



EARTHWORM FOUNDATION

2019

CHARCOAL BAGS ANALYSIS



EF WORK FOCUS ON THE UK

A USEFUL BUT CONTROVERSIAL WOODY RAW MATERIAL

Charcoal is a fuelwood made from carbonizing wood in a low-oxygen environment. To produce 1 ton of charcoal, you need between 4 to 12 tons of dry round wood. Indeed, charcoal is used all around the world for different purposes: energy (cooking, BBQ), activated carbon (filters), steel industry, drugs, silicon-making processes (electronics and photovoltaic panels), biochar (soil fertilization)...

Charcoal can be the main driver of forest degradation, sometimes deforestation, and lead to desertification, erosion...

In Africa, firewood and charcoal account for 80% of domestic combustibles.

A key issue in developing countries is the use of traditional kilns releasing greenhouse gases to the atmosphere with slow burning process. Once made, charcoal is often burnt in closed atmospheres within houses with inefficient stoves, raising public health issues. Charcoal production can also sometimes be linked with indecent working conditions, child labour, human rights abuses, land rights conflicts...

REGULATION IN AN OPAQUE MARKET

While national official exports figures indicate that most African countries only export a few trucks of charcoal per year, others might tend to show that these figures are largely underestimated.

Furthermore, charcoal trafficking is significant in protected areas in cross-border lands and in some cases may contribute to financing armed militia. Besides being mainly informal in some countries, charcoal market in Europe is opaque, meaning that a lot of bags don't state any country of origin of the wood used to make charcoal.

While imports of a lot of woody products are now regulated by the European Union Timber Regulation (EUTR), implemented to prevent illegal products on the European market, charcoal is not part of the EUTR scope.



HOW TFT IS HELPING TO CHANGE PRACTICES

THE HISTORY OF CHARCOAL ANALYSIS

Over the last few years, the charcoal sector in Europe was mainly dominated by opaque charcoal imports, but now some transparency is appearing thanks to a drive for change. Knowing this market's intricacies, EF has developed a clear & simple strategy to bring change onto the European Charcoal Industry:

ASK FOR TRANSPARENCY

This strategy has been implemented across the supply chain from the charcoal bags to the forest. The next few pages provide a brief overview of the journey so far.



WHAT IS REALLY INSIDE A CHARCOAL BAG?

Nobody was really interested in this issue. In 2012-2013, EF began raising awareness on the French charcoal industry about the potential link between charcoal & degradation & exploitation of people. Yet, no clear solution was apparent within the sector.





2014

In 2014, TFT decided to innovate in order to reconnect charcoal bags with wood & forest. In parallel, we created a robust traceability method on the ground called Charcoal Control System, showing the journey across the supply chain. We carried out more than 40 assessments per year at charcoal producing factories. We noticed the visual characteristics of the wood can be seen on the charcoal pieces. And so we began developing a method to analyze the content of a charcoal bag based on three main criteria: apparent density, real density & anatomic characteristics.

EF is not a professional laboratory; we innovate by creating methodologies and using knowledge acquired through our field work and partnerships built over the years, but it helps to create change.

Here is an example of such work, which took place with a well-known retailer that has a strong policy commitment to responsible wood.

Analysing a charcoal bag from the retailer's own brand range, we immediately identified that the wood inside the bag was very likely coming from a tropical area with no traceability & a high potential risk of degradation - therefore being in total opposition with the retailer's wood policy.

EF's approach is to work with the industry to help to deliver responsible products, not to denounce, which is often the role of other NGO's. We work behind the scenes to drive positive change that transforms supply chains & the product sector.

We produced a Technical Sheet Record that presented our conclusions, and we sent this report to the retailer. We had a meeting, and the next year the retailer decided to switch all their supply towards temperate wood with some forest certification above it. This example has been followed by other retailers provoking a global change.

