

**SECTOR BRIEF CÔTE D'IVOIRE:**

**Cold chain sector and sandwich panel market**



**Côte d'Ivoire: The first port of call in West Africa**

Côte d'Ivoire is the third largest economy of the ECOWAS<sup>1</sup> region after Nigeria and Ghana and the first economy of the WAEMU<sup>2</sup> zone, with 7% and 34% of GDP respectively. After more than a decade of socio-political upheaval, the country's growth has resumed at rates not seen since the late 1970s, a period described as the "Ivorian miracle". The average annual real GDP growth has remained robust over the last five years, i.e. >7% between 2015 and 2018 and 6.9% in 2019. However, according to the latest estimates of the African Development Bank it should fall to 1.5% and 5% in 2020 and 2021, respectively, due to the effects of the Covid-19 pandemic. In 2019, GDP was estimated at € 51 billion and the income per capita has grown by 3.7% over the last five years and is around €1,300.

The GDP growth is primarily driven by the secondary and tertiary sectors. The growth of the secondary sector is mainly due to the boom in construction sector and large

public works, the energy sector (electricity), and agro-industry/food while services are driven by the continued rise in banking and ICT.

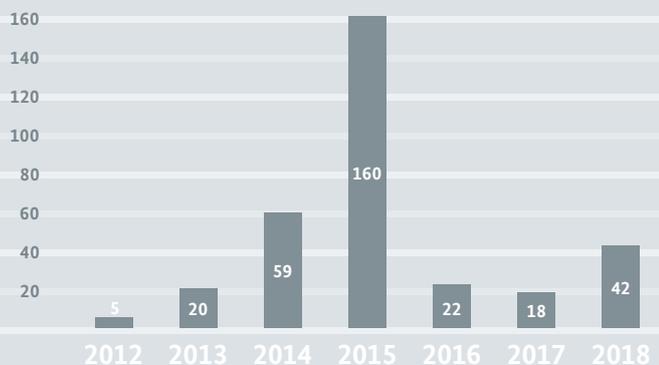
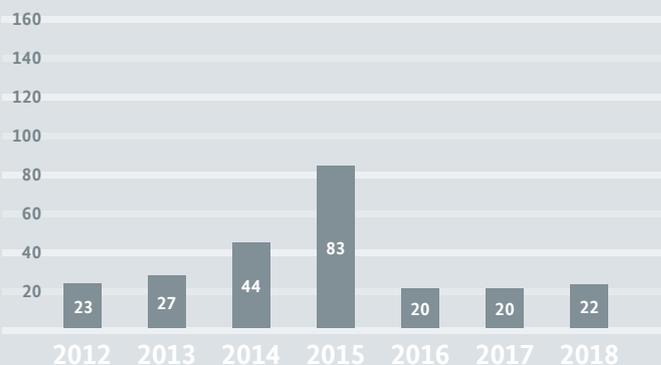
In recent years, private and public investment has grown significantly relative to 2010 and 2011. The economic performance achieved is partly due to the improvement in the business environment. Indeed, some major reforms have been implemented, including the streamlining of business creation formalities, the acquisition of building permits, the access to bank credit, the digitalization of tax payments, and the creation of business courts for the resolution of commercial disputes. As a result, the country is ranked among the Top 10 reformer countries in 2015 and in 2018. The country's ranking has improved by fifty-five places in five years.

<sup>1</sup> Economic Community of West African States – 15 states united within this West African organisation

<sup>2</sup> West African Economic and Monetary Union – 8 countries sharing the same currency Franc CFA

## In Côte d'Ivoire, imports of sandwich panels seem to be volatile and depend on the flow of large projects

Import value (€ Mio.)

Ratio €/m<sup>2</sup>

Source: OnPoint Analytics / OnPoint Africa Group

The primary sector is the largest provider of employment with 49% of the employed population, but contributes to 20% of the total GDP, compared with 25% and 55% respectively for the secondary and tertiary sectors. The country is the world's largest producer of cocoa, one of the most important producers of coffee and natural rubber, and has become the world's largest producer of cashew nuts in recent years.

The country has been the leading fruit exporter in West Africa for several years. The volume of its exports represents more than 50% of the fruit and vegetable exports in the ECOWAS zone. However, Côte d'Ivoire loses on average 30% of its annual fruit and vegetable production due to the lack of local processing and/or preservation units thus creating a need for investment in cold chain infrastructure.

