

A WORK PROJECT PRESENTED AS PART OF THE REQUIREMENTS FOR THE AWARD OF A MASTERS DEGREE
IN MANAGEMENT FROM THE NOVA - SCHOOL OF BUSINESS AND ECONOMICS

ASSISTING GALP IN DEFINING A SUCCESSFUL INTERNATIONALIZATION STRATEGY FOR LUBRICANTS

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9TH JANUARY 2015

AGENDA

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THE PRESENT DOCUMENT IS THE RESULT OF A MASTER THESIS PROJECT UNDER THE INITIATIVE OF MCFL AND THE COLLABORATION WITH GALP ENERGIA

CONSULTING FIELD LAB - MASTER THESIS PROJECT

1 Executive Summary

GALP ENERGIA & NOVA SCHOOL OF BUSINESS AND ECONOMICS

The present master thesis was carried under the initiative of the **Management Consulting Field Labs**. This project was the result of a continuous **collaboration between Nova SBE and Galp Energia (Lubricant Exports Division)** which gave the opportunity to a team of four students to work as consultants for the last 3 months at the client's office. The students had the opportunity to get to know from a first-hand experience what management consulting is all about, putting into practice theoretical knowledge and engaging in a project for real clients with real life problems.¹



ACKNOWLEDGEMENTS

The team is conscious that the result of the project was only possible due to the support of many people. Bearing that in mind we would like, first of all, to thank both **Professor Constança Casquinho** and **Professor Fábio Santos** for all the guidance, advices, support and readiness to help on problem solving. Additionally we want to express our gratitude to **Professor Qinglei Dai** for her availability and for establishing the bridge between China and Portugal, as well as **Dawn Chen** for her crucial translations and research tools. Moreover, we would like to thank **Dra. Isabel Calado**, for allowing us the opportunity to do this project, and to Galp exports division team: Maria José Barros, Francisco Lima Aires, Carla Loureiro, Liliana Santos and Maria Joaquina for the warm welcoming and assistance during the whole project. In addition we want to acknowledge **Professor Carlos Marques** and **Professor Pedro Neves** for their advices and guidance. We are also grateful to our family and friends for all the support during this project.

THE PROJECT OBJECTIVES WILL BE ATTAINED THROUGH THREE INSTRUMENTAL GOALS

PROJECT OBJECTIVES AND SCOPE

1 Executive Summary

ES

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Instrumental goals

Main objectives

Identify potential **internationalization opportunities** for Galp lubricants, with focus in Asia and highlights for Africa, and draw a roadmap to structure the best **entry strategy in Asia**

1

Understand the **lubricants market singularities in each selected country**, its segments, key players and existing business models

2

Rank the **most attractive countries**, from the preceding analysis, for Galp lubricants in terms of **business opportunities**

3

Highlight potential **entry strategies** to explore in Asia and a **roadmap** for pursuing this new growth avenue

THE LUBRICANT EXPORTS DIVISION STRATEGY, ALIGNED WITH GALP ENERGIA'S STRATEGY, IS TO EXPAND ITS ACTIVITIES ACROSS CONTINENTS

COMPANY OVERVIEW AND BUSINESS UNITS (1/2)

ES

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COMPANY OVERVIEW

Galp Energia is a Portuguese vertically integrated energy company, operating in the **oil and natural gas industry**. Its business is divided in three segments: **Exploration & Production**, **Refining & Marketing** and **Gas & Power**, being the upstream activities prioritized at the moment.¹

STRATEGY

The company's strategy involves taking advantage of the expected **increase in oil and natural gas demand worldwide**, and **shift the strategic focus away from markets with higher economic slowdown**, as it is the case in Europe, particularly in the Iberian Peninsula.¹



LUBRICANT EXPORTS DIVISION

The Lubricant Exports division is responsible for seeking new business opportunities and its ultimate goal, aligned with the Company's strategy, is to create sustainable value for shareholders through the **expansion of its activities across continents**. Currently, it is present in four continents, being the **African market** the one with the highest sales and commercial presence, specially **Angola**.¹



¹Affiliate of Mozambique

THE LUBRICANT EXPORTS DIVISION SEEKS FOR NEW BUSINESS OPPORTUNITIES TO INCREASE THE BLENDING PLANT PRODUCTION, BEING CURRENTLY FOCUSED ON AFRICA

COMPANY OVERVIEW AND BUSINESS UNITS (2/2)

LUBRICANT EXPORTS DIVISION

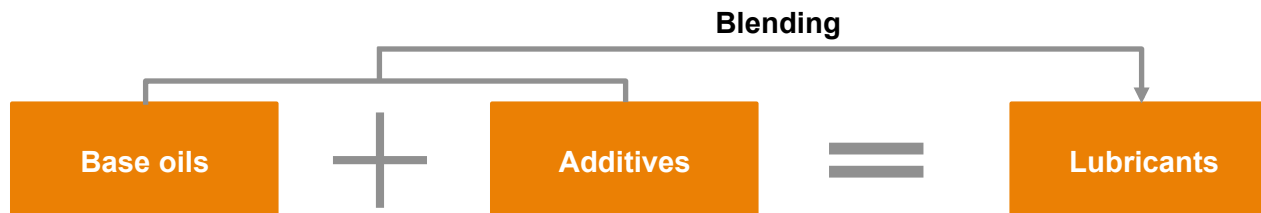
The Lubricant Export Division was an independent division in the **Refining & Marketing** business segment, however since November 2014 it is integrated in the International Marketing division. The new management team's strategy for the upcoming years is more **focused on African geographies**, contrary to the preceding one, whose strategy was to look for opportunities in the **non-African markets**. One of the main goals of the previous management team was to **expand its presence in Asia, with focus on China**, (currently the lubricant division only exports to Taiwan) and this was the preeminent reason for the initial scope of this project.

LUBRICANT PRODUCTION

Galp operates two refineries in Portugal (in Matosinhos and Sines) with 20% of Iberian Peninsula's refining capacity. In Matosinhos' refinery **group I base oils** are produced and in the blending plant a broad portfolio of **mineral and synthetic lubricants**, for segments such as Automotive and Industrial. The blending plant has capacity to produce 80,000 tons of lubricant oil, with the **current production** being only **35,000 tons**.¹

This project will allow to enhance the lubricants division's presence in Asia and Africa, by boosting the lubricant exports, leading to a significant **increase in the lubricant blending plant's production**.

LUBRICANT COMPONENTS¹



EXPORTING TO ASIA AND AFRICA, MAY BE A WAY TO INCREASE MATOSINHOS' BLENDING PLANT CAPACITY USAGE

PROBLEM BREAKDOWN

- ES
- RV
- TC
- PM
- DA
- CO
- RF
- AP

Situation

Matosinhos blending plant has huge spare capacity
(45 thousand tons = 56.3% total capacity)¹

Complication

There is a **declining trend in lubricant consumption** in Europe²

Question

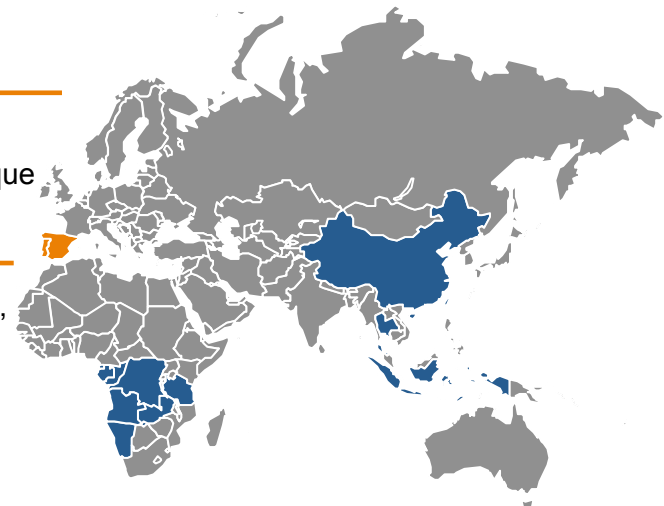
Are there growth opportunities to export Galp lubricants to **Asia** and **Africa**?

Geographic Focus

Asia: China, Thailand, Indonesia, Taiwan
Africa: Zambia, Congo, DR Congo, Namibia, Mozambique

Answer

There are opportunities to export Galp lubricants to Asia, being the **Chinese market** the most attractive one



AGENDA

ES

2 Recommendations and Value Added (RV)

RV

2.1 Asian Markets

TC

2.2 African Markets

PM

DA

CO

RF

AP

IN ASIA, CHINA REPRESENTS A BIG OPPORTUNITY WITH A PROFIT POTENTIAL OF €5.3M, HOWEVER LACK OF BRAND AWARENESS IS A MAJOR ENTRY BARRIER

2 Recommendations & Value Added

ASIA



€5.3M

Where?

- **China** is the most attractive country for Galp to export lubricants, followed by Thailand and Indonesia

How?

- Short-term: **direct sales**
- Medium-long term: **local production**
- Galp should develop a **price table tailored** to each different **market**

With whom?

- **Distributor in Taiwan**, which is aiming at an expansion into China and South Asian countries
- **Mr. Ye Cong**: explore possible partnership

Which lubricants?

- **Most recent API: SN** due to the very recent age of the car fleet; as well as the most advanced lubricants such as 0w-40
- **Labelling**: should include **accreditations** upfront, specially for the Chinese market due to cultural norms
- **Synthetic lubricants**
- **Automotive segment**

Value Added?

- In a realistic scenario Galp would have an **expected first year profit of €5.3M** in China
- Tools developed by the team:
- **Scoring Model tool**
 - **Entry Model framework**

IN AFRICA, ANGOLA NEIGHBORING COUNTRIES REPRESENT A WEAK OPPORTUNITY FOR GALP TO EXPAND ITS PRESENCE DUE TO THE SMALL LUBRICANT MARKET SIZE

AFRICA



Where?

- **Zambia** is the most attractive country for Galp to export lubricants, followed by Congo and DR Congo
- Galp can take advantage of its presence in **Mozambique** and potentiate its lubricant sales by increasing its sales force

How?

- **Exporting from Portugal** directly to Angola's surrounding countries turns the product more competitive than exporting via Angola

Which lubricants?

- Due to the small number of vehicles and high contribution of the industry sector to GDP, **industrial lubricants** seem to be the most promising products of Galp's portfolio
- Galp seems to be able to be competitive with **mineral and synthetic lubricants**

Value Added?

- The cost analysis concluded that it is approximately **2.5 to 3** times cheaper to sell directly from Portugal rather than via Angola

Tools developed by the team:

- **Scoring Model** tool
- **Entry Model Framework**

AGENDA

ES

3 Theoretical Context (TC)

RV

3.1 Viability Analysis Model

TC

3.2 Scoring Model

PM

3.3 Entry Model

DA

3.4 Uppsala Model

CO

3.5 Hofstede Model

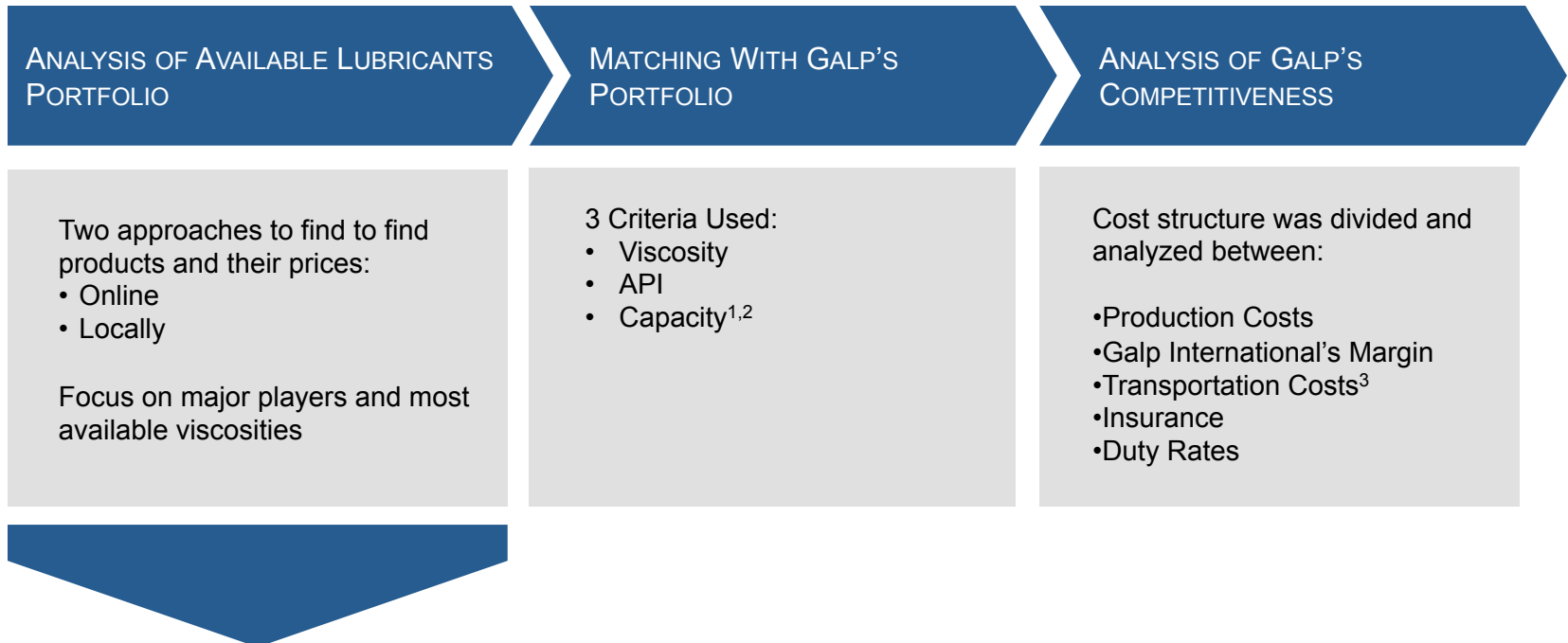
RF

AP

IN ORDER TO UNDERSTAND THE COMPETITIVENESS OF GALP ON THE STUDIED MARKETS, A TAILORED MADE MODEL WAS CREATED FOR THE CLIENT

VIABILITY ANALYSIS MODEL

By understanding the **cost structure** the team was able to estimate the price that Galp would be able to sell to a distributor located in each country. Then the team compared with the prices on each country of products with the same viscosity, API certification and capacity.



Price¹ identification per product

1. The price per liter of 4L bottles was compared with the price per liter of 5L bottles
2. 3.5 Kg were considered equivalent to 4L
3. Allocated by Kg

THE SCORING MODEL AIMS AT CLASSIFYING AND RANKING COUNTRIES IN TERMS OF ITS ATTRACTIVENESS TO IMPORT GALP LUBRICANTS

SCORING MODEL

Due to lack of resources, Galp cannot approach all markets simultaneously and so a prioritization tool is needed. Due to the lack of a suitable model to be used in this particular situation a tailored one was created for the client. The team identified the three main drivers of success in a new lubricant market. Then the team broke down the metrics that influenced those drivers and allocated weights according to their importance.

