

# BIC LIGHTERS SUSTAINABLE DEVELOPMENT PLAN

ESG investor presentation – François Clément-Grandcourt

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# BIC LIGHTERS

Reliable and safe items for essential needs



# LIGHTING A FLAME: AN ESSENTIAL NEED

FLAMES ANSWER PHYSIOLOGICAL, PSYCHOLOGICAL AND SPIRITUAL NEEDS



*Heating*



*Cooking*



*Restaurant &  
Catering*



*Relaxing*



*Leisure &  
outdoor activities*



*Birthday  
celebration*



*Spirituality*



*Emergency  
situations*



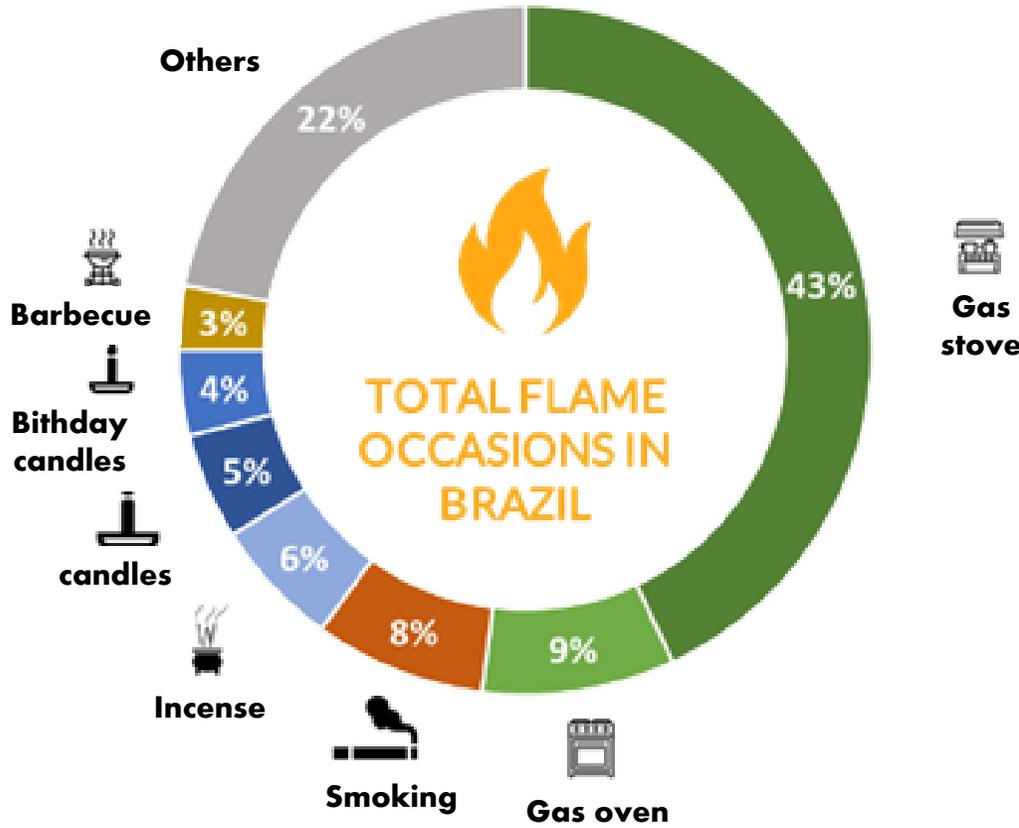
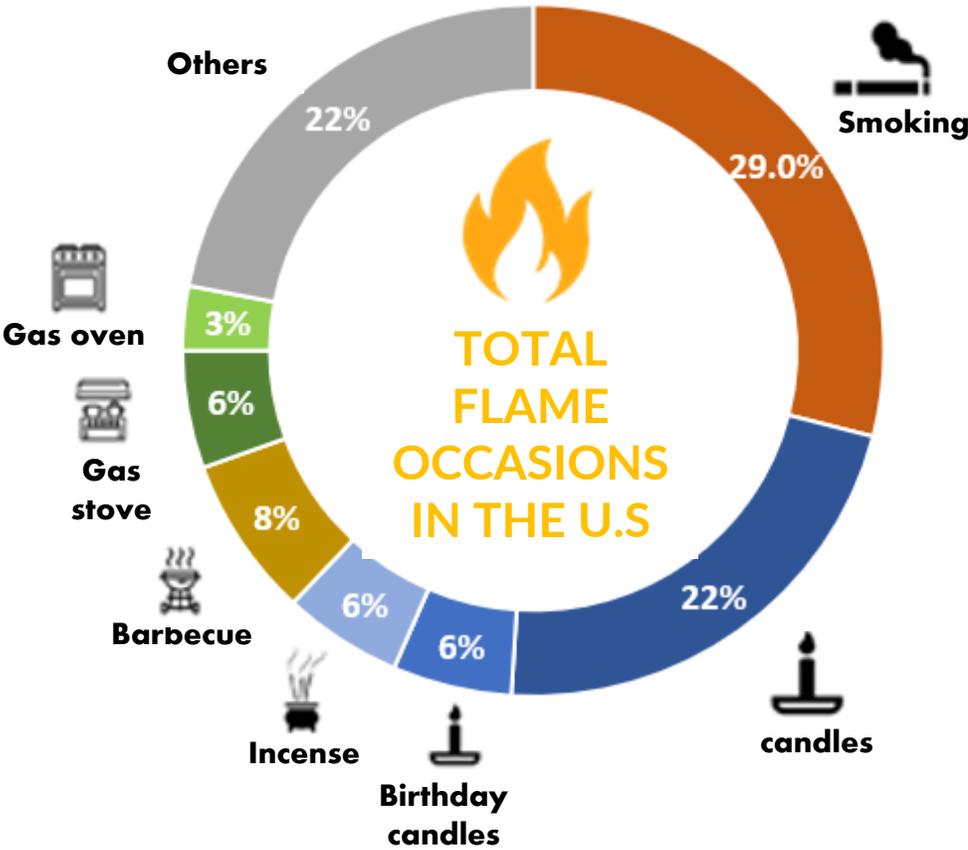
*Smoking*



