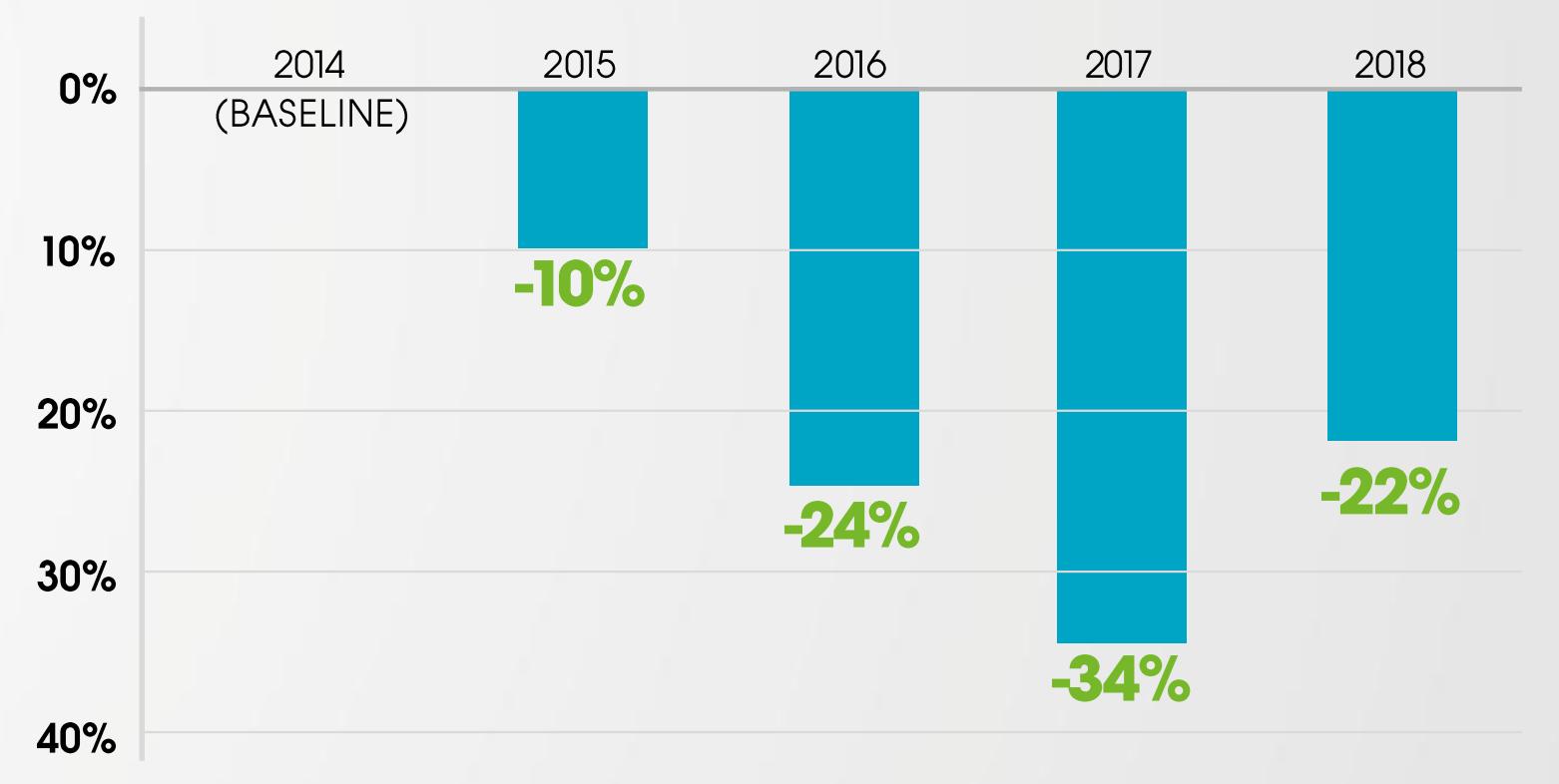
40% LESS WATER
BY GARMENT
PRODUCED



WATER CONSUMPTION PER GARMENT



TOTAL WATER RESOURCE CONSUMED



INITIATIVES AND PROJECTS TO REDUCE ENVIRONMENTAL IMPACT



REDUCE CONSUMPTION WITHOUT IMPACTING THE PRODUCT QUALITY

BARRIER:

- Technology access to reduce the consumption
- Trends make the efficiency gains not continuous

SOLUTION:

- Invest in effluent treatment, improving color reduction without chemicals, making possible to increase water reuse
- Technology: Ozone System

CONSEQUENCE:

- Increase energy consumption
- SOLUTION: Solar Energy
 - PAYBACK: more than 10 years



INITIATIVES AND PROJECTS TO ACHIEVE THIS GOAL



TECNOLOGY: LAUNDRY 5.0

BENEFITS AND GAINS:

98%

less water

89%

less chemicals

80%

less impact on worker health

BARRIER:

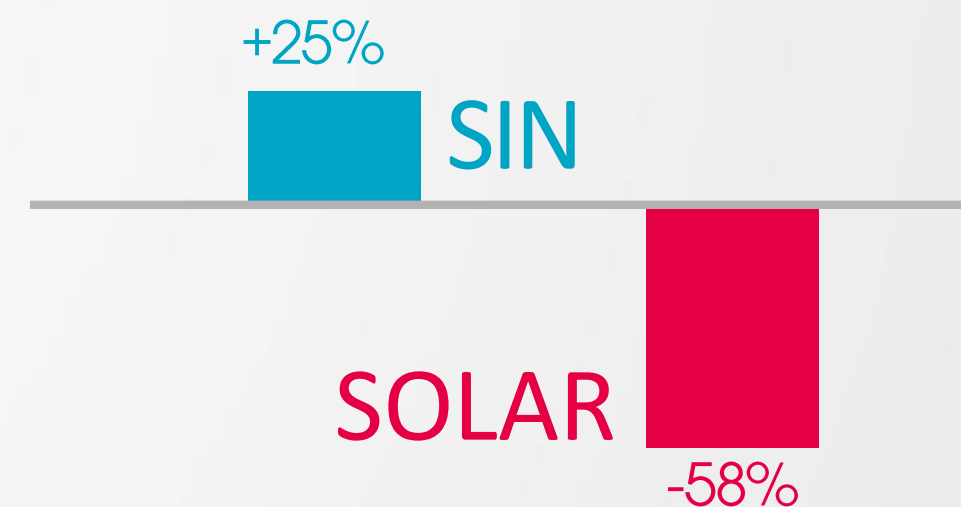
100%

energy consumption growth*

SOLUTION

Solar energy system

GREENHOUSE GAS EMISSION*



*LCA (Life Cycle Assessment) methodology calculation

CONCLUSIONS



Reduction of consumption is always the best solution



If is not possible to reduce, renewable energy and reuse of raw material are good replacement options



Costs and payback are challenges



In Brazil renewable electricity needs to be more financially attractive



Government offers allowance to renewable energy consumption, but the transmission and other additional costs are barriers



To compensate the long term projects payback Brazil has some funding to encourage the companies investment



Greenhouse gas emission, must be considered in all projects to reduce any possible growth of this impact

NEW CHALLENGES



#TAKE THIS PEN

1° BRAZILIAN FASHION COMPANY THAT HAS SIGNED BUSINESS AMBITION 1.5°C

CHALLENGES:

- Calculate the indirect impact
- Establish Greenhouse gas emission, decreasing target considering the chain
- Value Chain engagement

THANK YOU!

✉ taise.b@malwee.com.br

☎ +55 47 999731421



linkedin.com/in/lilian-taise-beduschi