CRITERIA	METRIC	WEIGHT	DESCRIPTION
Country Overview	GDP growth	12%	Rate of change of the Gross Domestic Product (2012-2013)
	Inflation	5%	Rate at which the level of prices rose (2009-2014)
	Currency volatility	5%	Uncertainty of the currency value of the country (2010-2014)
	Imports contribution to GDP	9%	Weight of total imports on GDP (2013)
	Ease of doing business	11%	Ranking that measures the easiness of doing business (out of 189 countries)
Market Potential	Lubricant consumption	14%	Amount of lubricants consumed (2013)
	Lubricant imports	10%	Amount of lubricants imported (2013)
	Vehicle per capita	7%	Number of vehicles per person (2013)
	Vehicle fleet growth	7%	Rate of change of the country's vehicle fleet (2010-2013)
	Industry contribution to GDP	7%	Weight of the industry sector on country's GDP (2013)
Dynamics of Rivalry	Market competitiveness	13%	Number of suppliers (level of fragmentation taken into account) and combined market share of the two largest suppliers in the market (C2)

GALP'S VALUE CHAIN WAS ANALYSED IN ORDER TO UNDERSTAND WHICH ENTRY MODE WOULD BETTER SUIT THE COMPANY

ENTRY MODEL

3 Theoretical Context

VALUE CHAIN¹



	ENTRY MODE	DEFINITION
Equity	Existing equity (joint venture)	Galp would enter in China by acquiring equity in an existing entity (shared ownership)
	New entity	Galp would enter in China by investing capital in a new entity (with 100% of ownership)
	Acquisition	Galp would enter in China by acquiring 100% of an existing entity
Non-equity	Direct Sales	Galp would establish a contract with an existing party with operations in China in order to sell directly to the final consumer in China (e.g. Industrial and auto lubes for OEM)
	Licensing	Galp (licensor) would grant the rights to intangible property , such as know-how (e.g. lubricants' formulation), to another entity (licensee) for a specified period and in return Galp would receive a royalty from the licensee

See Appendix 1.3

THE UPPSALA MODEL IS BASED ON A SERIES OF INCREMENTAL DECISIONS, WHICH STEPS ARE BASED ON KNOWLEDGE ACQUISITION ABOUT THE FOREIGN MARKET

UPPSALA MODEL

Based on four case studies of Swedish firms, Johanson and Weidersheim-Paul (1975) distinguished four successive steps in the **international expansion process of the firm**. These **4 stages** are: no regular export activities; export via independent representatives; sales subsidiaries; overseas production/manufacturing.



There are **three exceptions** in the Uppsala model which might lead firms to jump steps:

1. Firms with **more experience** and **resources** can take larger steps
2. When **market conditions** are **stable** and **homogeneous**, relevant market knowledge can be gained from other sources rather than own experience
3. Firms with considerable experience of markets with similar conditions may be able to **generalize this experience** to any specific market

Since Galp is not present in any of the markets analyzed, the Uppsala model indicates it should enter those countries by **exporting via independent representatives**, unless Galp fulfills one of the three exceptions the model has.

Exception 1	Although Galp is a big firm with many resources, the lubricant division does not currently have the budget to commit a lot of resources on jumping steps of the model
Exception 2	Concerning the second exception, all the markets that have been looked into are developing countries which are normally not very stable nor homogeneous
Exception 3	Although Galp is present in African countries they sell via semi-independent representatives and so their market knowledge is low and cannot be leveraged to jump steps in other markets , while in Asia they only sell to one independent distributor, and so Galp does not meet the third exception condition

HOFSTEDE'S MODEL MEASURES CULTURAL PROXIMITY BETWEEN COUNTRIES USING 4 DIMENSIONS THAT DESCRIBE THE RELEVANT DIFFERENCES AMONG CULTURES

HOFSTEDE MODEL

An “approach to conceptualize culture concentrates on understanding central values and norms and then building a model for how these **norms and values influence negotiations with that culture**”¹.

Dimension	Description
Individualism/Collectivism	This dimension describes the extent to which a society is organized around individuals or the group . Individualistic societies encourage their young to be independent and to look after themselves. Collectivistic societies integrate individuals into cohesive groups that take responsibility for the welfare of each individual. ¹
Power Distance	This dimension describes the extent to which the less powerful members of organizations and institutions accept and expect that power is distributed unequally . Cultures with greater PD will be more likely to concentrate decision making at the top, and all the important decisions will have to be finalized by the leader. Cultures with low power distance are more likely to spread decision making throughout the organization, and while leaders are respected, it is also possible to question their decisions. ¹
Career Success/Quality of life	Cultures differ in the extent to which they hold values that promote career success or quality of life . Cultures promoting career success are characterized by the acquisition of things, and not caring for others, the quality of life or people. Cultures promoting quality of life are characterized by concerning with relationships and nurturing. ¹
Uncertainty Avoidance	This dimension indicates to what extent a culture programs its members to feel uncomfortable or comfortable in unstructured situations . These situations are characterized by rapid change and new situations, whereas structured situations are stable and secure. Persons from high UA cultures are less comfortable with ambiguous situations and are more likely to seek stable rules and procedures. Persons from low UA cultures are likely to adapt to quickly changing situations and will be less uncomfortable when the rules of the negotiation are ambiguous or shifting. ¹

When talking with contacts from other countries, Galp’s collaborators should understand **and take into consideration the potential differences in culture and values and adapt their approach accordingly**. To help them do that the team compiled the Hofstede’s model results for China, the country with the highest potential according to the scoring model.

AGENDA

ES

4 Project Methodology (PM)

RV

TC

PM

DA

CO

RF

AP

THE PROJECT WAS DIVIDED INTO 4 STEPS THAT TOGETHER SEEK TO ANSWER WHICH MARKETS ARE MORE ATTRACTIVE TO GALP AND THE BEST WAY TO ENTER THEM

PROJECT METHODOLOGY (1/3)

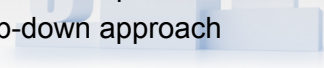
1 Market Assessment

- Online websites
- Training sessions
- Consulting tools (pyramid principle and 80/20 rule)



2 Scoring Model

- In order to prioritize which markets are more attractive to Galp's lubricants, the group developed a Scoring Model
- Followed previous CL Thesis Model approach advised by Professor Luís Almeida e Costa and Luís Lopes
- Top-down approach



3 Entry Strategy

- Dunning Eclectic Paradigm – OLI
- Value Chain analysis
- Internationalization entry models framework¹
- Uppsala Model
- Hofstede Model



Contacts

- Institutions contacts like embassies and AICEP
- Online companies and fairs' websites
- Personal network



A MARKET ASSESSMENT OF ASIAN AND AFRICAN COUNTRIES WAS PERFORMED AND COMPLEMENTED WITH A SCORING MODEL THAT IMPROVED THE EVALUATION

PROJECT METHODOLOGY (2/3)

1

Market Assessment

- **Identification of the market potential in 2 areas:**
 - **Asia:** China (main focus of project), Taiwan, Indonesia and Thailand
 - **Africa:** Zambia, Republic of Congo, DR Congo, Namibia and Mozambique
 - **Criteria:** China - asked by the client; Indonesia and Thailand - the countries with highest score in the previous CL thesis; Taiwan - Galp already has a distributor there; Angola neighbouring countries and Mozambique - requested later by the client
- **Macro analysis:**
 - **Country overview based on the following metrics:** GDP, inflation, currency volatility, population, imports as % of GDP, FDI stock as % of GDP, easiness of doing business ranking
- **Micro analysis:**
 - **Demand:** size, growth, segments (focus on automotive and industry segment which represent the majority of the market), proxies for demand (vehicle fleet, industry as % GDP), imports
 - **Supply:** size, growth, capacity, players, distribution channels and exports
 - **Viability:** cost structure, price comparison to analyse possible margins and competitiveness

2

Scoring Model

- **In order to assess the potential of the countries they were evaluated according to 3 criteria, each of them with specific metrics:**
 - **Country Overview:** GDP growth, inflation, currency volatility, imports contribution to GDP and ease of doing business ranking
 - **Market Potential:** lubricant consumption, lubricant imports and growth, vehicle per capita and growth, industry contribution to GDP
 - **Dynamics of Rivalry:** market competitiveness (number of players and market concentration index: C2)
- **Weight selection criteria:**
 - Order of importance
- **Metrics score:**
 - Each metric was given a score from 1 to 5 (1: lowest potential; 5: highest potential)
 - Each country's score was reached by calculating the weight of each individual metrics' score

A TAILORED ENTRY STRATEGY MODEL WAS BUILT FOR GALP AND TO EXPLORE PARTNERSHIPS IN THE ASIAN MARKETS CONTACTS WERE DONE, NAMELY MR. YE

PROJECT METHODOLOGY (3/3)

4 Project Methodology

3

Entry Strategy

- **Analysis of Galp value chain:**
 - Identify in which part of the value chain would be ideal for Galp to have a partner
 - **Those include:** production, distribution and retailing
- **Identify which strategies are suitable for Galp:**
 - **Those include:** joint venture, new entity, acquisition, direct sales and licensing
 - **Identify advantages and disadvantages** of entry modes
 - Entry strategies that **solve Galp's spare capacity** problem are favored as well as low initial investment ones (licensing)
- **Define the entry model parameters:**
 - Each entry strategy was evaluated according to **8 comparable parameters:** spare capacity usage, margin capture, investment needed, easiness to find partnerships, independence from third party, market know-how of partner, control over activities, brand dependence
 - To each parameter a **score from 1 to 5** was given (1: lowest potential; 5: highest potential)
 - The strategies with the **highest score** are the most promising for Galp

Contacts

- **In order to find partners for the Asian market the group contacted several entities:**
 - **Prof. Qinglei Dai:** provided contacts with possible partners in the Chinese market
 - Conducted a conference call with **Mr. Ye Cong** on 17th October who showed interest in the base oil market
 - Due to this interest the group performed a **brief base oil market** analysis for: China, Taiwan, Thailand
 - **Dawn Chan:** Chinese Nova SBE student who joined the project to overcome language barriers
 - Provided several documents and information translations
 - Conducted a Conference Call with the **Galp's Taiwanese Distributor**
 - **Chinese Embassy & Portuguese Embassy in Thailand:** Contacted for information on tariffs
 - **AICEP/Chamber of Commerce:** contacted for information on tariffs
 - **Lubricant Industry Companies:** contacted but without response so far
 - **Other contacts:** University of Shanghai students

AGENDA

ES

5 Data Analysis (DA)

RV

5.1 Scoring Model

TC

5.2 Market Assessment - Country profile, Demand & Supply and Cost Breakdown

A China

B Thailand

C Indonesia

D Taiwan

E Zambia

F Congo

G DR Congo

H Namibia

I Mozambique

PM

DA

CO

RF

AP

5.3 Profit & Loss Analysis - Export to China

5.4 Entry Mode

CHINA IS THE MOST ATTRACTIVE COUNTRY FOR GALP TO EXPORT LUBRICANTS, FOLLOWED BY THAILAND AND INDONESIA

SCORING MODEL

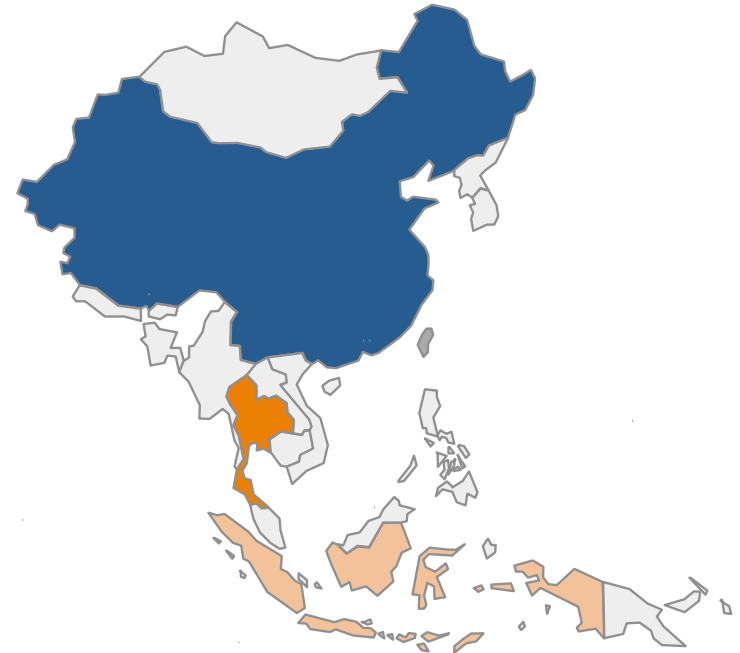
The **results of the scoring model** of the new markets in Asia are presented below, as well as the Asian countries data analysis in the following slides. This scores resulted from a weighted average of eleven metrics that represent the main drivers of success in a new lubricant market.

1° China 3.84

2° Thailand 3.81

3° Indonesia 3.42

4° Taiwan 3.26



See Appendix 1.1 & 3.1

Scale: 1: lowest potential; 5: highest potential

AGENDA

ES

5 Data Analysis

RV

5.1 Scoring Model

TC

5.2 Market Assessment - Country profile, Demand & Supply and Cost Breakdown

PM

A China

DA

B Thailand

CO

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E Zambia

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5.3 Profit & Loss Analysis - Export to China

5.4 Entry Mode

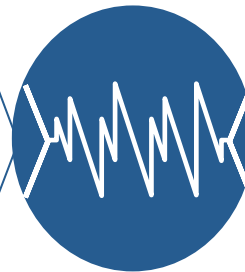
THE LUBRICANT CHINESE MARKET MAY REPRESENT AN OPPORTUNITY, HOWEVER SOME CHALLENGES HAVE TO BE TAKEN INTO ACCOUNT

MAIN CONCLUSIONS

OPPORTUNITIES

- **Just 0.43% of the Chinese demand** in 2012 would allow Galp to produce at **full capacity**
- **Just 1.96% of the Chinese imports** in 2012 would allow Galp to produce at **full capacity**
- **Coastal region** has the highest lube consumption
- **Industrial lubricants** tend **not to need brand** to enter the market
- **Galp's portfolio** is **certified** by some of the major **OEMs**
- Independent distributors are easier to target
- It might be **financially viable** to sell in **China** since there is **enough margin for the distributor**