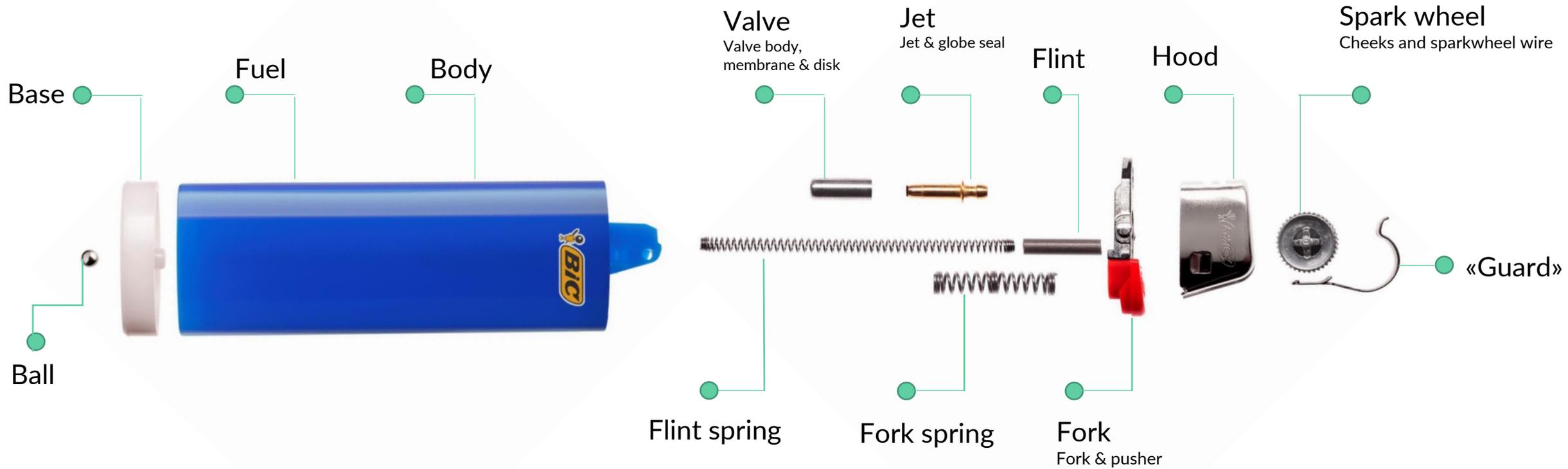
*Manual  
workers*

A LIGHTER IS THE BEST OPTION TO PRODUCE A FLAME

# FLAME USAGES: 86% OF ADULTS USE FLAMES DURING THE YEAR



# RELIABILITY : HIGH PERFORMANCE FOR A SIMPLE PRODUCT



- ▶ Long lasting high-performance products (up to 3,000 lights for BIC® Maxi) made with « just what's necessary » materials
- ▶ Quality and safety : an absolute priority: all BIC® lighters meet or exceed the requirements of international safety standards
- ▶ 19 parts vs 30 for Asian lighters



# LIGHTERS: POTENTIALLY DANGEROUS PRODUCTS

A lighter = pressurized gas in a plastic reservoir that is lit by sparks to generate a flame

## 2 MANDATORY STANDARDS IN EUROPE

| **ISO 9994:** safety specifications for pocket lighters

| **EN13869:** child safety



## UNFORTUNATELY WITH LITTLE COMPLIANCE

| More than 2/3 of lighter models do not comply with ISO 9994<sup>1</sup>

| **90% of lighter models** do not comply with child safety standard<sup>2</sup>

## WHICH LEADS TO ACCIDENTS EVERY YEAR

| **30 000 severe accidents/ year** in the EU (80/ day)<sup>3</sup>

| **Societal cost: 10-14 B€**<sup>4</sup>

| **75% of accidents** : issue addressed by ISO 9994<sup>5</sup>



# BIC LIGHTERS

Essential, reliable, safe... and facing new challenges



# ACCELERATE ON SUSTAINABLE DEVELOPMENT



**#1** Fostering sustainable innovation in BIC® products

**#2** Acting against climate change

**#3** Committing to a safe work environment

**#4** Proactively involving suppliers

**#5** Improving lives through education

Taking our circular economy journey to the next level by transforming the way we use plastic

- by 2025, 100% of BIC packaging will be reusable, recyclable, or compostable
- by 2030, BIC will use 50% non-virgin petroleum plastic in our products, with an intermediate target of 20% by 2025

- In May 2021, we upgraded our renewable electricity target and committed to achieve 100% by 2025. We also pledged to define a CO2 emissions reduction roadmap by our 2022 Annual General Meeting



# BIC LIGHTERS

Our working method



# THE TWO MAJOR CHALLENGES

PLASTIC MATERIALS ARE (SO FAR)  
FOSSIL FUEL DERIVATIVES

IN SPITE OF THEIR INTRINSIC QUALITIES, A  
MISMANAGEMENT OF LIGHTERS' END OF LIFE  
CAN BE AN ISSUE

*Climate change*



*Ocean pollution*



**BIC WANTS TO PIONEER A CIRCULAR ECONOMY MODEL FOR THE  
LIGHTER INDUSTRY**



# ADOPTING A SCIENCE-BASED APPROACH: BIC SEA PROGRAM

## SAMPLES & DATA COLLECTION, DIFFUSION



- | Abiotic degradation
- | Colonization and biodegradability
- | Toxicity tests
- | Alternative plastics respecting environment



Fondation  
**tara océan**  
explore and share

## DEGRADATION & TOXICITY TESTS



- | Modelisation of plastics degradation
- | Plastics characterization
- | Conditioning and aging



# STUDYING CONSUMER BEHAVIOR

## A SOPHISTICATED UNDERSTANDING OF ALL IMPACTS

Exploring ways to promote responsible management of lighters usage and disposal.