Fish is the main source of animal protein for the Ivorian population. The country remains heavily dependent on imports to satisfy its domestic demand for fishery products. National supply of fishery products is estimated at 640,600 tons in 2018, i.e. an increase of 9.2% compared to 2015. Fishery imports are dominated by frozen tuna and frozen fish. National meat supply is linked to the flow of live cattle from Sahelian countries. However, significant losses due to poor preservation of unsold animal products are recorded.

From the above (losses of fruit and vegetables, meat and fishery products) and the increasingly pronounced appetite of the local populations for frozen fish and meat, the interest of developing cold chain infrastructure is evident.

Cold chain is a climate-controlled infrastructure helping to preserve edible products by maintaining a consistent ambient temperature. Multiple sectors use cold chain infrastructure or refrigeration systems, but cold chains are primarily used in the conservation and transport of food and pharmaceutical products (i.e. fishery products, meat, dairy products, fruits and vegetables, etc.).

Increasingly, the construction and energy industries use similar building materials for insulation and improved energy efficiency.

The focus of this *sector brief* lies on the food and pharmaceutical industries as well as on sandwich panels as a key component of cold chain infrastructure.

## Overview of the cold chain market

In Côte d'Ivoire, the cold storage capacity is estimated at more than 851 000 m<sup>3</sup>. Abidjan holds 91 % of the whole capacity, especially in the area of the "Port Autonome d'Abidjan" (Treichville). Cold rooms are nowadays mainly used to preserve frozen fish and meat. Primary warehouses, i.e., those located in port and airport areas and the main slaughterhouses represent almost half of the total storage capacity of cold rooms.

As for now, there are not enough cold storage rooms dedicated to non-exported fruits and vegetables in Côte d'Ivoire, despite the important losses of these agricultural products recorded each year. This is because fruit and vegetable farmers are primarily small-holders who do not have sufficient financial means to afford the acquisition or renting of cold rooms.

In Côte d'Ivoire, cold rooms are built from sandwich panels. Those sandwich panels are usually made of three layers: a low-density core (generally from isocyanate, polyurethane and rockwool), and a thin skin-layer bonded to each side. Sandwich panels are also used in the construction of temporary housing as well as roofing of plants and warehouses.

There is no local industry producing sandwich panels. Indeed, almost 100 % of sandwich panels used are imported already prefabricated, with the exception of a few craftsmen who carry out the assembly of the material locally.

The players operating in the cold rooms and sandwich panel value chain are importers, Heating, Ventilation and Air-Conditioning (HVAC) installers and some end users. HVAC installers are responsible for designing and assembling the cold room infrastructure for the account of end-users. For the purpose of this

To attract manufacturers, the Ivorian investment code of 2018 offers tax advantages to (industrial) investors, including:

- (1) Certain exemptions from taxes on industrial profits, taxes on real estate assets and the contribution of patents and licenses.
- (2) Reduction between 50 % and 90 % of the amount of the contribution payable by employers, excluding apprenticeship tax and the additional tax for continuing vocational training, depending on the area of installation.

study, the end-users include mainly grocers, importers of fish, meat and dairy products, traders in fruits and vegetables, and health and pharmaceutical companies.

Imports of sandwich panels are volatile with a market size on average between € 18–22 million per year. The sandwich panel market related to the construction of cold rooms represents around 5–10 % of the total volume of imports, i.e. between € 500,000 and € 2 million per year.

The import peaks in 2014 and 2015 (€ 59 Mio. and € 160 Mio., respectively) are due to the high demand from construction and energy sectors. In the latter, the construction of the Soubré hydro-electric dam, the increase in installed capacities of CIPREL power plants and the increased demand from gas operator FOXTROT for energy, electricity, gas and oil sectors is to be mentioned.

In the period from 2012 to 2017, 6.2 million m<sup>2</sup> have been imported in Côte d'Ivoire, mainly from France (45 %), but also from Italy and Spain, among others.



## ECOWAS market could also be attractive for industrial investors in Côte d'Ivoire, with a sub-regional market of € 171.3 million



### Regulations and legal framework

In terms of regulations, there is no particular legal framework or a regulating authority for this sector. There are, however, some requirements in terms of standard licensing for imports. As importers of sandwich panels, any company or natural person wishing to import goods into Côte d'Ivoire must have an importer/exporter code (Impex code for professionals) or an occasional importer/exporter code (Oca Impex code for non-professionals). However, international sandwich panel suppliers need to be certified according to international standards (GV, ISO14001, ISO9001 etc.).