China



CHALLENGES

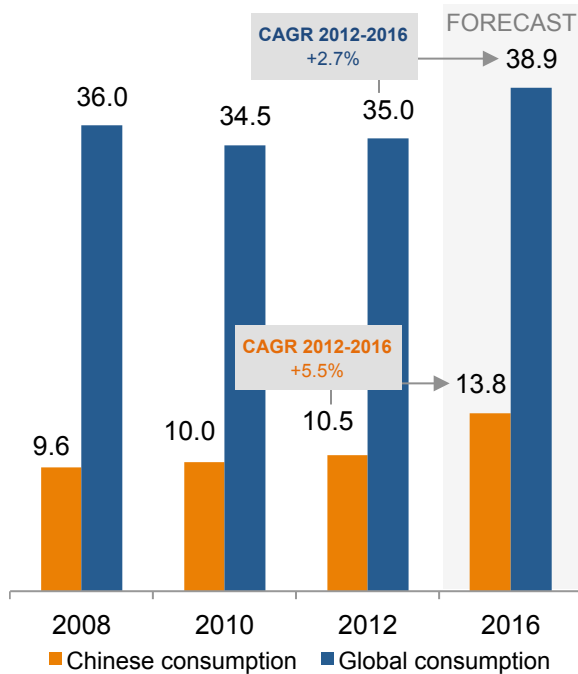
- **High market concentration** (C3=56.3%) and high **competition**
- Car fleet is recent and requires lubricants with most **recent API: SN**
- **Automotive lubricants** tend to need brand to enter the market
- There is **no obvious trend** in the type of **industrial lubricant consumed**
- 75% of 4S services are lubricant related, however these stores have **high bargain power**
- Galp uses 5L packages which can be a problem since in **China 4L packages are used**
- In China, products focus on viscosity and API however **not all Galp's products are API certified** (e.g. Galp Formula R; 5W30)
- In China, **0W-40 and 10W-40 SN** lubricants are sold by major players, however **Galp does not have** them on its Portfolio

CHINESE CONSUMPTION IS EXPECTED TO GROW 5.5% YEARLY UNTIL 2016. INDUSTRY AND AUTO REPRESENT 93.0% OF THE LUBE CONSUMPTION IN 2011

MARKET DEMAND

GLOBAL VS. CHINA LUBRICANT CONSUMPTION¹

[2008-2016; MILLION TONS]

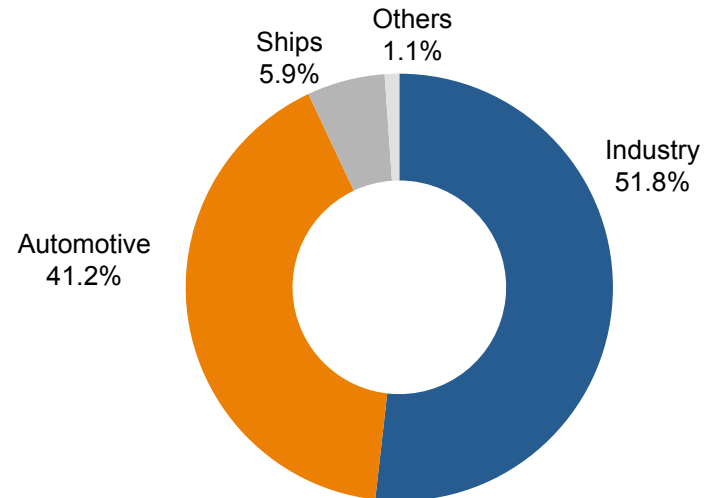


In 2012, just **0.43%** of the Chinese consumption would allow Galp to produce at full capacity

CHINA LUBRICANT CONSUMPTION BY SEGMENT¹

[2011; %]

100% = 10.5 MILLION TONS



MAIN INDUSTRIAL APPLICATIONS

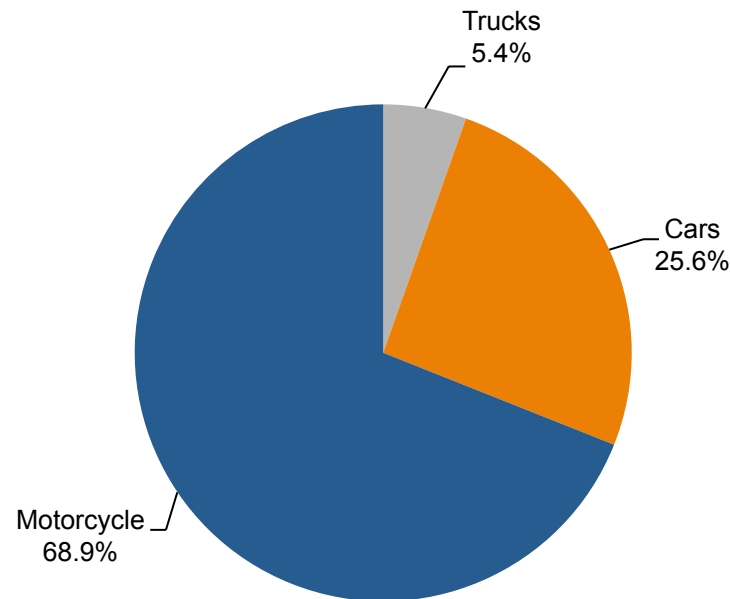
- Metallurgy, Mining, Construction, Marine & manufacturing

MOTORCYCLES ARE EXPECTED TO LOSE IMPORTANCE IN CHINA'S AUTO FLEET WHILE CARS ARE GAINING RELEVANCE

AUTOMOTIVE SEGMENT ANALYSIS - OVERVIEW

AUTOMOTIVE MARKET BY TYPE OF VEHICLE¹

[2012; %] 100% = 348,726 THOUSAND UNITS



MAIN SEGMENT CHALLENGES²

- The **truck segment** is dominated by **Chinese brands**
- **Decrease of moto's growth** due to:
 - **Government restrictions** on motorcycle circulation
 - **GDP per capita increase** and **purchasing power** increase

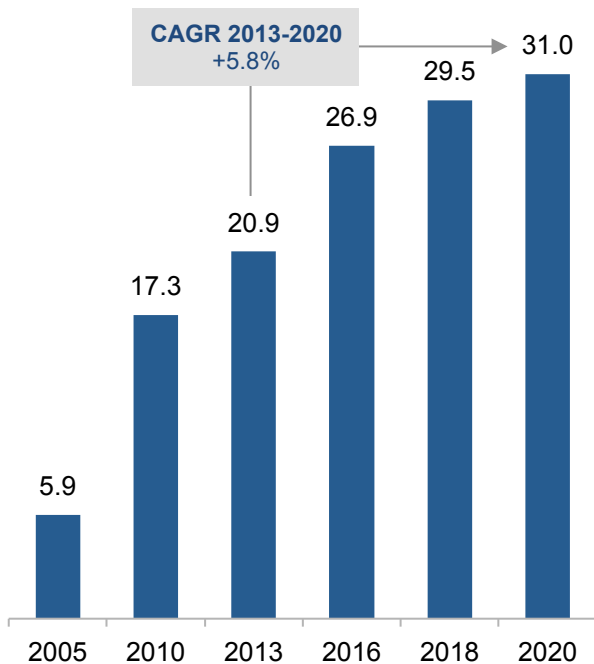
CAR SALES IN CHINA ARE EXPECTED TO CONTINUE TO GROW AND THE CAR FLEET IS MOSTLY COMPOSED BY RECENT VEHICLES

CN Demand

AUTOMOTIVE SEGMENT ANALYSIS - CARS

LIGHT VEHICLE SALES¹

[2005-2020; MILLION UNITS]



70% of passenger cars were aged less than 5 years in 2012²

MAIN CHALLENGES

- The seven major **car brands hold 56% of the market** and are **supplied** by the main lube producers in China such as **Shell, BP and Great Wall**
- **Foreign** lubricant brands hold **30% of the high-end car segment**
- Galp will face **fierce competition** from major brands
- Players tend to **need brand awareness** to **enter** the Car segment

- New cars need **latest lube technology**
- Necessary a **diverse portfolio** with most recent **API: SN**
- Galp has an **opportunity** since its **portfolio is certified** by some of the major **OEM - VW (15.1%), GM (14.5%), Renault (4.8%)**

See Appendix 2 - CN

THERE ARE TWO MAJOR DISTRIBUTION CHANNELS, THE OES AND IAM NETWORK, THAT REPRESENT 70% AND 30% OF THE PRIVATE CAR REPAIR MARKET RESPECTIVELY

CN Demand

AUTOMOTIVE SEGMENT ANALYSIS - CARS

ES
RV
TC
PM
DA
CO
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AP

	OES NETWORK ¹	
	4S stores (Sales, Spare Parts, Service, Survey)	OE authorized repair shop
Description	Major channel for new car sales	Generally no car sales service
Current presence in private car repair market	70%	



Of 4S services demanded were **lubricant services**

	IAM NETWORK ¹	
	General and specialist independent repair shop	Chained repair shop
Description	Limited service and repair options	Emerging channel that includes mainly international suppliers
Current presence in private car repair market	20%	10%

Independent distributors are easier to target, however **4S are the most preferred channel**

See Appendix 2 - CN

ALTHOUGH THE MOTORCYCLE MARKET IS BIG AND MIGHT REPRESENT AN OPPORTUNITY, CHALLENGES SEEM TO BE HIGHER THAN OPPORTUNITIES

AUTOMOTIVE SEGMENT ANALYSIS - MOTORCYCLES

CN Demand

OPPORTUNITIES

- **Sub-urban and rural areas³**
 - Potential markets for motorcycles
- **Higher demand** for lubes concerning motorcycles with **low cylinder** capacity <150cc¹

CHALLENGES

- **Motorcycle sales are decreasing** by 0.9% per year since 2008¹
- Motorcycles were recently **forbidden²**:
 - **Tier 1 cities** (Beijing, Shanghai, Guanzhou)
 - Most highways
- Chinese **producers** and brands **dominate** the market³
- Too many motorcycle **falsifications³**
- Trend³:
 - **Electric motorcycle** will surpass gas motorcycle
 - In 2009, **electric motorcycle** represented 49% of motos' demand while gas motorcycle accounted for 51%

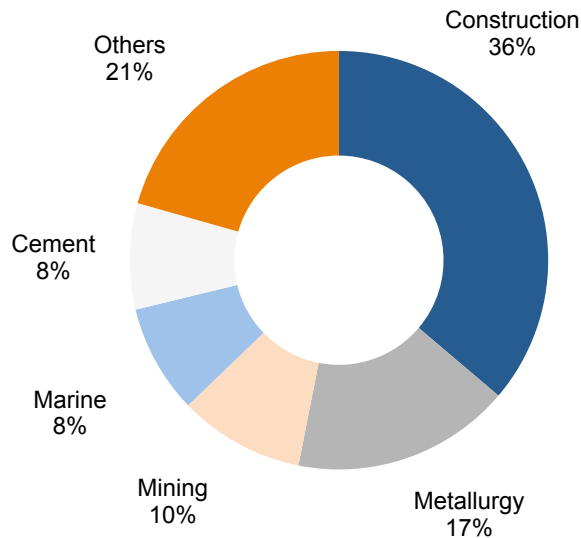
See Appendix 2 - CN

INDUSTRIAL LUBES REPRESENTED 51.2% OF THE CONSUMPTION AND IS DOMINATED BY THE MAJOR FOREIGN BRANDS AND THE TWO MAIN CHINESE PLAYERS

INDUSTRY SEGMENT ANALYSIS

MAIN INDUSTRIES IN CHINA BY REVENUE¹

[2010; %]



MARKET VALUE OF INDUSTRIAL LUBRICANTS

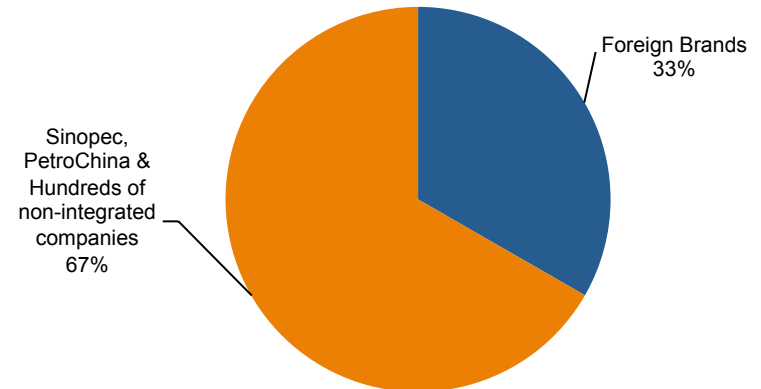
- In 2010: more than **50 billion USD**

There is **no obvious trend** in the type of industrial lubricant consumed

INDUSTRY SEGMENT PLAYERS MARKET SHARES²

[2010; %]

100% = 5.1 MILLION TONS



MAJOR PLAYERS CHARACTERISTICS

- Large and vertically integrated
- Energy companies

Opportunity: industrial lubricants tend **not to need brand** to enter the market

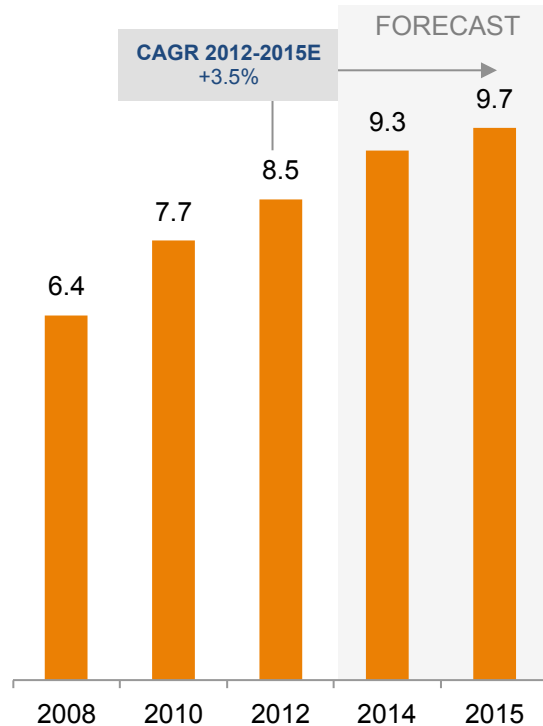
PRODUCTION IS EXPECTED TO GROW 3.5% UNTIL 2016, HOWEVER COMPETITION IS INTENSIVE SINCE THE TOP 10 SUPPLIERS REPRESENT 70% OF THE SUPPLY

MARKET SUPPLY

CN Supply

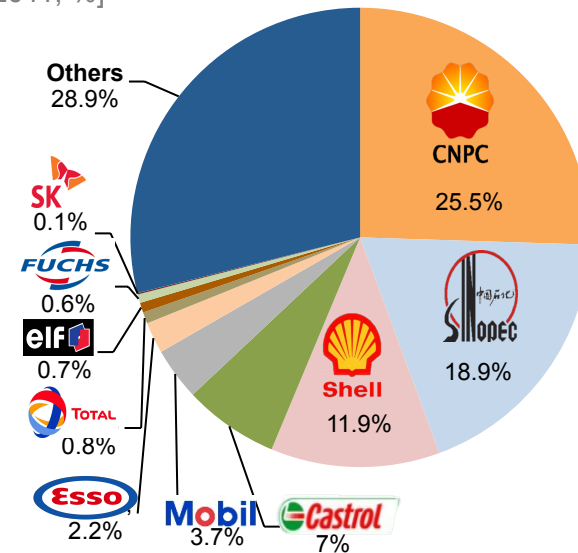
CHINA LUBRICANT PRODUCTION¹

[2008-2015E; MILLION TONS]



LUBRICANT PLAYERS MARKET SHARES¹

[2011; %]



- The two major players dominate the OEM market
- Joint ventures:
 - National companies: R&D and retail purposes
 - Foreign companies: easier to enter the market