- | Incentive to use lighters' full capacities
- | Process and nudges to properly dispose used lighters
- | Design the best option to collect used lighters

An extensive investigation of consumer behavior in North America and Europe in partnership with the CIRAIQ at University of Quebec in Montréal Canada



**CIRAIQ**<sup>MC</sup>

Centre interuniversitaire de recherche sur le cycle de vie des produits, procédés et services



# BIC LIGHTERS

Scientific research to go beyond common beliefs



# BREAKING STEREOTYPES

Lighters are not only  
for smokers



Heating



Cooking

Matches don't  
produce more  
sustainable flames\*



Environmental  
impact:  
6 times higher than a  
J26 Maxi<sup>1</sup>  
lighter

3 times more likely to  
cause accidents

Uses 70% more  
plastic compared to a  
J26 Maxi<sup>2</sup> lighter

Refillable lighters are  
not the answer

Refilling a lighter or  
owning a refill poses a  
potential and dangerous  
risk of a serious accident

The refillability of  
lighters is often  
theoretical

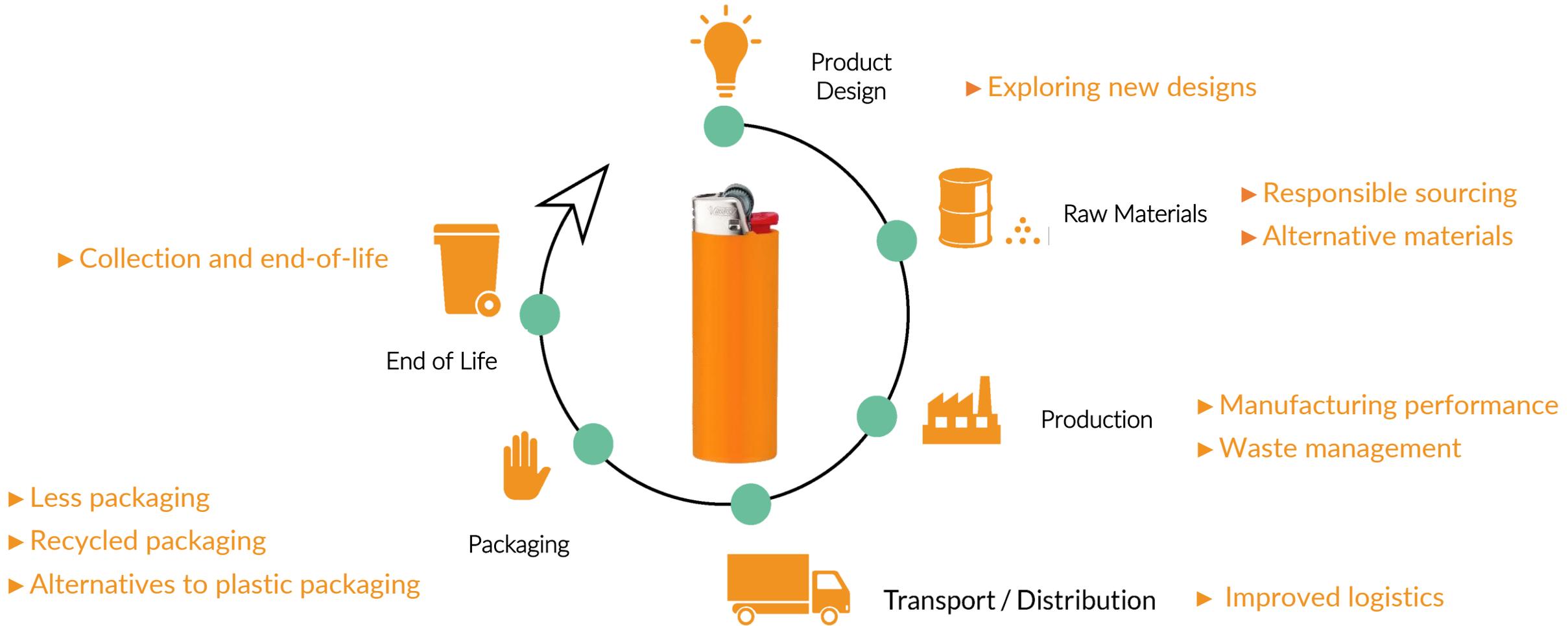
Refills have a greater  
environmental impact  
than new lighters