2015

We applied this successful methodology to a survey for french retailers. We collected and analysed charcoal bags from all the main retailers in France - a total of 29 bags from 11 retailers. We found that one quarter did not conform to what was written on the bags, and 52% of the bags gave no indication of wood origin

The French charcoal industry started to ask for transparency on the whole supply chain. This involved many meetings, actions, and much field work with continuous improvement. The appetite for transparency carried through to the following year, and no further fraud was noticed on bag descriptions. This movement by French retailers really changed buying processes, helping to protect nature and people.

2016

We extended our survey to Germany, the biggest charcoal market in Europe, with a larger scope, to raise awareness within and beyond the industry. The results were similar to France's, with a lack of transparency & much charcoal coming from controversial areas with a high deforestation rate. But some mindsets started to change. We decided to create a film in order to inspire others to raise awareness as well and bring transformation.

<https://www.youtube.com/watch?v=VAq2-FM5umk>

This film helped to inspire stakeholders, companies, laboratories and more...

In France, EF began innovating with ENSTIB (French Engineer Wood University) to reveal that it is also possible to carry out wood recognition from a briquette. The results & the technology were publicly shared to contribute to transforming the sector. Because around half of the German charcoal market uses briquettes, and some frauds can occur, it is important to reveal the content of the briquettes & ask for transparency. Now some laboratories are able to do these charcoal /briquettes tests, and their work is crucial to check conformity.

2017-2018

Our charcoal bag analysis survey covered four countries in 2017 and five in 2018, with the United Kingdom, Belgium and Poland joining France and Germany in our research.

Today, charcoal bags analysis is becoming a standard in some countries. Whereas EF will not denounce any case of fraud or non-conformity publicly, some other NGOs will adopt a different position. In 2017 and 2018, WWF also carried out a charcoal bags analysis survey revealing publicly the content of each bag and some cases of fraud (including fraud involving certification schemes). This public information also contributes to putting more pressure on the entire industry to adapt to more responsible practices.

All the work on charcoal bags analysis inspired journalist in Germany, UK and France to create documentaries on the issue (appearing on ZDF, 3SAT, BBC)

EF continues the charcoal bags analysis survey in 2019. Various other NGOs are starting to publicly denounce problems seen in this market and journalists in different countries are starting to take up the subject on their own.

ASKING FOR TRANSPARENCY WILL ACCELERATE THE TRANSFORMATION OF THE EUROPEAN CHARCOAL INDUSTRY.



METHODOLOGY

To tackle the issue of opacity, EF has developed and implemented a simple but effective methodology to reveal the content of charcoal bags and measure the level of transparency of brands selling their products on the European market. We have developed this methodology jointly with scientific partners but EF is not a laboratory and does not hold the pretention of being one.

Why EF is conducting charcoal bags analysis surveys? Each year, do this to raise awareness on the issue around charcoal and the need for transparency in this industry. In 2018 and 2019, our analysis covers retailers across five countries : France, Belgium, Germany, United Kingdom & Poland.

There are several ways to identify wood species, and in some cases the origin of wood, inside charcoal bags. Genetics, density, wood anatomy, isotopes all play a part. After the pyrolysis process (where the chemical characteristics of the wood change), the anatomical characteristics of the wood are conserved.

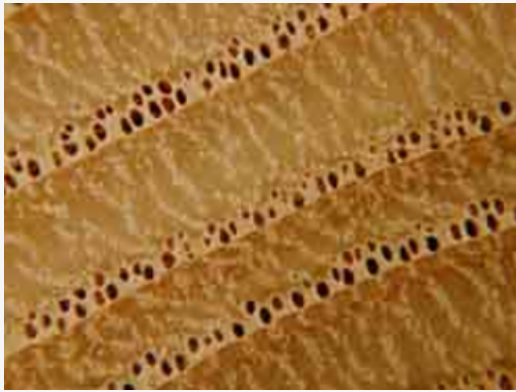
Charcoal density depends on wood density, meaning that a dense wood will produce a dense charcoal.

Materials needed in a study: wood anatomy database (ex : Inside Wood, binocular/microscope; weighing scale, measuring container

The steps followed in an analysis

We record:

- 1) The following elements must be checked and reported regarding the bags and the packaging: type and name of store, product's brand, trader producer, origin, wood species, certification...
- 2) Measurement of the apparent density
- 3) Measurement of the exact density
- 4) Visual check and report of potential foreign bodies found in the bag (rocks, plastic pipes, polyethylene twine, small branches...)
- 5) Visual check and report of charcoal aspect and wood anatomy (growth rings, vessels, wood rays...)