### Market demand drivers and trends

Demand for cold storage capacity in Côte d'Ivoire is driven by:

- **Population growth and the emergence of a middle-class** with a higher purchasing power able to buy imported frozen goods and pharmaceutical products.
- **The acceleration of the urbanisation** in the major Ivorian cities in recent years: The urbanisation rate in 2018 was higher than 50%. The Greater Abidjan region is home to around 20%–25% of the country's population.
- **The changing consumption habits (frozen fish and meat; ready-made dishes):** Habits are changing, and the population increasingly prefers well-preserved food products. Shopping centres and supermarkets account for more than 80% in the consumer preferences in Abidjan. The consumption of frozen meat is well anchored in consumer behaviour.
- **The growth of modern retail trade:** The retail market is growing faster than the population, i.e. CAGR: 8% (2012–2016) against 2.6% for the population over the same period. The growth of the sector is leading to investment in new cold storage infrastructure.
- **The construction of modern markets** drives the improvement of the conditions for retail and semi-wholesale trade and stimulates the demand for cold room storage facilities.
- **The modernisation of informal retail trade:** Some municipalities are making cold storage rooms available to low-income retailers for the development of their activities.
- **The weakness of the agro-to-food industry:** The need to reduce losses in the fruit and vegetable value chain (15%–30% post-harvest losses in these two sectors) caused by the lack of cold room infrastructure.
- **The demand from the pharmaceutical sector:** The need for a quality cold chain where equipment and preservation methods are optimal to ensure the quality of vaccines and medicines. The access to vaccines is limited in some regions by the lack of reliable cold chain facilities.
- **The government project flows:** The demand for sandwich panels seems to be tightly linked to government project flows in the construction as well as energy sectors. In the period from 2012 to 2017, these sub-sectors accounted for 59% of the overall sandwich panel imports in Côte d'Ivoire.

## Challenges and risks in the sector

The challenges and risks inherent to this market are diverse and include:

- **The small scale of the local cold chain market:** The volume of sandwich panels related to cold room storage is estimated at between € 500,000 and € 2 million per year i.e. ~5% to 10% of the total sandwich panel market in Côte d'Ivoire.
- **The high volatility of the sandwich panel market:** Over the period of 2012–2017, the total imports of sandwich panels vary between € 5 million in 2012 and € 160 million in 2015. This seems to be linked to large-scale private and public investment projects, where the energy and construction sectors remain the largest users of sandwich panels (but also some large retail infrastructure).
- **The ability to capture the cold chain growth potential of the food sector:** Main market in the cold chain remains that of fish and meat. The growth potential identified in the fruit and vegetable sector may result limited by the low investment/purchasing power of smallholder farmers. However, innovative approaches may allow for low-cost solution for this target group.
- **The high cost of cold room infrastructure** is an economic obstacle to the development of storage solutions in Ivory Coast: The manufacture of 30 m<sup>2</sup> cold rooms has an average cost of € 9,000. It is therefore necessary to have a wide range of customers to be viable in the sector.
- **High sensitivity of the end users to the price and quality of sandwich panels:** Most of the cold room users interviewed buy sandwich panels from international suppliers. They would be generally in favour of local acquisition of materials, however, remain quite sensitive to the price and the quality.
- **The long life of cold storage rooms** (seven to ten years on average), and the fact that users are not required to renew their cold room infrastructure, continue to be a real challenge for this sector.
- **The lack of road infrastructure** could be an obstacle to the development of mass distribution, particularly inside the country.
- **Human resources:** As the sandwich panel production does not yet exist in Côte d'Ivoire, qualified human resources to operate in such an industry may require additional training.



## Investment opportunities in the sector

An investment in sandwich panel manufacturing for cold chain applications in the food and pharmaceutical sector may appear attractive, considering the following key trends and opportunities:

- **The nonexistence of a local production of sandwich panels** is considered a clear opportunity if the local production is cost competitive relative to imports. Indeed, the high logistical and customs costs of sandwich panel imports represent between 30%–40% of the final cost of the product on the local market. Cold chain users are in favour of local acquisition of materials but remain very sensitive to price and quality.
- **The emergence of a national middle class with strong purchasing power** seeking quality products as well as imported goods and pharmaceuticals is a continued trend. It leads to the development of large-scale distribution inside the country, the modernisation of informal retailing and the construction of new markets with cold storage infrastructure. This gives a clear perspective of a growing demand for cold chain and sandwich panels.
- **The diversification towards other sectors like construction** (temporary housing, roofing, etc.): More than 28% of the sandwich panel imports in the period from 2012 to 2017 were used by the construction trade. Energy, electricity and gas players accounted for further ~22% of sandwich panel imports in this same period.
- **A rental model of cold rooms to capture the demand from the fruit and vegetable producers:** The main market in the cold chain remains that of fish and meat, but the growth potential identified concerns the fruit and vegetable sector. There are thousands of small farmers who cannot afford to invest in cold chain storage. Apart from cold storage facilities for fruits and vegetables exports, there are hardly any cold rooms available for domestic fruit and vegetable consumption. There is hence an opportunity for developing targeted/innovative services, such as the rental of cold room infrastructure.
- **The regional market can be addressed competitively despite some logistic hurdles:** There is an opportunity to access a larger ECOWAS market estimated at €171.3 million in 2018 thanks to the possibility of free movement of goods, trade and people between the ECOWAS countries. The lack of local cold room services and/or a sandwich panel industry offers an important market opportunity. Burkina Faso, e.g., appears to be an attractive market due to its proximity and the high cost of sandwich panel imports.