It's difficult for a newcomer to get into the market

High market concentration: C3= 56.3%

High competition: 4000 lube producers

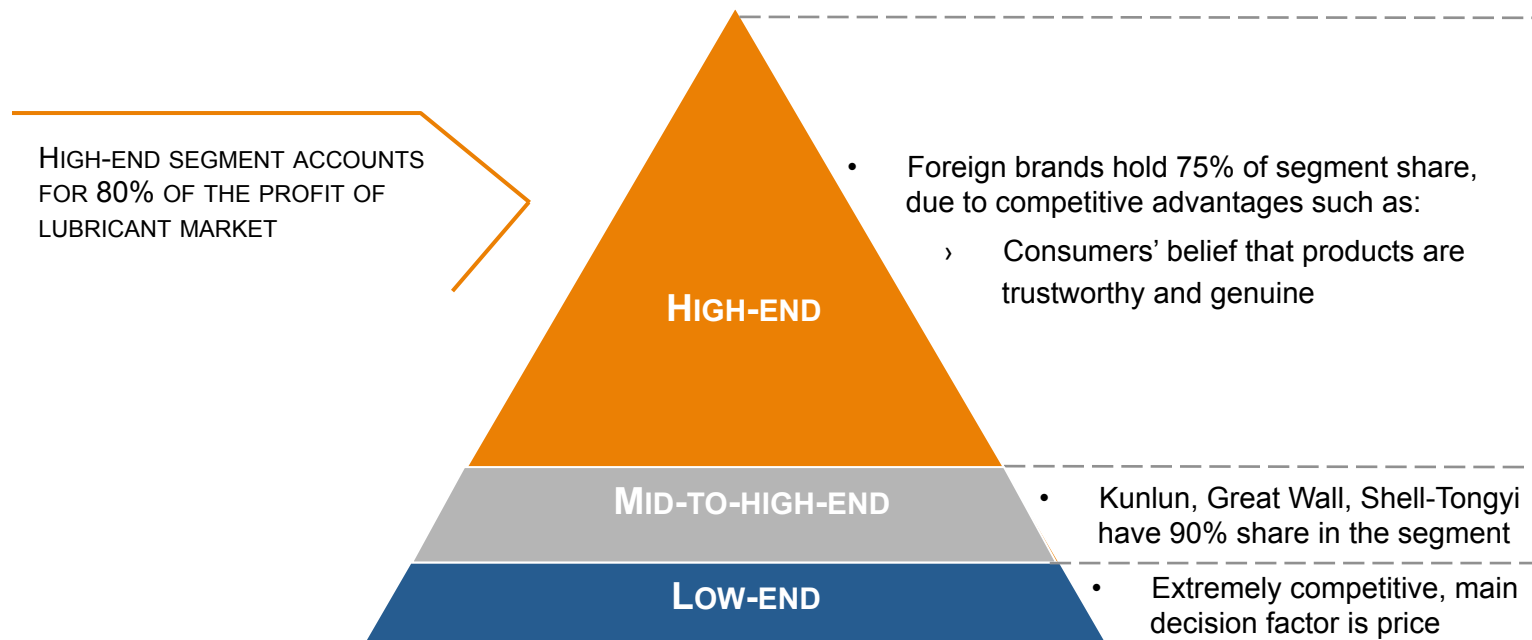
See Appendix 2 - CN

FOREIGN BRANDS HAVE 75% SHARE OF THE HIGH-END SEGMENT WHICH ACCOUNTS FOR 80% OF THE TOTAL CHINESE LUBRICANT MARKET PROFIT

MARKET SUPPLY

LUBRICANT SEGMENT DISTRIBUTION BY PROFIT¹

[2011]



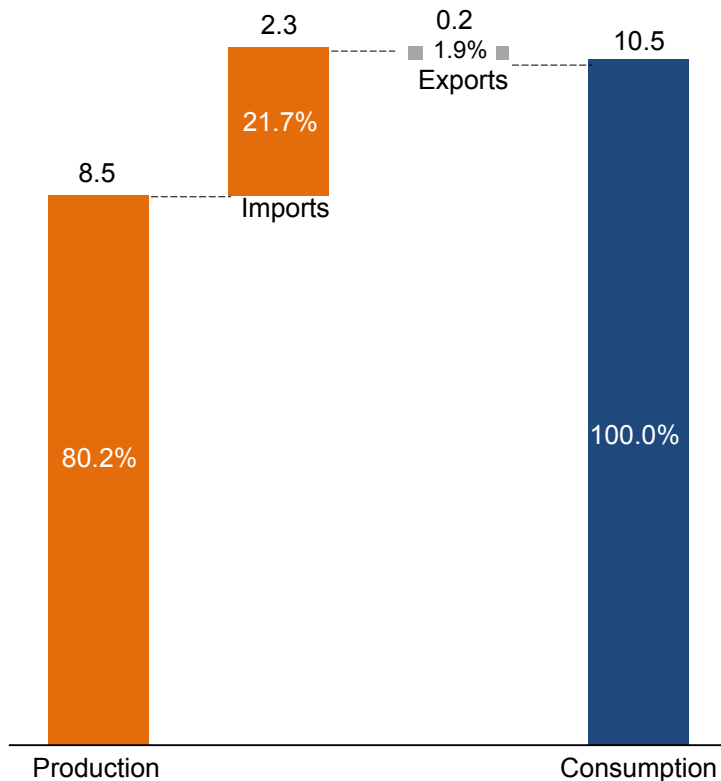
IMPORTS HAVE REMAINED STEADY, REPRESENTING 21.7% OF TOTAL CONSUMPTION, HOWEVER DOMESTIC PRODUCTION CAPACITY AND OUTPUT HAVE INCREASED

MARKET DEMAND & SUPPLY

CN Demand and Supply

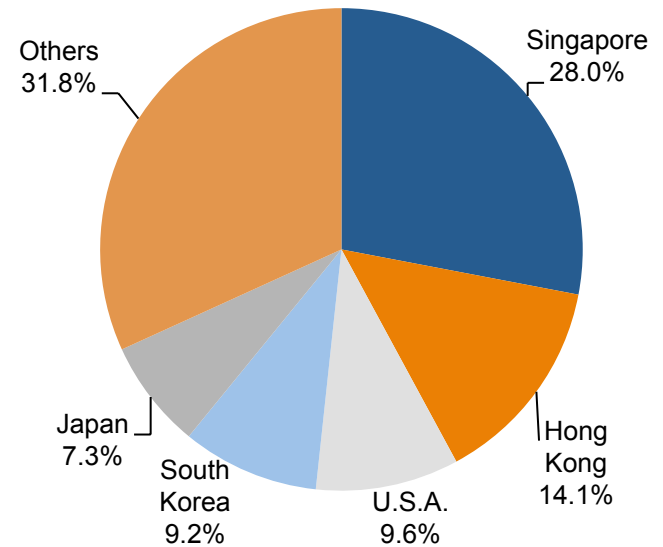
CHINA LUBRICANT CONSUMPTION BRIDGE¹

[2012; MILLION TONS; %]



CHINA LUBRICANT IMPORTS BY SOURCE¹

[2011; %]



In 2012, **1.96%** of the Chinese imports would allow Galp to **produce at full capacity**

See Appendix 2 - CN

TO EXPORT TO CHINA IT IS IMPORTANT TO CONSIDER TAXES AND TARIFFS APPLIED AS WELL AS LICENSES APPROVALS NEEDED

VIABILITY ANALYSIS - APPLICABLE LICENSES & TAXES

CN Cost Breakdown

ES

RV

TC

PM

DA

CO

RF

AP



Export License

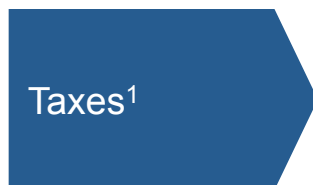
- Issued By: Quota & license Administrative Bureau of Ministry of Commerce or its authorized institution

Commodity Inspection & Quarantine Certificate for Import

- Issued By: General Administration of Quality Supervision, Inspection and Quarantine

Commodity Inspection & Quarantine Certificate for Export

- Issued By: General Administration of Quality Supervision, Inspection and Quarantine



Statutory Duty

- Since Portugal is considered a MFN^{*} the Duty is 6%

Import consuming tax: 1¥/L

Value-added tax (VAT)

- Lubricant VAT: 17%

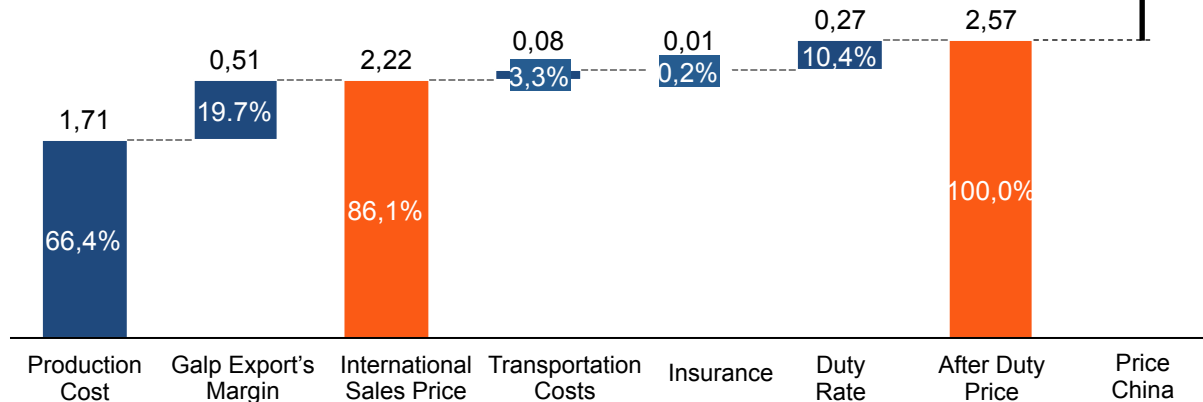
*MFN - Most Favored Nation

THE ANALYSIS SHOW THAT IT MIGHT BE VIABLE TO SELL AUTOMOTIVE LUBRICANTS IN CHINA AS THERE IS ENOUGH MARGIN FOR THE DISTRIBUTOR

VIABILITY ANALYSIS - AUTOMOTIVE

COST BREAKDOWN AND COMPARISON WITH COMPETITORS¹

[VALUES IN € PER LITER]



CN Cost Breakdown

The team compared the estimated **price at which Galp would be able to sell** to a distributor located in each country with the **prices of products on each country** with the same viscosity, API certification and capacity.

COMPETITORS

1. CNPC (Kunlun)
2. Sinopec (Great Wall)
3. Shell
4. Castrol
5. Mobil

VISCOSITY

1. 5W-40
2. 10W-40
3. 15W-40
4. 5W-30

See Appendix 1.2 & 2 - CN

TO EXPORT TO CHINA IT IS IMPORTANT TO CONSIDER THE CHALLENGES IN TERMS OF BOTTLING, PORTFOLIO AND CERTIFICATIONS THAT MIGHT ARISE

CN Cost Breakdown

VIABILITY ANALYSIS - AUTOMOTIVE

MAIN CHALLENGES



The two small package sizes in China:

- 1L and 4L

Galp sells in two small packages:

- 1L and 5L



Problem?

- New packaging development
- Acceptance of customers



Major players in china have:

- 0W-40 lubricants
- 10W-40 SN Lubricants



Problem?

- Competition in high end
- Less market coverage



In China products have:

- API certification



Problem?

- Galp does not have an API recommendation in all products
- Can reduce potential portfolio

See Appendix 1.2 & 2 - CN

THE ANALYSIS SHOW THAT ALTHOUGH IT MIGHT BE VIABLE TO SELL INDUSTRIAL LUBRICANTS IN CHINA, THE MARGIN FOR THE DISTRIBUTOR WOULD BE VERY LOW

VIABILITY ANALYSIS - INDUSTRY

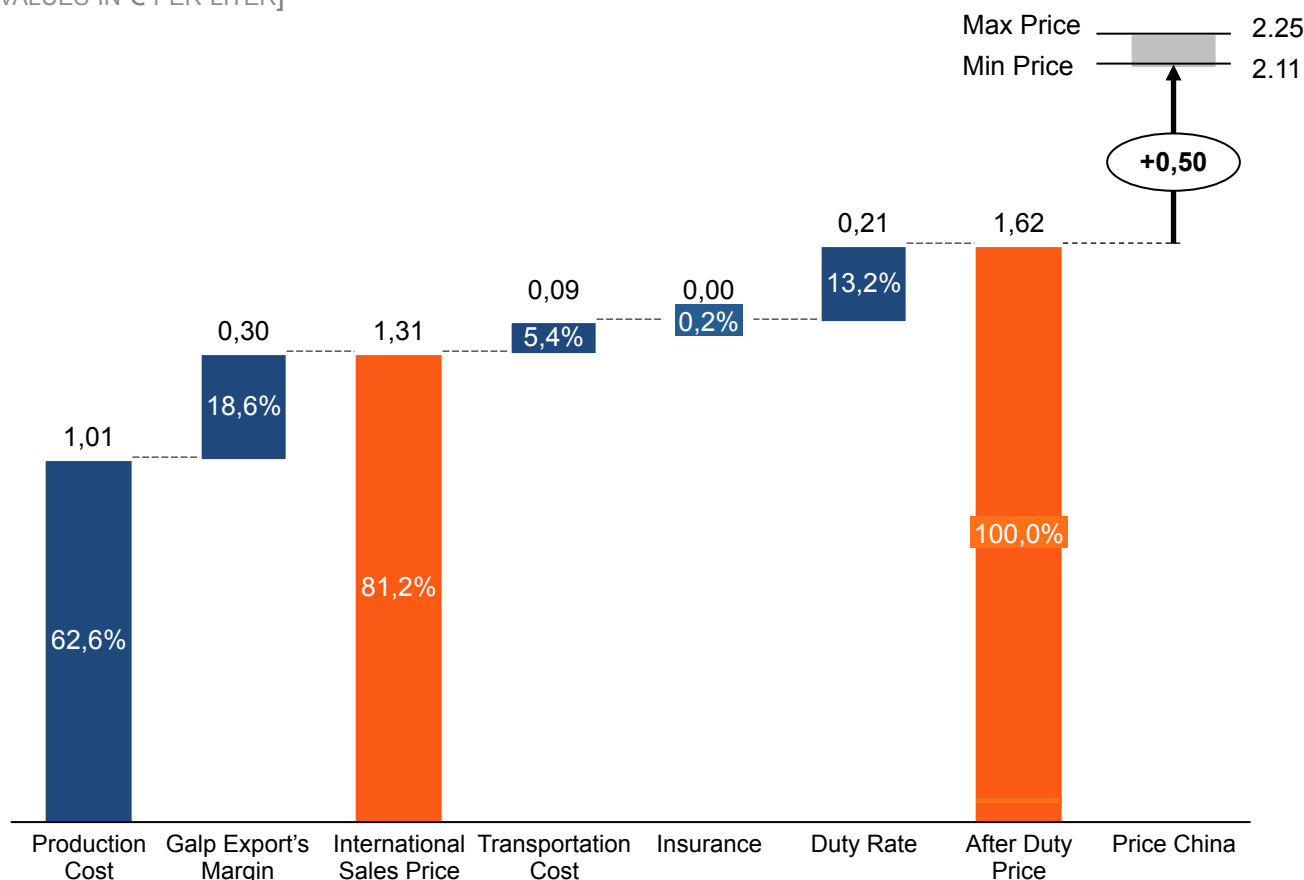
CN Cost Breakdown

COST BREAKDOWN AND COMPARISON WITH COMPETITORS¹

[VALUES IN € PER LITER]