TOMORROW'S FLAME



# PIONEERING A CIRCULAR MODEL FOR THE LIGHTER INDUSTRY

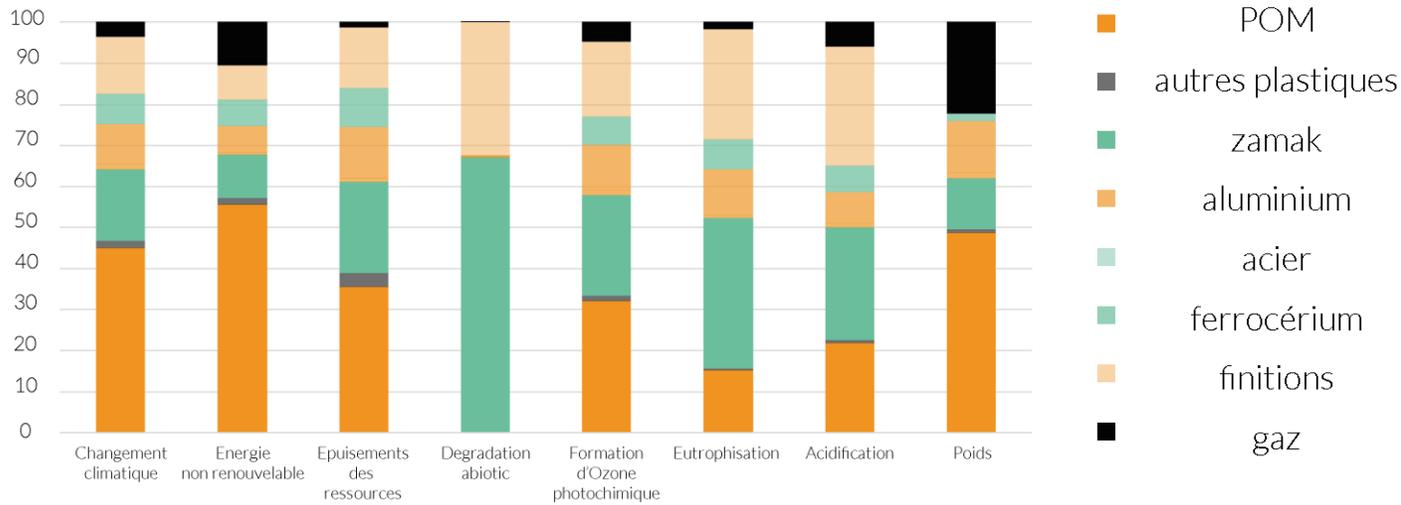


# ANALYSING THE LIFE CYCLE OF A BIC LIGHTER

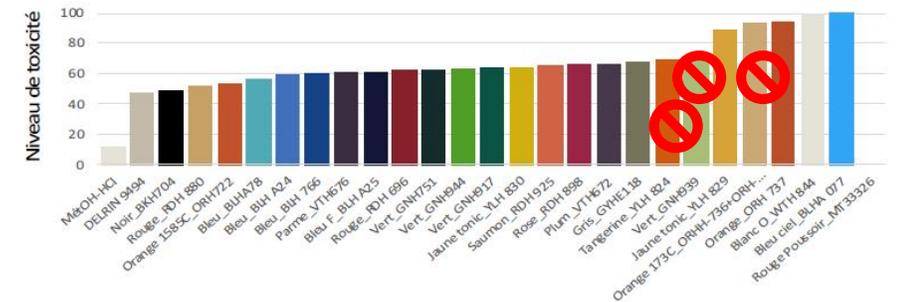
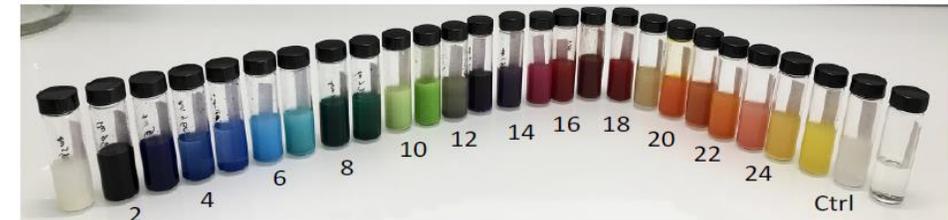
## A SOPHISTICATED UNDERSTANDING OF ALL IMPACTS: DETAILED LCA