## Cold chain/sandwich panel market entry strategy

Entering the cold chain market in Ivory Coast implies positioning in one or more of the following four segments:

- (1) **Sandwich panel's retailer** (import and sale): In this segment, the high costs of logistics and warehousing should be considered. Here, only an importer's license is required to carry out this activity.
- (2) **Sandwich panel industrialist** (design and manufacturing of sandwich panels): It is a market segment still untapped in the country and in the West African sub-region. The production of sandwich panels is highly dependent on external resources (i.e. raw materials) and the size of the market is dependent on infrastructure projects in the construction and energy sectors.
- (3) **Engineering and installation of cold rooms:** The players in this segment install cold rooms, refrigerated cabinets, refrigerated containers and provide maintenance for industrial and mass distribution companies. It is a small-scale market with the presence of many HVAC installers. The market is not viable for a large player.
- (4) **Cold room/storage rental** (renting and supplying cold storage logistics to third parties): Cold room managers make their storage infrastructure available to those players who do not have cold stores or whose storage capacity is less than the products to be stored. The management of cold rooms as their sole activity is carried out by only three companies (SOCEF, TIM CI and PROPICI).



Among those different possibilities of entry to the cold chain market in Côte d'Ivoire, the most attractive for an investor would be “the industrial positioning” to capture the full potential of the market. Furthermore, a successful offer must be innovative and has to take into account the following key considerations to ensure its sustainability in the market:

- **A quality offering at a competitive price:** As key players in cold chain supply are very sensitive to the price and quality, the ability to produce good quality product at a competitive price (relative to imports) is essential. The sandwich panels must be internationally certified to be able to compete with the imported products. More than 84% of cold room users surveyed, would be in favour of purchasing sandwich panels locally, but remain price sensitive. Having state-of-the-art technology and an optimal supply of inputs would reduce production costs and enable the industrial to be competitive on the market.
- **An optimal sourcing of raw materials:** Inputs required in the sandwich panel industry are sourced from abroad (outside Africa) so their sourcing must be optimal to reduce final cost and ensure the final products quality.
- **Qualified human resources** can relatively easily be trained locally, while managerial capacity is readily available in Côte d'Ivoire.

- **Key win-win partnership** (i.e. public institutions and private firms operating in the energy and construction sectors) should be established to secure large-scale sales and provide a baseload for the proposed plant.

- (1) Energy sector: partnership with the producers of energy/ electricity (CIPREL, AZITO, AGGREKO) and hydrocarbons (FOXTROT) to capture potential large accounts.
- (2) Real estate construction companies: partnering with real estate developers to capture the flow of sandwich panels that fit into office partitions and then promote its use in private homes.
- (3) State structures: partnership with the ministries and other public/local authorities to capture the potential in the “fruit and vegetables” segment.

- **Considering the expansion to sub-regional markets (ECOWAS):** There is currently no sandwich panel manufacturing in West Africa, and imports can be substituted through local production.

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The booklet shows companies the economic potential of future markets as well as the funding and consulting opportunities offered by the German development cooperation. “New Markets – New Opportunities: A Guide for German Companies” is supported by the Federal Ministry for Economic Cooperation and Development (BMZ). All issues are published on the websites of GTAI and GIZ. You can find selected issues, for example on Côte d'Ivoire also at

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Published by

**giz** Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Published by

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Registered offices  
Bonn and Eschborn, Germany

Dag-Hammarskjöld-Weg 1 – 5  
65760 Eschborn, Germany  
T +49 6196 79-0  
F +49 6196 79-1115  
info@giz.de  
www.giz.de

Project

German Trade & Invest

Responsible

Roland Gross

Layout

EYES-OPEN, Berlin

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As at

Eschborn, July 2021

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