COMPETITORS

1. Shell
2. Zic



See Appendix 1.2 & 2 - CN

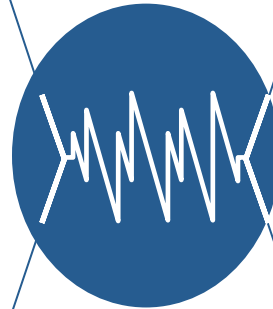
THAILAND'S LUBRICANT MARKET MIGHT REPRESENT AN OPPORTUNITY TO EXPORT ALSO FOR OTHER ASIATIC MARKETS, HOWEVER THERE IS FIERCE COMPETITION

MAIN CONCLUSIONS

OPPORTUNITIES

- **12.1% of Thailand's demand** allows Galp to produce at **full capacity**
- In 2015, Thailand will become a member of **ASEAN Economic Community**
- Thailand exports for neighbour countries
- **Imports** represent **46.5%** of internal consumption
- **The Automotive sector** contributes 12% of Thailand's GDP
- Viscosity certification API: **SJ and SL certified lubricants** and lubricants for diesel engine dominate the market
- **Business Fairs:** Oil & Gas Thailand (OGET) and Petrochemical Asia (September)

Thailand



CHALLENGES

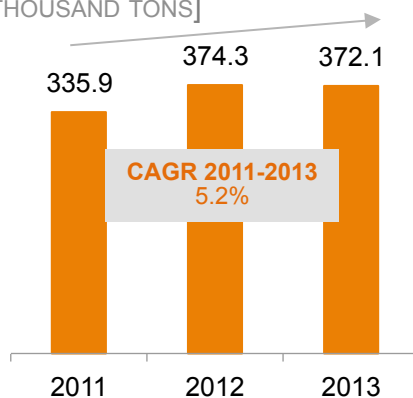
- **Political instability:** currency volatility
- **Seasonality:** engine lubricant replacement season in April; seasonal preparation of machinery for agricultural sector
- **Fierce competition in high segment:** foreign brands are less likely to be competitive with locally manufactured products in other segments
- Galp's **OEM** represent a **small slice** of the automotive market share
- Thailand wants to become a hub of global green automotive production
- Base oils provided only by 2 state-owned companies

THAILAND EXPORTS A SIGNIFICANT PART OF THE LUBRICANT PRODUCTION. THE CONSUMPTION WAS 372.1 THOUSAND TONS IN 2013 BUT IT IS EXPECTED TO FALL

MARKET DEMAND & SUPPLY

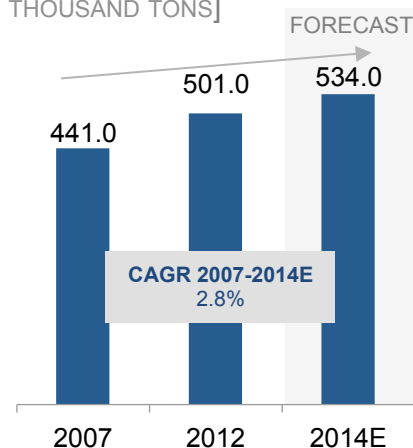
THAILAND LUBRICANT CONSUMPTION¹

[2011-2013; THOUSAND TONS]



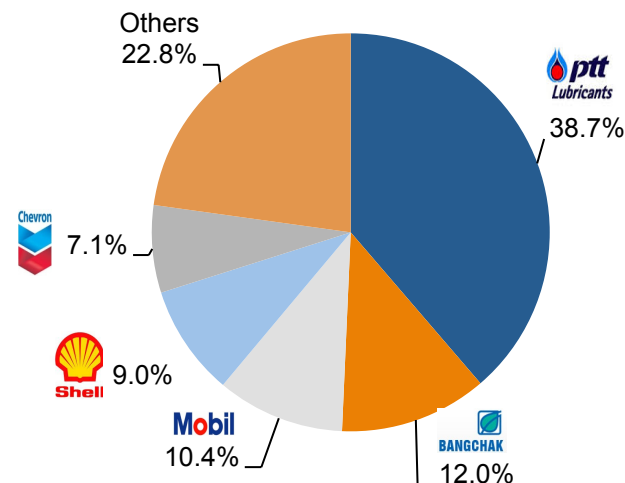
THAILAND LUBRICANT PRODUCTION²

[2007-2014E; THOUSAND TONS]



LUBRICANT PLAYERS MARKET SHARES^{2,3}

[2013; %] 100% = 372.1 THOUSAND TONS



TRENDS:

- The lubricant market is estimated to have **fallen 15-20%** during the **first half of 2014⁴**
- The **automotive segment** accounts for **60%** of the lubricant consumption⁵
- There are **>170 brands** being mostly **imported** by small firms targeting the **premium automotive segment**

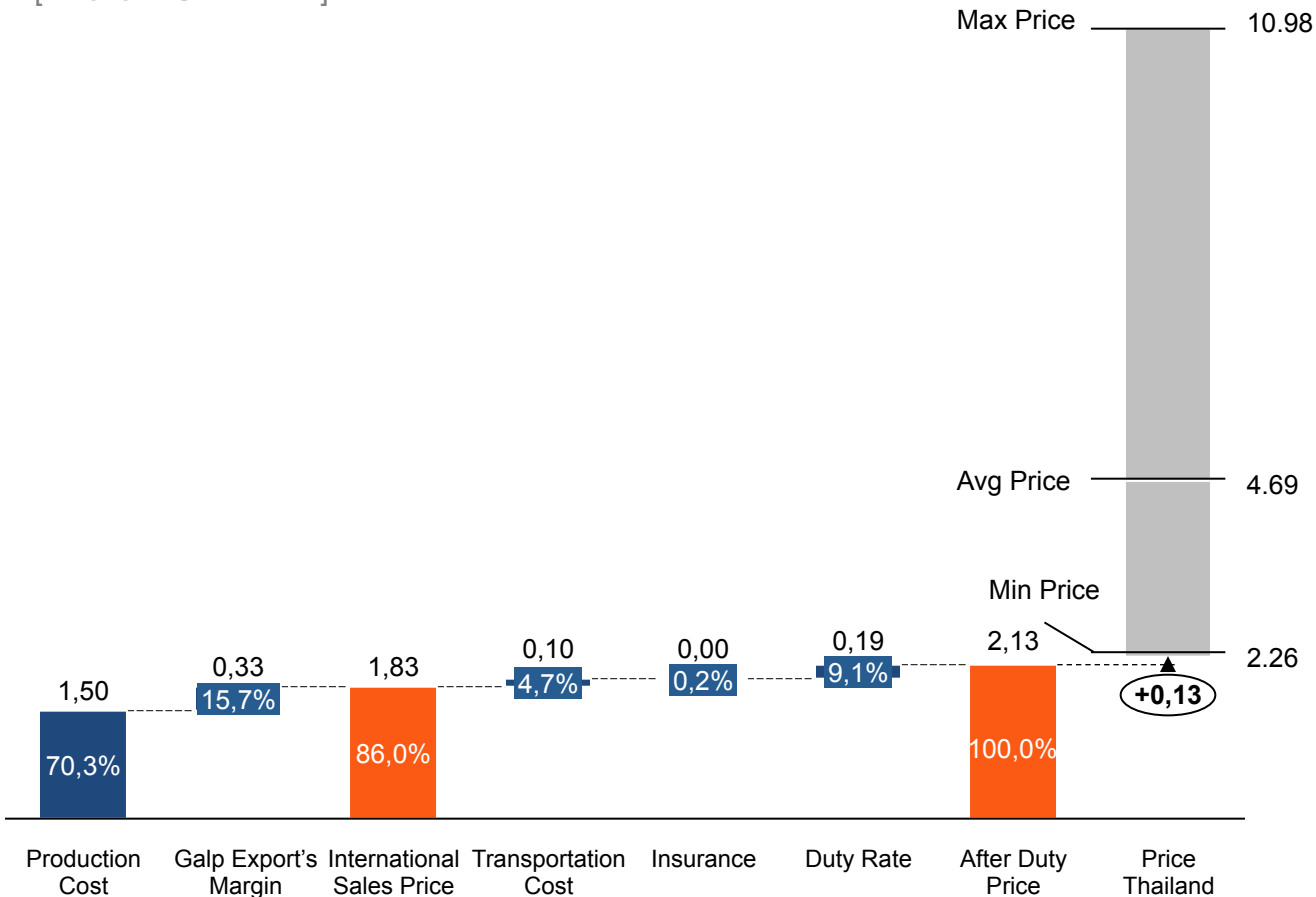
THE ANALYSIS SHOWS THAT NOT ALL THE PRODUCTS ARE COMPETITIVE

VIABILITY ANALYSIS - AUTOMOTIVE

TH Cost Breakdown

COST BREAKDOWN AND COMPARISON WITH COMPETITORS¹

[VALUES IN € PER LITER]



COMPETITORS

1. PTT

VISCOSITY

1. 5W-30
2. 10W-40
3. 15W-40
4. 20W-50

See Appendix 1.2 & 2 - TH

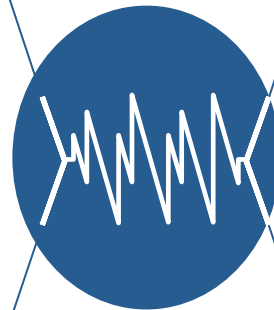
INDONESIA'S LUBRICANT CONSUMPTION RELIES ON IMPORTS, HOWEVER THERE IS HIGH MARKET CONCENTRATION AND THE CONSUMPTION IS STAGNATED

MAIN CONCLUSIONS

OPPORTUNITIES

- **7.0% of the Indonesian demand** allows Galp to produce at **full capacity**
- **Imports** represent **20%** of the national consumption (180,000 tons) and tend to **increase** due to diminishing local base oil resources
- Since the **market liberalization**, in 2001, the dominant state-owned lubricant company **lost 25% market share**
- Indonesia **exports** mainly to mainland **China and Thailand**
- **Increasing demand of automobile** lubricant due to the rapid growth in the number of vehicles

Indonesia



CHALLENGES

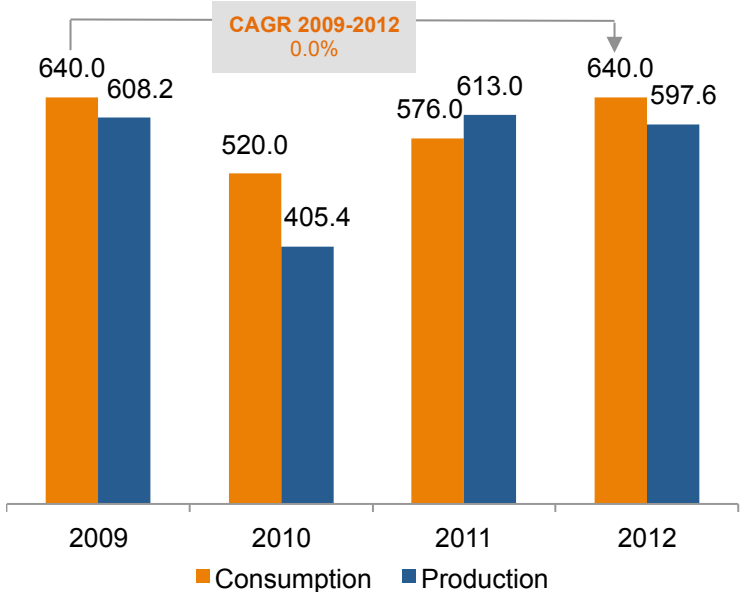
- **28.1% of the Indonesian imports** in 2012 allows Galp to produce at **full capacity**
- **High market concentration** (C2=72.0%)
- **High competition**: 250+ brands with 1000+ API certified lubricants
- **Automotive segment** only represents 40% of the lube consumption
- **Industry demand** tends to **decrease** around 2%-3%
- It might **not be financially viable** to sell in **Indonesia** since there is not **enough margin for the distributor**

INDONESIAN LUBRICANT MARKET IS STAGNATED AND GALP EXCESS CAPACITY REPRESENTS 7.0% OF CONSUMPTION. THE BIGGEST PLAYER IS STATE-OWNED

MARKET DEMAND & SUPPLY

INDONESIA LUBRICANT CONSUMPTION AND PRODUCTION¹

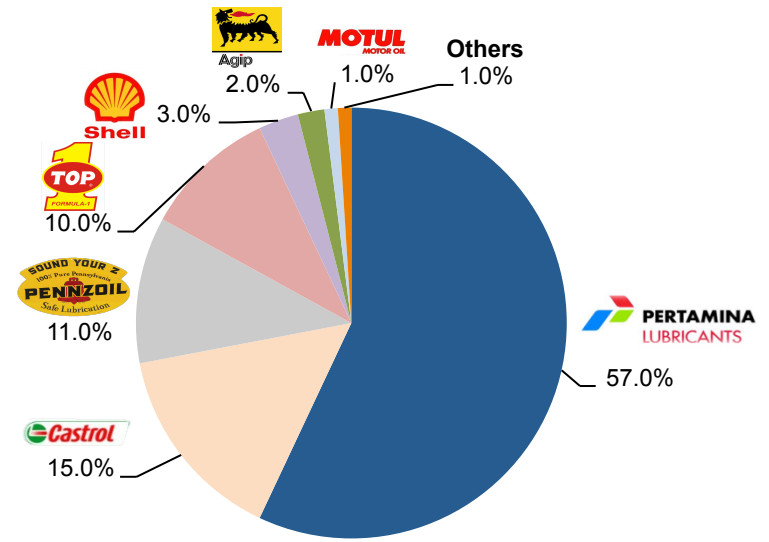
[2009-2012; THOUSAND TONS]



7.0% of the Indonesian consumption in 2012 would allow Galp to produce at full capacity

LUBRICANT PLAYERS MARKET SHARES²

[2008; %] 100% = 567.2 THOUSAND TONS



High market concentration: C2= 72%
 High competition: 250+ brands with 1000+ lubricant products API certified

See Appendix 2 - ID

Source: ¹Otomotife, 2013; Berita Satu, 2012; Honda Community, 2011; Migas, 2013; ²Universitas Indonesia, 2010