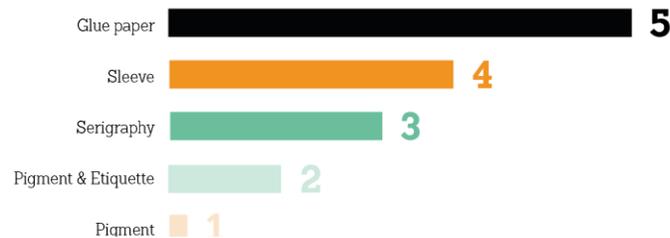
Contribution of the different materials used to produce the BIC J26 Lighter



COMPARAISON DES NIVEAUX DE TOXICITE DES COLORANTS BRIQUETS BIC



Life cycle Analysis - Decors



# MAXIMIZING THE NUMBER OF FLAMES TO REDUCE THE IMPACT

**RANGE 2019:**  
1,820 flames in average



**RANGE 2021:**  
2,410 flames in average

**+ 33% vs 2019 range**

# ECO-DESIGN

1

4 X less plastic per flame  
 66% reduction of CO<sub>2</sub> / flame  
 30% reduction in packaging



*J38 Wand  
 Vs BIC Megalighter*



*Utility lighter*

2

-30% of CO<sub>2</sub>

16% improved environmental impact (thanks to recycled and biosourced material + green electricity) and benefits from 14% CO<sub>2</sub> compensation programs

## BIC MAXI *ECOLUTIONS* fully redesigned

J26 Standard

- PUSHER : Red Pusher in Nylon
- FORK & CHEEKS : ...Cheeks in Zamak
- SPARK WHEEL : metal
- BODY & BASE : POM (Delrin)  
 Assorted Colors & BIC logo (Colorants)
- SLEEVE : PVC
- OTHERS :  
 100% Green Electricity,  
 90% of industrial waste recovery
- PACKAGING:  
 Tray of 50 in recycled PS + plastic film  
 Multipack in PET and PP

J26 *ECOLUTIONS*



- PUSHER : Biosourced POM (Delrin) in mass balance
- FORK & CHEEKS : 100% recycled Zamak (93% of Zamak Volumes used in J26 are for Fork & Cheeks)
- SPARK WHEEL : 100% recycled scrap metal
- BODY & BASE : Biosourced POM (Delrin) in mass balance. No colorant (white natural body)
- SLEEVE : PET
- OTHERS :  
 PVC free,  
 100% Green Electricity (certificates),  
 90% of industrial waste recovery  
Recyclable with Collection Program
- PACKAGING:  
Tray of 50 with tray in cellulose + cardboard box  
Multipack in cardboard

# RAW MATERIALS

**Promoting socially and environmentally responsible sourcing by** engaging with 26 key suppliers covering 10 priority issues to:

- | Improve transparency of the supply chain
- | Identify social or environmental risks
- | Define the best solutions to mitigate risks
- | Engage suppliers in long lasting changes towards sustainable practices
- | Search for alternatives to the most impactful products



# PRODUCTION & LOGISTICS

## Improving factory performance



50.1%\*

decrease in water consumption  
between 2009 and 2019  
(consumption per ton of production)



14.3%\*

decrease in energy consumption  
between 2009 et 2019  
(consumption per ton of production)

## Optimizing sourcing and transportation systems



To better manage our supply chain, a **100%** of BIC Lighters are manufactured in BIC factories



To reduce transportation pollution, a **100%** of BIC lighters sold in Europe are manufactured in the same continent

## Compensating Residual GHG emissions (scope 1 & 2)



## Producing energy using solar PV systems



# LESS PACKAGING AND MORE SUSTAINABLE PACKAGING

| By type of packaging | STEP 1   | STEP 2   | STEP 3  |
|----------------------|--|--|---|
| Trays of 50          |  <p>Recycled PS</p> |  <p>Recycled PP</p>   |  <p>Cellulose</p>  |
| Blisters             |  <p>PVC</p>        |  <p>r-PET and PP</p> |  <p>Cardboard</p> |