STUDIED INDICATORS

During and after analysis, some indicators are constructed, the most important are explained here:

- Country or region of charcoal production stated on the bag:

This indicator enables the consumer to know the origin of charcoal. Asking brands to state it on the bag leads them to rethink their buying strategies toward more responsible purchasing, or change their supplier's practices according to the country.

- Type of wood or species found in bags:

Based on our methodology, it is possible to determine the wood used to produce charcoal identifying the species (at least for temperate ones) or climate.

Frauds between what is written and what is identified can be detected. Comparing data on wood species with customs data provides us with a good overview of each analysed market.

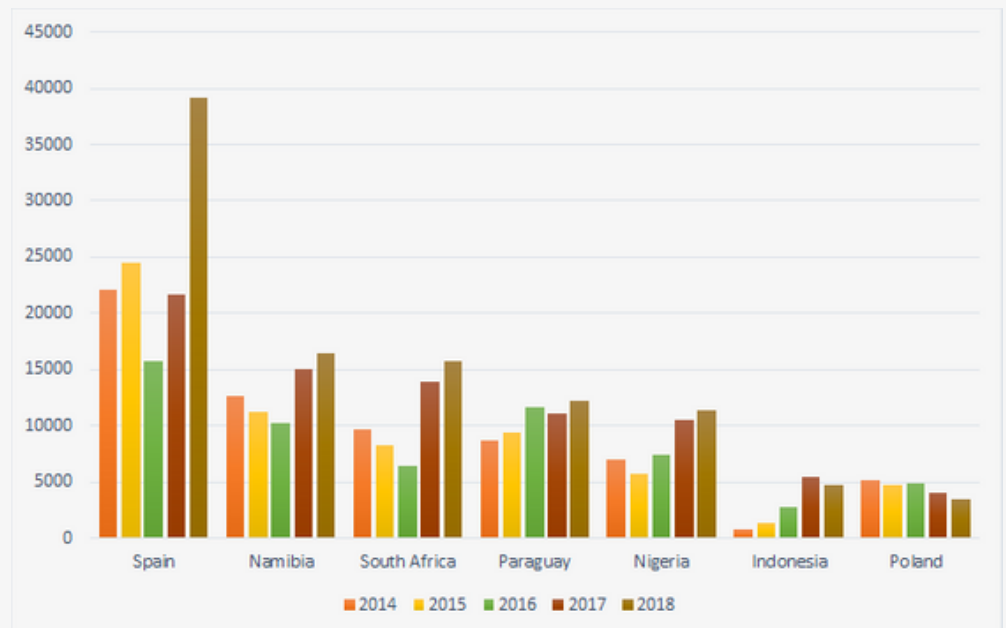
- Certification:

it is widely accepted that one way to respond to retailer's demands on responsible products is to supply them with FSC products. Over the years, EF has detected some frauds within this system. The methodology allows us to detect possible discrepancies between certificate details and what is in the bags. The amount of declared certification hints at how advanced a market is in terms of demand for responsible products.

CHARCOAL BAGS ANALYSIS SURVEY : UK

FOCUS ON UK CUSTOM

In 2018, the UK imported 106 000 tons of charcoal (International Trade Centre) to meet the demand of the domestic market because of the relatively small domestic production (5000 tons according to FAO in 2017). The next graph shows the main contributors to the UK charcoal market and the evolution over the year:



Charcoal imports in the UK per year and per country (netweight kg) Source : UNComtrade

Each main actor contributing to the UK market has its own characteristics (in order of quantity exported to the UK):

- **SPAIN:** country importing as much as they produce. Their imports come from, at 70%, Cuba, Nigeria and Paraguay. Their domestic production, mainly informal, relies on eucalyptus and fruit trees. For charcoal coming into the UK, it's difficult to determine the share of Spain imports and domestic production.