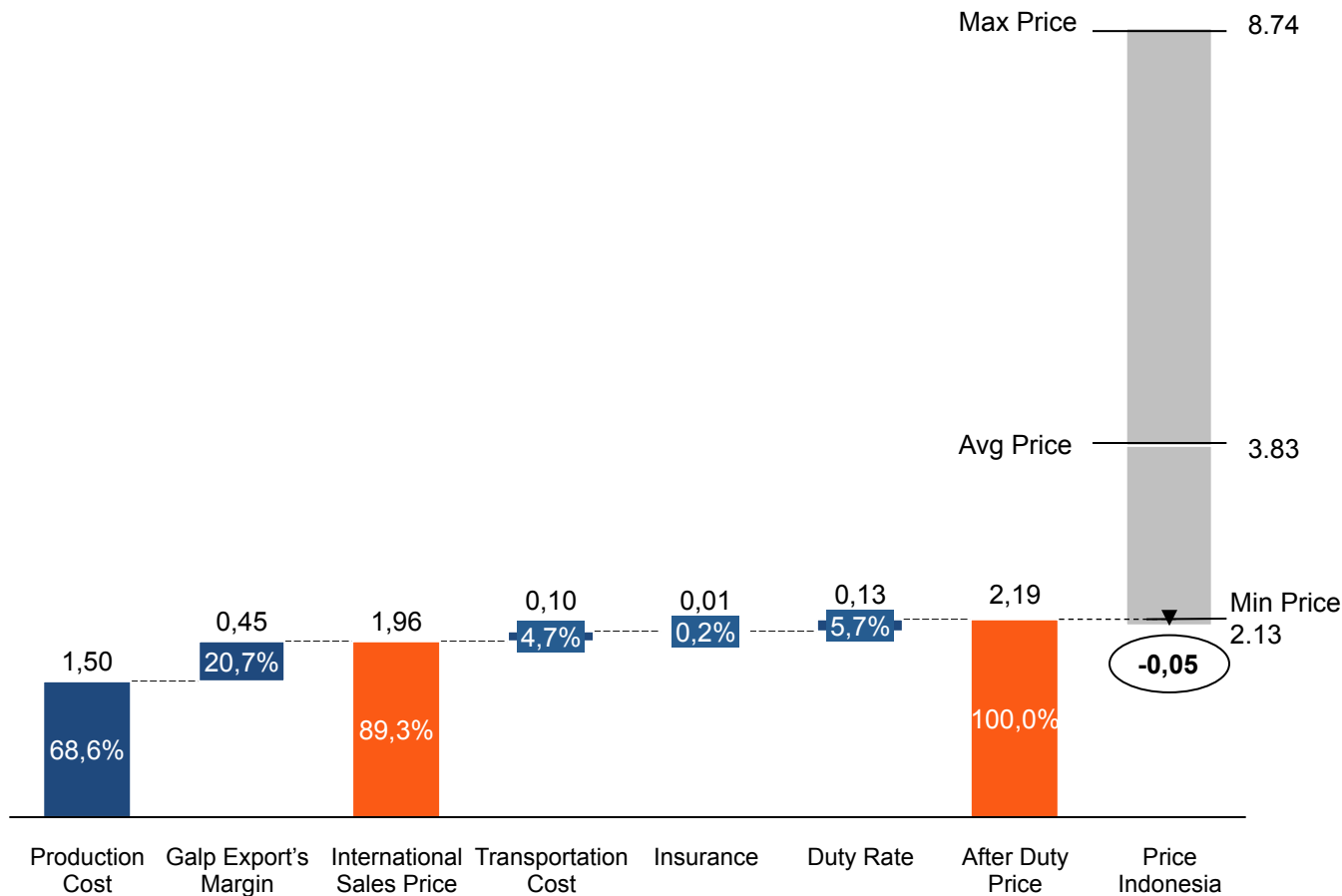
THE ANALYSIS SHOWS THAT TO BE COMPETITIVE IN INDONESIA, GALP WOULD NOT BE ABLE TO SELL AT LOWER PRICES

VIABILITY ANALYSIS - AUTOMOTIVE

ID Cost Breakdown

COST BREAKDOWN AND COMPARISON WITH COMPETITORS¹

[VALUES IN € PER LITER]



COMPETITORS

1. Pertamina
2. Shell
3. Motul
4. STP
5. HWI
6. Lucas Oil

VISCOSITY

1. 5W-40
2. 10W-40
3. 15W-40
4. 15W-50
5. 20W-50

See Appendix 1.2 & 2 - ID

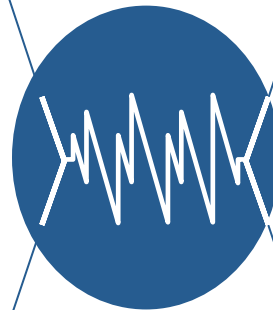
THE MAJOR OPPORTUNITY IN TAIWAN IS GALP'S ALREADY ESTABLISHED PARTNER, ALTHOUGH CHALLENGES SEEM TO BE HIGHER THAN OPPORTUNITIES

MAIN CONCLUSIONS

OPPORTUNITIES

- **Established Taiwanese partner** who might be interested in exploring partnership
- The **automotive segment** is responsible for **64% of the consumption** of lubricants
- Galp's lubricants are certified by the most sold vehicle brands in Taiwan such as Mercedes, Volvo, BMW and VW
- Taiwan **exports** mainly to **mainland China** and **neighbouring countries**
- **Growing** use of **synthetic** passenger car motor **oil**
- There is **some margin** for the distributor, however the financial viability included **only motorcycle lubricants**

Taiwan



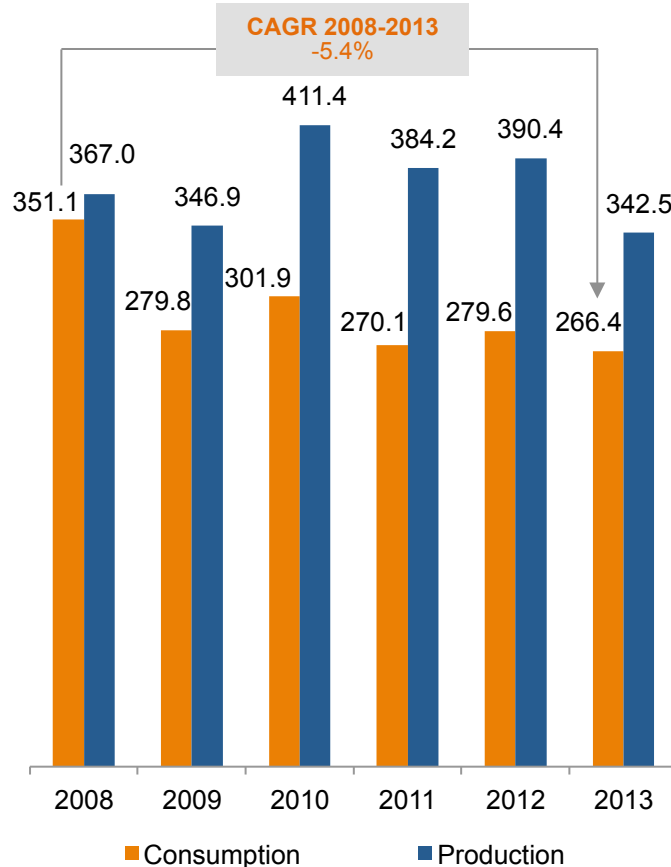
CHALLENGES

- Lubricant **consumption** has been **decreasing 5.4%** annually since 2008 and it is expected to **continue to decrease**
- **16.9% of the Taiwanese demand** allows Galp to produce at **full capacity**
- **29.4% of the Taiwanese imports** allows Galp to produce at **full capacity**
- **Lubricant imports decreased 0.3%** since 2008 and **exports have decreased 6.6%** in the same period
- Lubricant market is expected to have a **slight volume decrease**
- **High-tech** industries are growing and are **less oil consuming**
- There are more than **200** brands of lubricants
- **High** entry barriers: market is **small** and existing players are **well established**

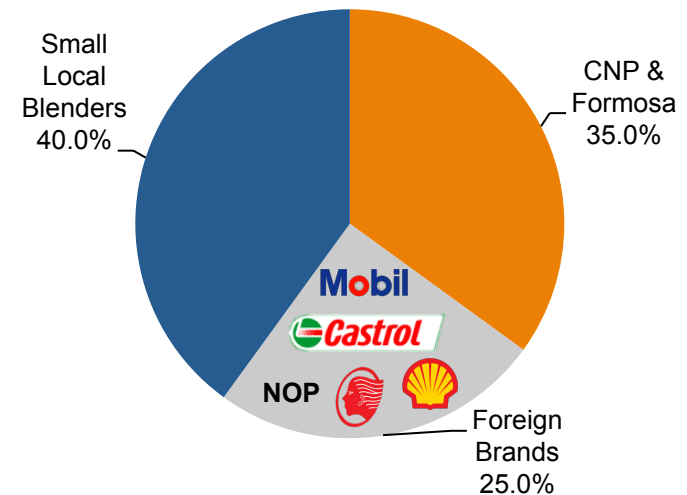
THE TAIWANESE LUBRICANT MARKET WAS VALUED AT \$1 BILLION IN 2011, HOWEVER THE COMPETITION IS INTENSE AND GROWTH PERSPECTIVES ARE LOW

MARKET DEMAND & SUPPLY

TAIWAN LUBRICANT CONSUMPTION AND PRODUCTION¹
[2008-2013; THOUSAND TONS]



LUBRICANT PLAYERS MARKET SHARES BY VOLUME²
[2011; %] 100% = 270.1 THOUSAND TONS



LOCAL BLENDERS²:

- Mainly present in the **industry segment** and **mainstream-to-lower** tier products

HIGH ENTRY BARRIERS²:

- The market is **small and growth prospects are low**
- Existing players are **well established**
- Fierce competition: **C2= 35%; >200 lubricant brands**

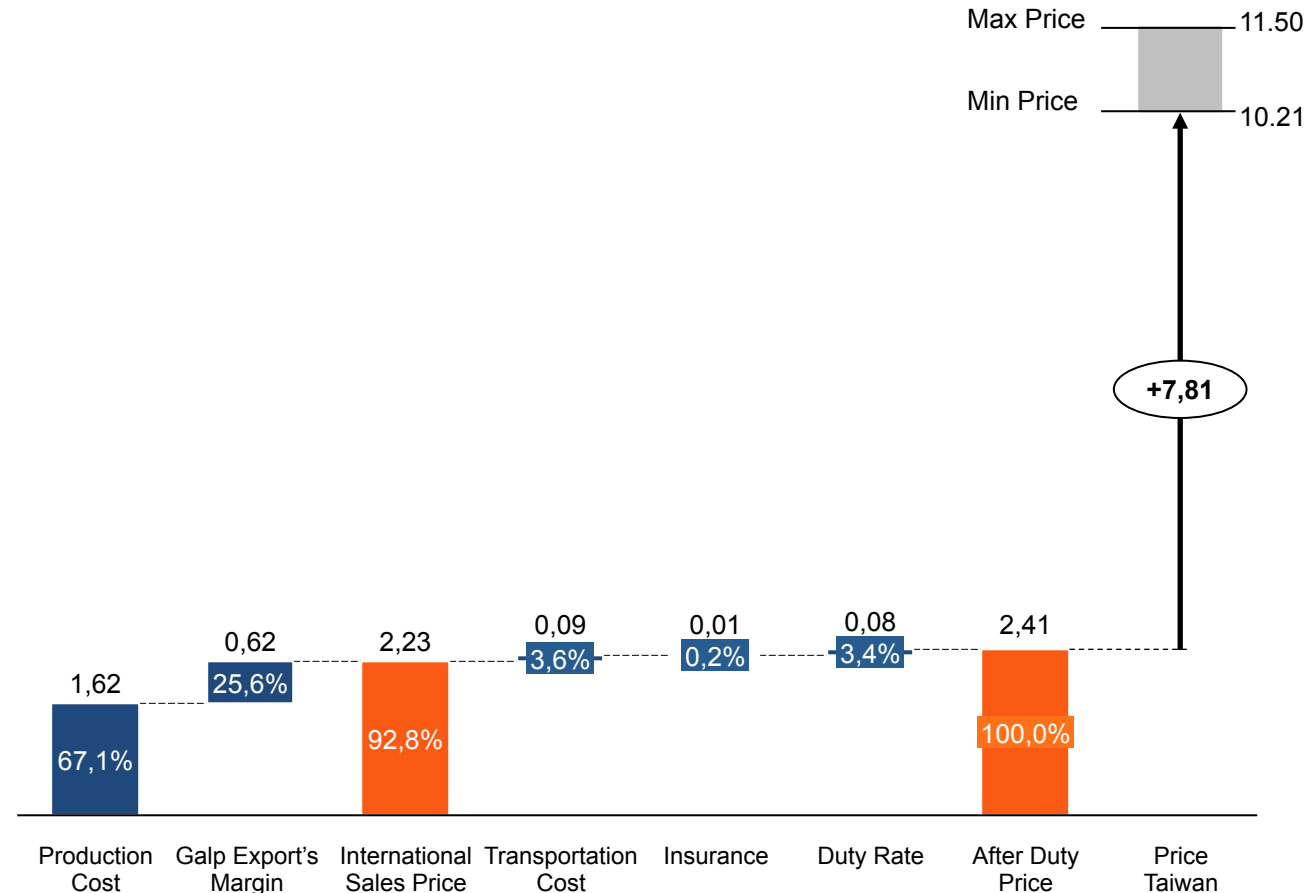
THE ANALYSIS SHOW THAT IT MIGHT BE VIABLE TO SELL IN TAIWAN SINCE THERE IS SOME MARGIN FOR THE DISTRIBUTOR

VIABILITY ANALYSIS - AUTOMOTIVE

TW Cost Breakdown

COST BREAKDOWN AND COMPARISON WITH COMPETITORS

[VALUES IN € PER LITER]



COMPETITORS

1. Yamaha

VISCOSITY

1. 10W-40
2. 20W-50

See Appendix 1.2 & 2 - TW

ZAMBIA IS THE MOST ATTRACTIVE COUNTRY FOR GALP TO EXPORT LUBRICANTS, FOLLOWED BY CONGO AND DR CONGO

SCORING MODEL

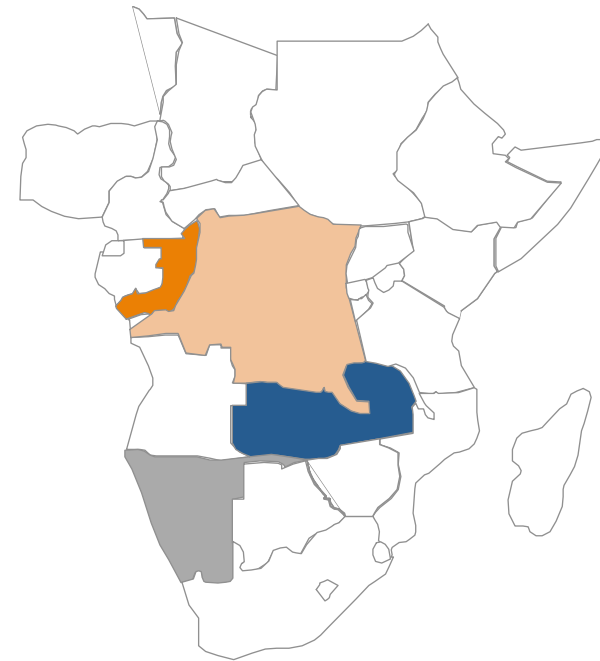
The **results of the scoring model** of the new markets in Africa are presented below, as well as the African countries data analysis in the following slides. This scores resulted from a weighted average of eleven metrics that represent the main drivers of success in a new lubricant market.