Transportation and storage of lighters must comply with detailed safety instructions

**2020**

BIC lighters achieved PVC free packaging



**80%**

BIC lighters volumes in Europe are sold in 50 units Trays to minimize plastic waste



Nearly **100%** of cardboard comes from recycled sources or FSC certified sources



# END OF PRODUCT LIFE

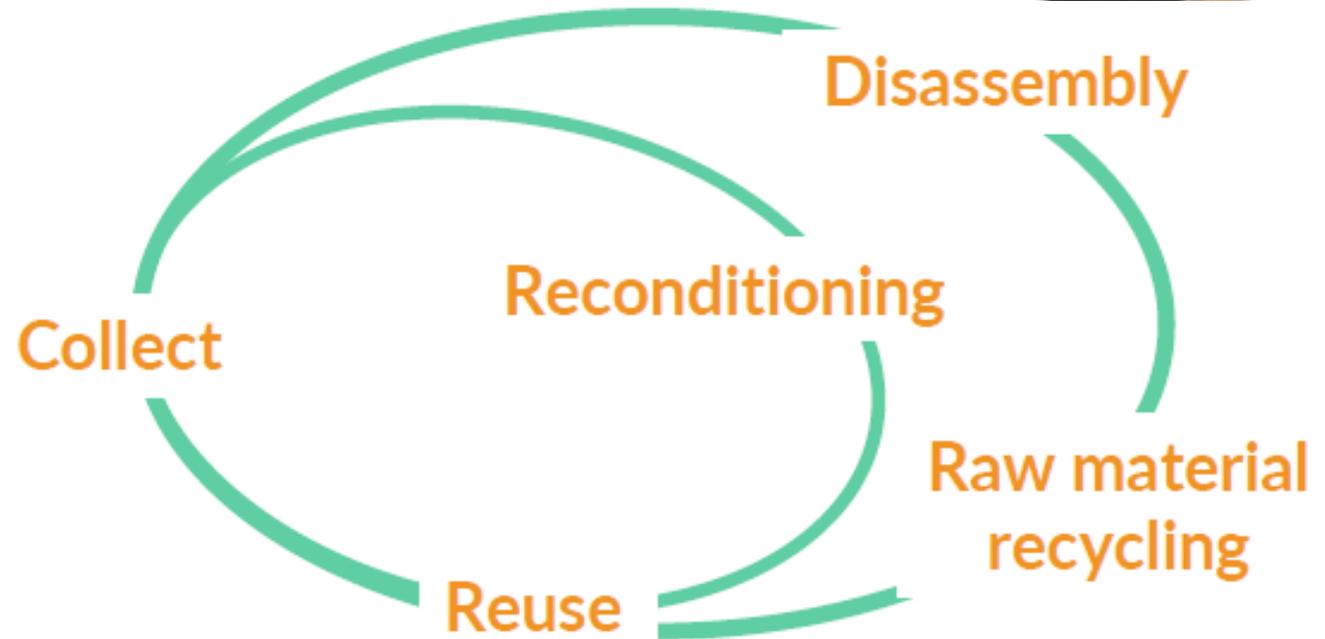
## LIGHTERS' COLLECTION

### Learnings from the used lighter collection pilots

| **5 years**: average age of collected lighter

| **87 %** of used lighters are left with only a drop of gas

| **30%** of BIC collected lighters could potentially be safely reconditioned. Other lighters show corrosion and damages which require recycling (and not reconditioning)



# END OF PRODUCT LIFE

THE FIRST EVER DISASSEMBLING & RECYCLING MACHINE FOR LIGHTERS



# IMAGINING THE NEXT GENERATION OF LIGHTERS



More flames per lighter



Safe lighter, which do not cause accidents



Eco-designed lighters: less material per flame



Less packaging



Collected, recycled, refurbished...

By 2035, with a population expected to grow + 20%:

- Lighter market **CO2 impact** : divided by 2
- Lighter market **Plastic use\*** : divided by 6



THANK YOU