- **NAMIBIA:** faces challenges of encroachment onto environmentally important land, namibia uses local and alien invasive species to make charcoal. This production can be linked with several issues: smoke emissions (handmade kilns rejecting pyrolysis gases in the atmosphere, low yield), protected species harvested, big trees harvested, unsustainable harvesting methods, poor living conditions (plastic sheet houses, drinking water access...), child labour, migrants complexities, individual contractors, indecent protective equipment. However, good initiatives and trainings have been implemented to improve social and environmental practices, through partly, adapted FSC standards.

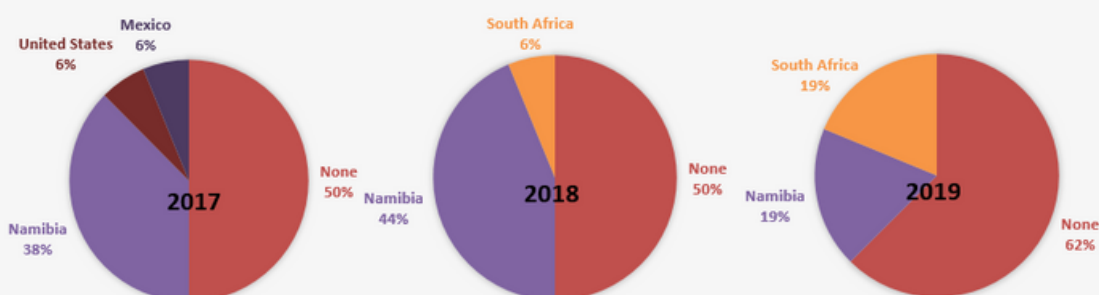
• **SOUTH AFRICA:** both producing and importing. Its imports are mainly from Namibia. It's difficult to know how much charcoal coming from South Africa is really produced locally and how much comes from Namibia.

• **PARAGUAY:** Endemic species and high biodiversity (mammals, birds, amphibians, flora...), with tribes living in voluntary isolation the Ayoreo. Paraguay has one of the highest deforestation rates in the world due to cattle breeding and soy production especially from Gran Chaco area from where derives charcoal production. Find more here : <https://medium.com/@Earthsight/choice-cuts-e7d736067915>. For the last 2 years, FSC started to deliver certificate in this country.

• **NIGERIA:** first African producer, Nigeria also uses charcoal as the main source of energy for local populations. Nigeria faces water shortage, desertification, ecosystems fragmentation, soils degradation, loss of biodiversity and habitats, pollution from traditional kilns, low traceability, low forest legislation, corruption, illegal logging, child labour, poor working conditions, land tenure and water access conflicts.

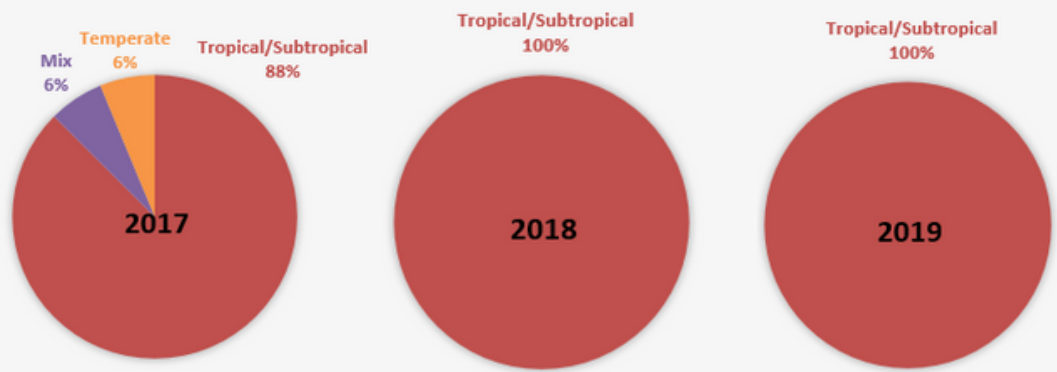
CHARCOAL BAG ANALYSIS SURVEY

EF conducted three market analysis studies in the UK, one in 2017, one in 2018 and one in 2019. The purpose is to evaluate the level of transparency provided by the brands regarding the country of origin of the wood and to check the conformity between what is stated on the packaging and what is actually found in the bags. The scopes of the studies were similar in 2017, 2018 and 2019 : 16 different references found in 16 different stores: supermarkets, discount stores, DIY retailers and garden centres.