1° **Zambia** 2.85

2° **Congo** 2.57

3° **DR Congo** 2.50

4° **Namibia** 2.36



See Appendix 1.1 & 3.2

Scale: 1: lowest potential; 5: highest potential

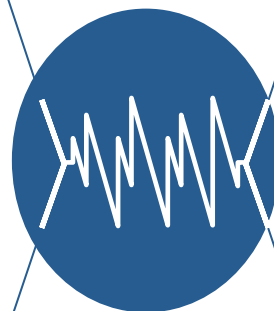
90% OF ZAMBIA PETROLEUM PRODUCTS ARE IMPORTED AND IT IS A VERY DYNAMIC MARKET IN TERMS OF PLAYERS, BUT SOME CHALLENGES SHOULD BE ADDRESSED

MAIN CONCLUSIONS

OPPORTUNITIES

- **Lubricant Demand** has been increasing at **2.4%** since 2009
- One refinery and one blending plant: **90% of petroleum products are imported**
- Lubricant **imports increased 32.6% annually** from 2009 to 2013
- **Very dynamic market:** many big acquisitions in the last years
- Main industry is **mining** which is one of the most lubricant consuming industries in the world

Zambia



CHALLENGES

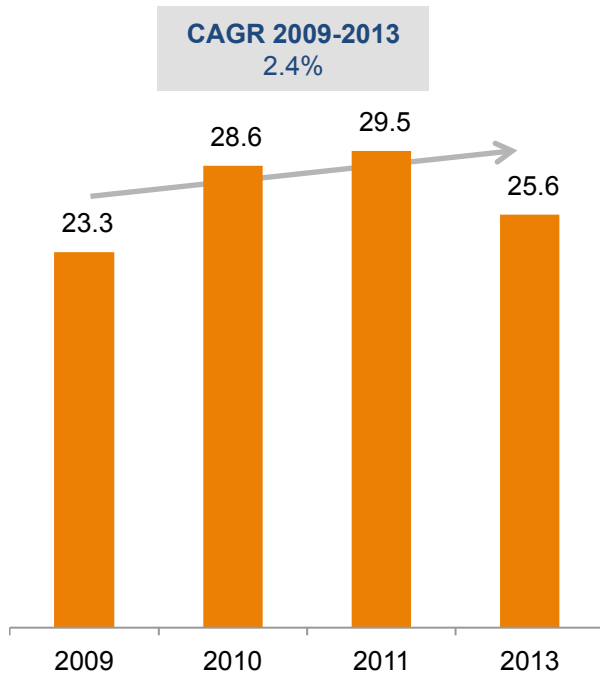
- In 2013, consumption represented **56.9%** of Galp's **excess capacity**
- **High market concentration** (C2= 65.8%)
- The **market is plagued with thousand of unlicensed operators** selling imported lubricants
- **TOTAL** has **supply agreements** with **most mines** may be a barrier to entry in the industry lubricant segment
- **Government controls** the licensing of petroleum products' **imports**
- Retail consumers are predominantly concerned with prices

LUBRICANT CONSUMPTION INCREASED 2.4% ANNUALLY SINCE 2009, HOWEVER ILLEGAL TRADERS MEET 30% OF THE RETAIL AND SMALL COMMERCIAL DEMAND

MARKET DEMAND & SUPPLY

ZAMBIA LUBRICANT CONSUMPTION¹

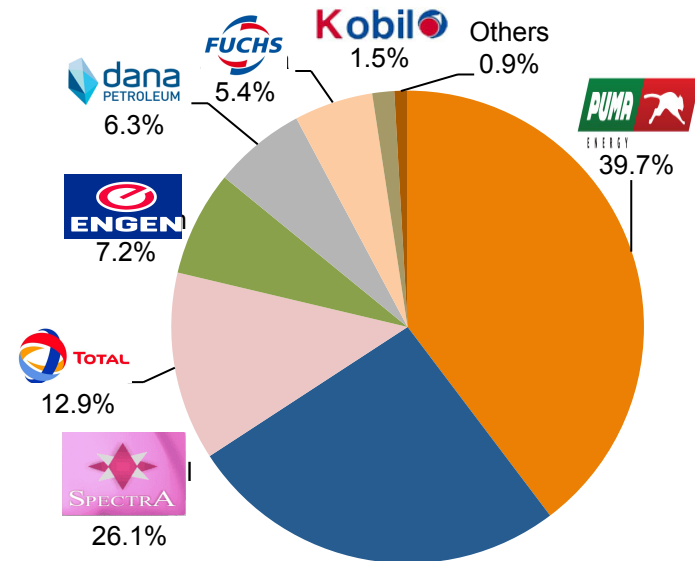
[2009-2013; THOUSAND TONS]



30% of retail and small commercial consumers' demand is met by illegal traders²

INDUSTRY PLAYERS MARKET SHARES¹

[2013; %] 100% = 25.6 THOUSAND TONS



High market concentration: C2= 65.8%
Only 1 Blending Plant in the market

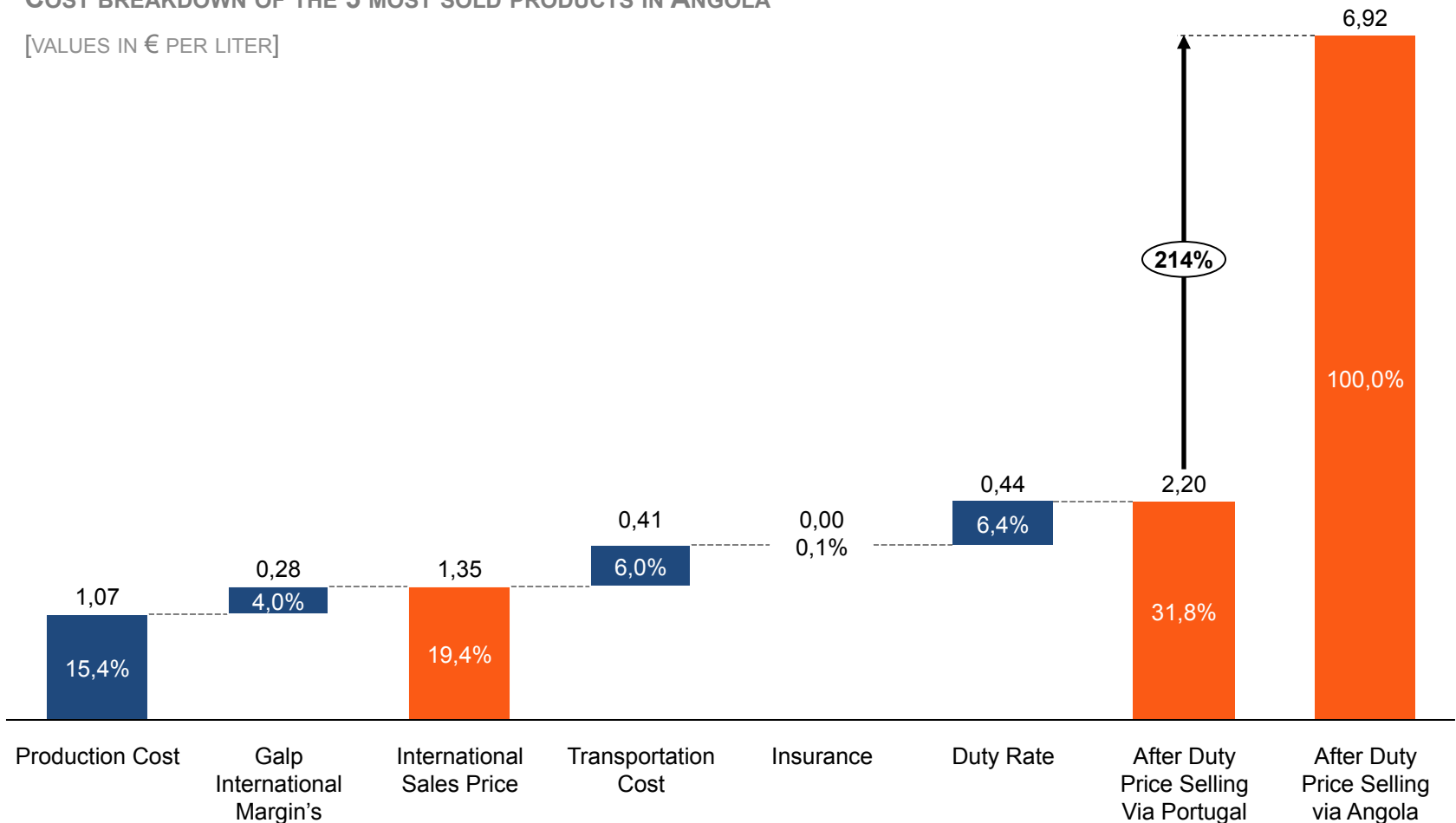
EXPORTING TO ZAMBIA THROUGH ANGOLA INSTEAD OF PORTUGAL INCREASES THE SELLING PRICE 3.14 TIMES, WHICH MAKES GALP LOSE COMPETITIVENESS

SELLING TO ZAMBIA DIRECTLY FROM PORTUGAL

ZM Cost Breakdown

COST BREAKDOWN OF THE 5 MOST SOLD PRODUCTS IN ANGOLA¹

[VALUES IN € PER LITER]



See Appendix 1.2 & 2 - ZM

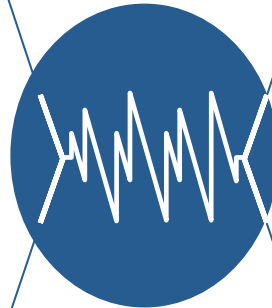
CONGO LUBRICANT DEMAND AND IMPORTS HAVE INCREASED AT HIGH RATES, HOWEVER THE MARKET IS SMALL AND DOMINATED BY A SMALL NUMBER OF PLAYERS

MAIN CONCLUSIONS

OPPORTUNITIES

- **Lubricant demand increased 8.4%** since 2010
- **Industry** represents **64.6% of the GDP** in 2013
- **Imports** represent a **large share of consumption**
- **Lubricant supply increased by 3.4%** since 2009
- Congo is one of the **5 main oil producers** in Sub Saharan Africa
- **E&P** of oil is done through **production joint ventures** between the national entities and players
- **Imports** of Lubricant **have increased 42%** since 2009

Congo



CHALLENGES

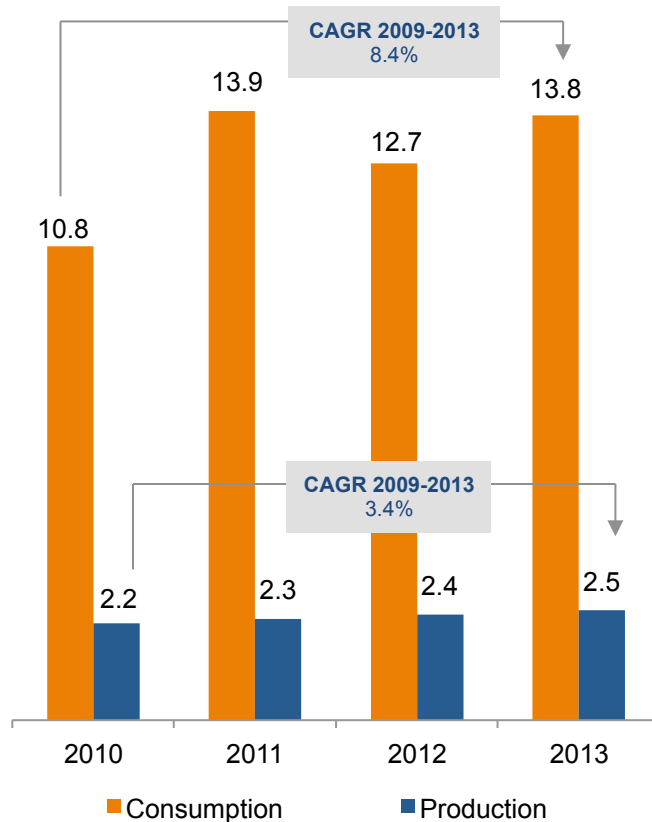
- Congo **consumption** in 2013 represents **30.7% of Galp's excess**
- There is **1 vehicle per 498** people in **Congo**
- **Total and Eni** are the two main oil producers holding **75% of the oil production**
- **Commercialization** of oil products is concentrated in 3 groups: **1) Total/Fina/Elf; 2) Chevron/Texaco; 3) Puma Energy/X-Oil (PEX)**
- **SCLOG** is responsible for the **storage and transport** of oil products in Congo
 - Held by **Total, Chevron-Texaco, Puma Energy/X-Oil (PEX) and SNPC**
- **France and Italy** are the biggest source of Congo lubricant **imports**

LUBRICANTS' CONSUMPTION WAS 13.8 THOUSAND TONS IN 2013 AND A SIGNIFICANT PART WAS IMPORTED. INDUSTRIAL LUBRICANTS APPEAR TO BE THE MAIN SEGMENT

MARKET DEMAND & SUPPLY

CONGO LUBRICANT DEMAND & SUPPLY¹

[2010-2013; THOUSAND TONS]



MAJOR PLAYERS²

- ▭ Congo has only **1 refinery** and **1 blending plant** in **Pointe Noire** which is held by the state-owned company **CORAF**
- ▭ Commercialization of oil products are held by:
 - ▭ **Total/Fina/Elf**
 - ▭ **Chevron/Texaco**
 - ▭ **Puma Energy/X-Oil (PEX)**

- ▭ Industry represented **64.6% of the GDP** in 2013³
- ▭ **Several projects** in the **mining sector** and to develop national infrastructures are being conducted which **might boost lubricant consumption**⁴