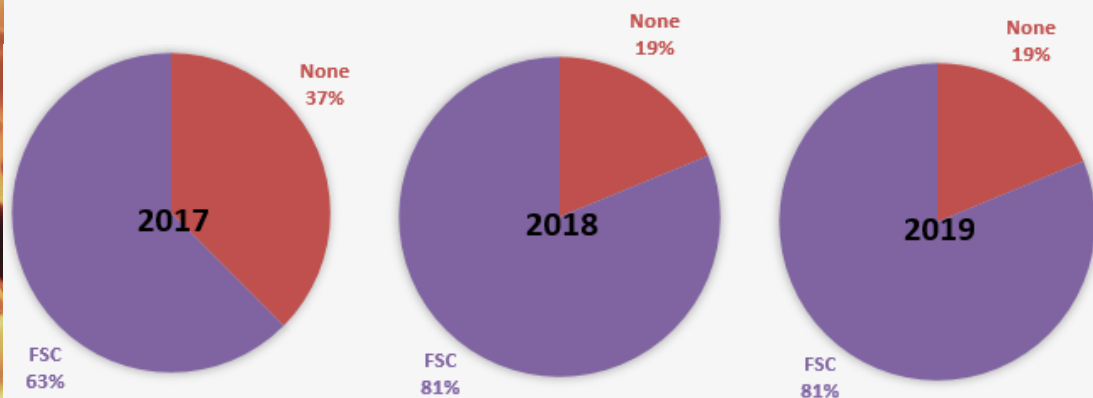
Declared country of origin written on the bags

Almost two third of the bags did not have any information on the country of origin, revealing a high level of opacity in the UK market, this level increased compared to 2017 and 2018. Among these bags, all contained tropical/subtropical charcoal. Not knowing the exact country or region of production increases the risk of having charcoal linked with degradation of woody ecosystems or bad social practices.



Type of charcoal found in bags

All the bags contained tropical/subtropical charcoal. Environmental and social issues happen in temperate countries but those issues are more widespread within tropical countries. However, differences exist between these countries; some are more advanced in developing responsible production than others. Unfortunately, with our level of knowledge and equipment, it's not possible to know the exact species and deduct a country or region of origin to better distinguish the bags and the type of charcoal found.



Certification of charcoal bags

Certification is very present in 2018 and 2019 representing 80% of the analysed bags (only FSC certification). Among those certified bags, half state coming from Namibia and South Africa, the rest doesn't mention any origin. In FSC Standards, origin of the product doesn't have to be stated.

CONCLUSION

In 2018, **100 % of the analyzed charcoal bags in the UK contained tropical/subtropical charcoal**. 81% were certified FSC and only 38% had a declared country of origin, **either Namibia or South Africa**.



Consumers cannot make an informed choice, because in a majority of cases, **information on the country of timber origin is not mentioned** on charcoal bags.

Due to a relatively small domestic production, **the UK imports the majority of the charcoal it consumes** each year. This charcoal comes from countries where destruction of woody ecosystems and bad social practices happen at varying degrees. Retailers highly rely on FSC charcoal, giving additional guarantee to consumers. FSC situation and products availability vary between UK's partner countries, retailers must stay vigilant and ask what is behind the certificate.

Within some of those countries, good practices exist and the UK market should support those practices and help their suppliers to deliver responsible products.

Charcoal is not present within the European Union Timber Regulation. TFT recommends that charcoal be included in the EUTR.

There is still an important opacity in the UK charcoal industry; steps need to be taken to move towards greater transparency. This change is urgently needed to reduce degradation/deforestation in tropical areas & prevent cases of exploitation of people.

EF asks for transparency over the entire supply chain to bring transformation and protect nature & people.