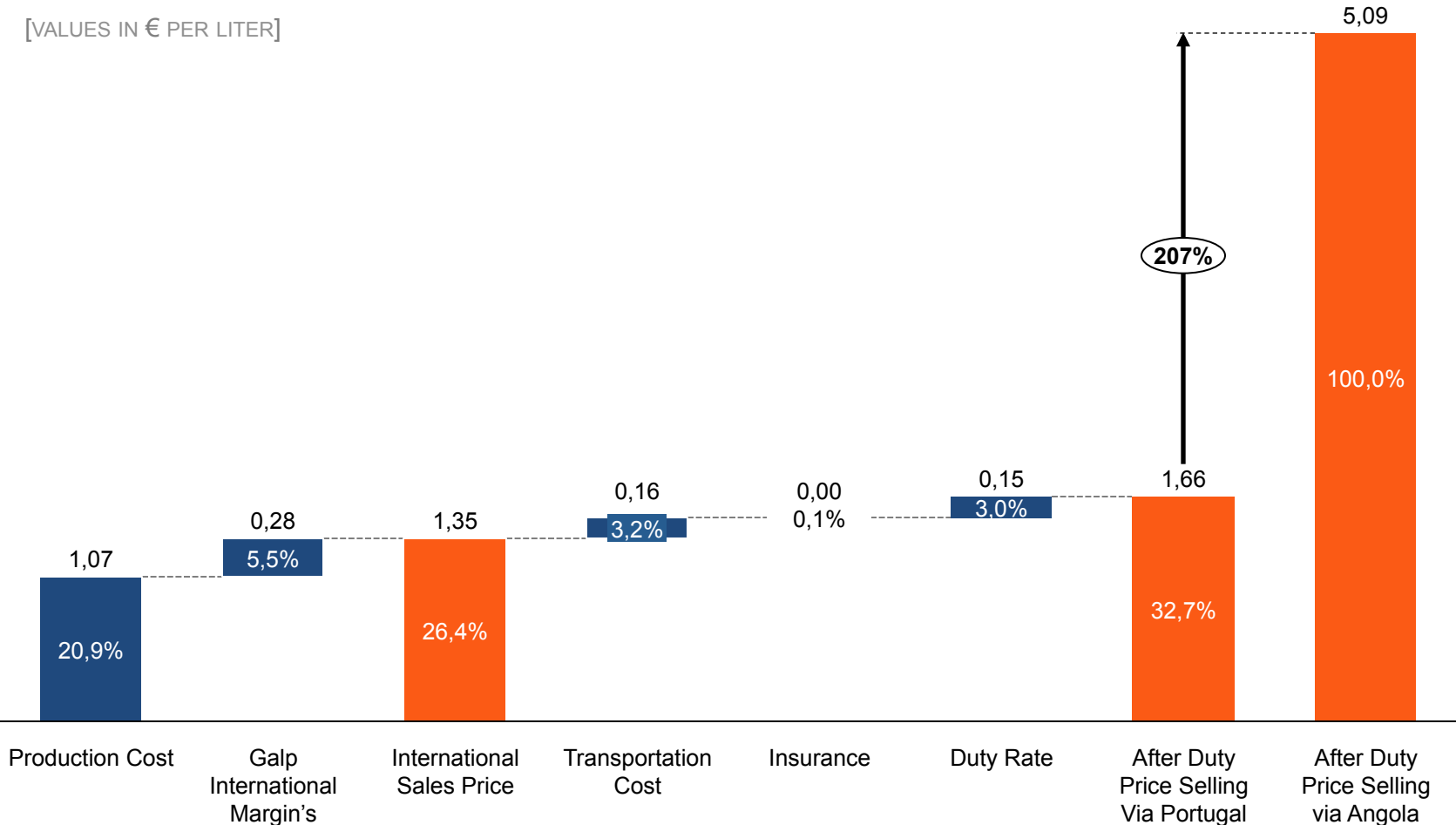
EXPORTING TO CONGO THROUGH ANGOLA INSTEAD OF PORTUGAL INCREASES THE SELLING PRICE 3.07 TIMES, WHICH MAKES GALP LOSE COMPETITIVENESS

SELLING TO CONGO DIRECTLY FROM PORTUGAL

CG Cost Breakdown

COST BREAKDOWN OF THE 5 MOST SOLD PRODUCTS IN ANGOLA¹

[VALUES IN € PER LITER]



See Appendix 1.2 & 2 - CG

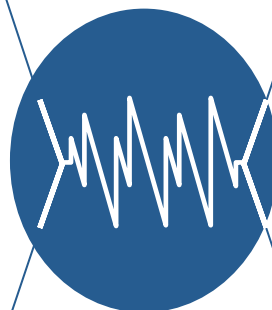
DR CONGO PETROLEUM PRODUCTS ARE 100% IMPORTED, HOWEVER ITS PRICES ARE CONTROLLED BY THE GOVERNMENT

MAIN CONCLUSIONS

OPPORTUNITIES

- **Lubricant demand** has been increasing at **3.8%** since 2009
- In 2013, consumption represented **11.9%** of Galp **excess capacity**
- No refineries or blending plants: **100% of petroleum products are imported**
- Lubricant **imports increased 121.1% annually** from 2009 to 2013
- DR Congo **imports** mainly from **Tanzania, Belgium and South Africa**
- The main industry is **mining** which is one of the most lubricant consuming industries in the world

DR Congo



CHALLENGES

- DR Congo **scores poorly in the ease of doing business**: regulatory environment is not conducive to start an operation
- **Automotive** segment appears to have **small share** of the lubricant consumption (average of 1 vehicle per 137 persons)
- **Government controls** the petroleum products' **prices**

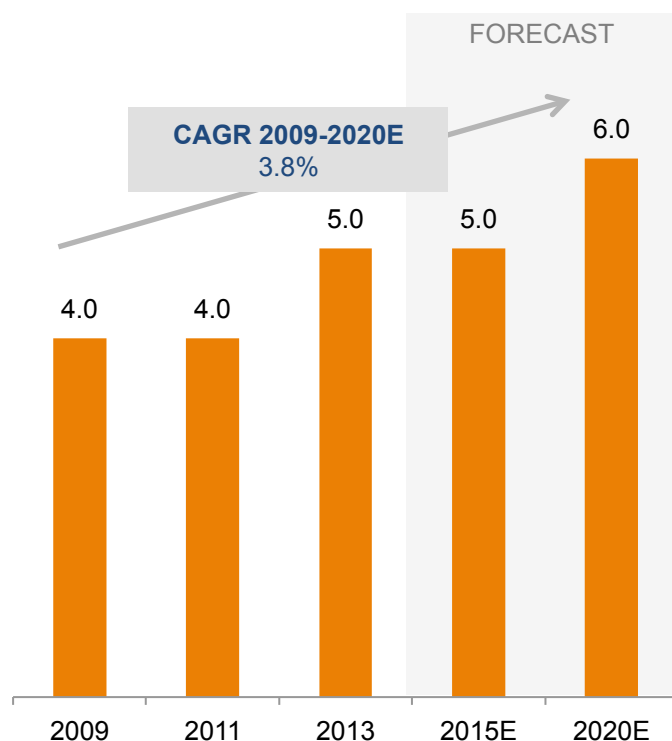
LUBRICANT CONSUMPTION IS EXPECTED TO REACH 6.0 THOUSAND TONS IN 2020. GOVERNMENT HAS A TIGHT CONTROL OVER THE PETROLEUM INDUSTRY

MARKET DEMAND & SUPPLY

CD Demand and Supply

DR CONGO LUBRICANT CONSUMPTION¹

[2009-2020E; THOUSAND TONS]



DISTRIBUTION AND RETAILING OF LUBRICANTS

- Solely carried out by the companies in the **Groupement Professionnel des Distributeurs des Produits Pétroliers (GDPPP)**: TOTAL, ENGEN, Cobil, FINALog, SOFICO

GOVERNMENT ROLE²:

- **Controls** the petroleum products' prices
- **Give approval** to the **companies** that want to operate in the **petroleum sector**

There are no blending plants in the country so **all lubricants are imported**

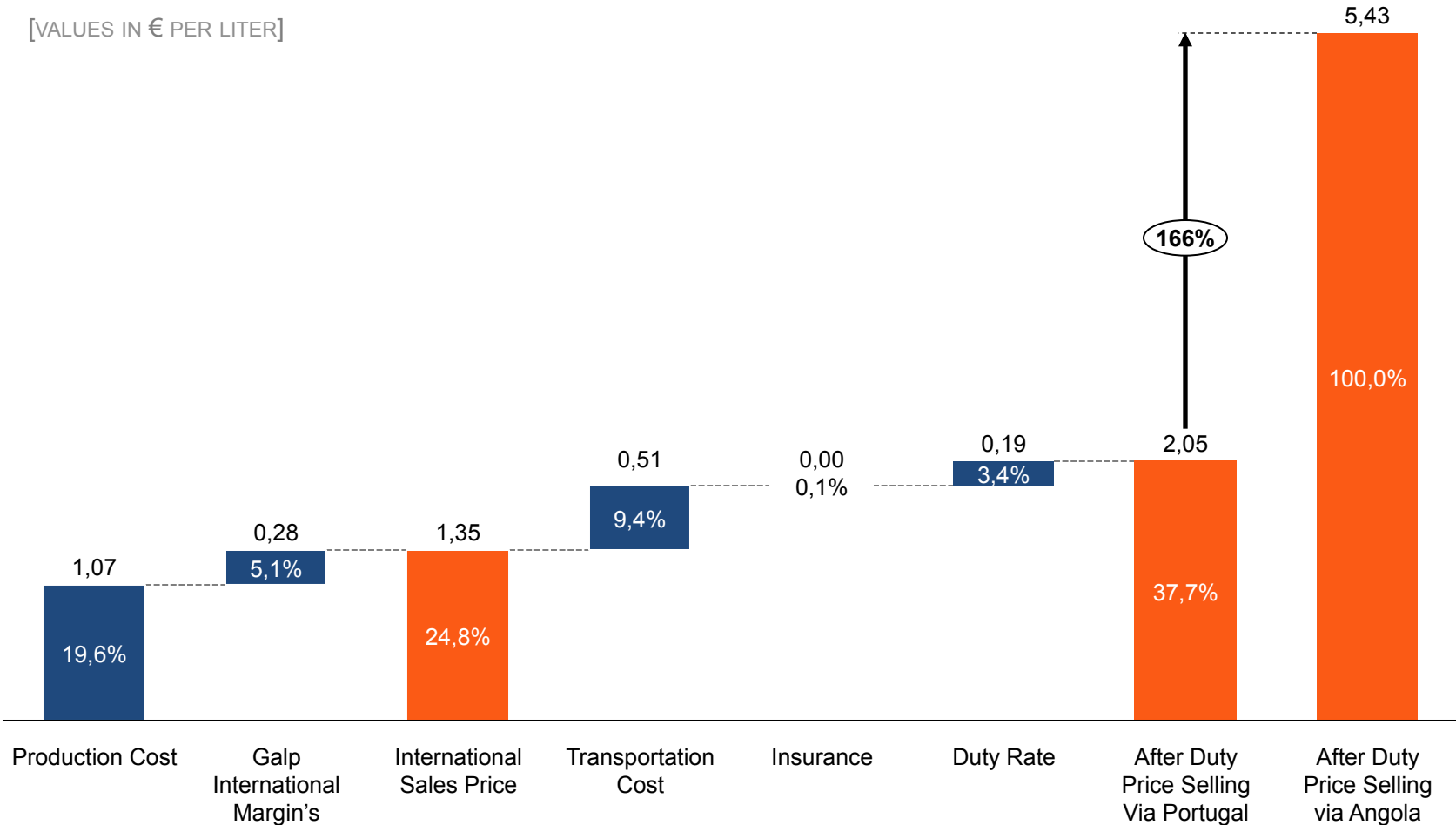
EXPORTING TO DR CONGO THROUGH ANGOLA INSTEAD OF PORTUGAL INCREASES THE SELLING PRICE 2.66 TIMES, WHICH MAKES GALP LOSE COMPETITIVENESS

SELLING TO DR CONGO DIRECTLY FROM PORTUGAL

CD Cost Breakdown

COST BREAKDOWN OF THE 5 MOST SOLD PRODUCTS IN ANGOLA¹

[VALUES IN € PER LITER]



See Appendix 1.2 & 2 - CD

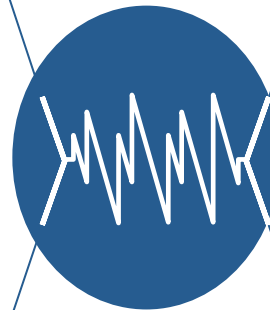
LUBRICANT DEMAND IS EXPECTED TO GROW 4%, HOWEVER THE COMMERCIALIZATION OF LUBRICANTS IS CONCENTRATED AROUND THE TOP PLAYERS

MAIN CONCLUSIONS

OPPORTUNITIES

- **Lubricant demand** was forecasted to grow at **4.0% yearly** until 2020
- **Consumption of lubricants** is mainly concentrated in **the mining, marine and fishing** sectors
- Galp's products are certified by **Toyota & Volkswagen** which are the passenger vehicle market leaders
- There are **no refineries** in Namibia
- **Lubricant imports** increased by **154.0%** since 2009

Namibia



CHALLENGES

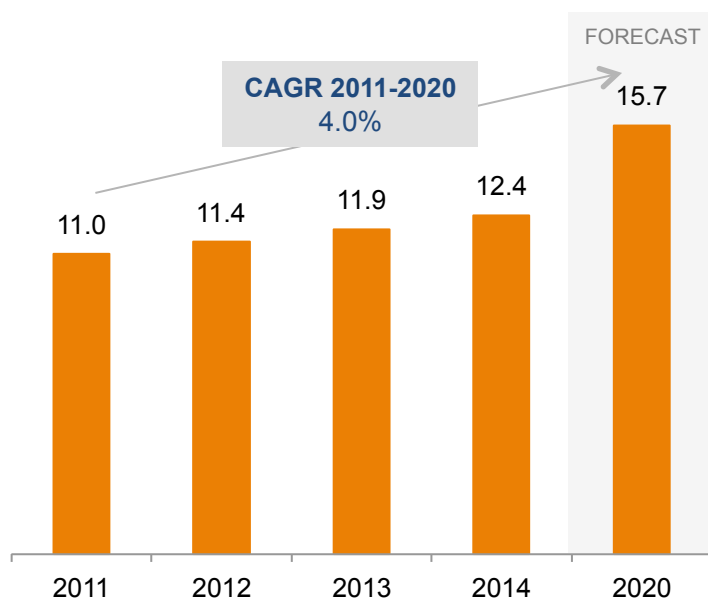
- Namibian **consumption** in 2011 represents **26.4%** of **Galp's excess capacity**
- Mining industry represents only **12.3%** of the **GDP** in 2013
- **Distribution and commercialization** of lubricants is held **by the top 5 players**
- High market concentration **C2= 54.0%**
- **NAMCOR introduced its own lubricant brand** together with the South African petrochemical company **Sasol Oil (2011)**

NAMIBIA LUBRICANT CONSUMPTION IN 2011 WAS 11,000 TONS AND IT WAS FORECASTED TO GROW AT 4.0% UNTIL 2020

MARKET DEMAND & SUPPLY

NAMIBIA LUBRICANT CONSUMPTION¹

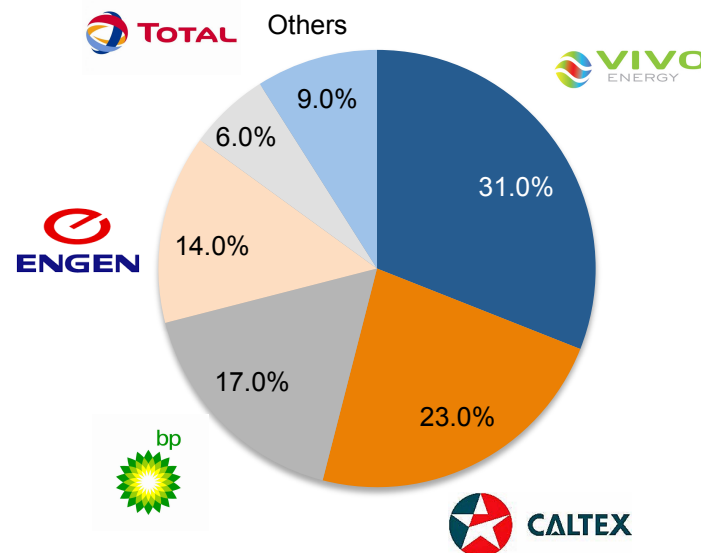
[2011-2020E; IN THOUSAND TONS]



The consumption of lubricants is mainly concentrated in the mining, marine and fishing sectors

PLAYERS MARKET SHARE²

[2012; %]



66.0% of the lubricant imports come from South Africa

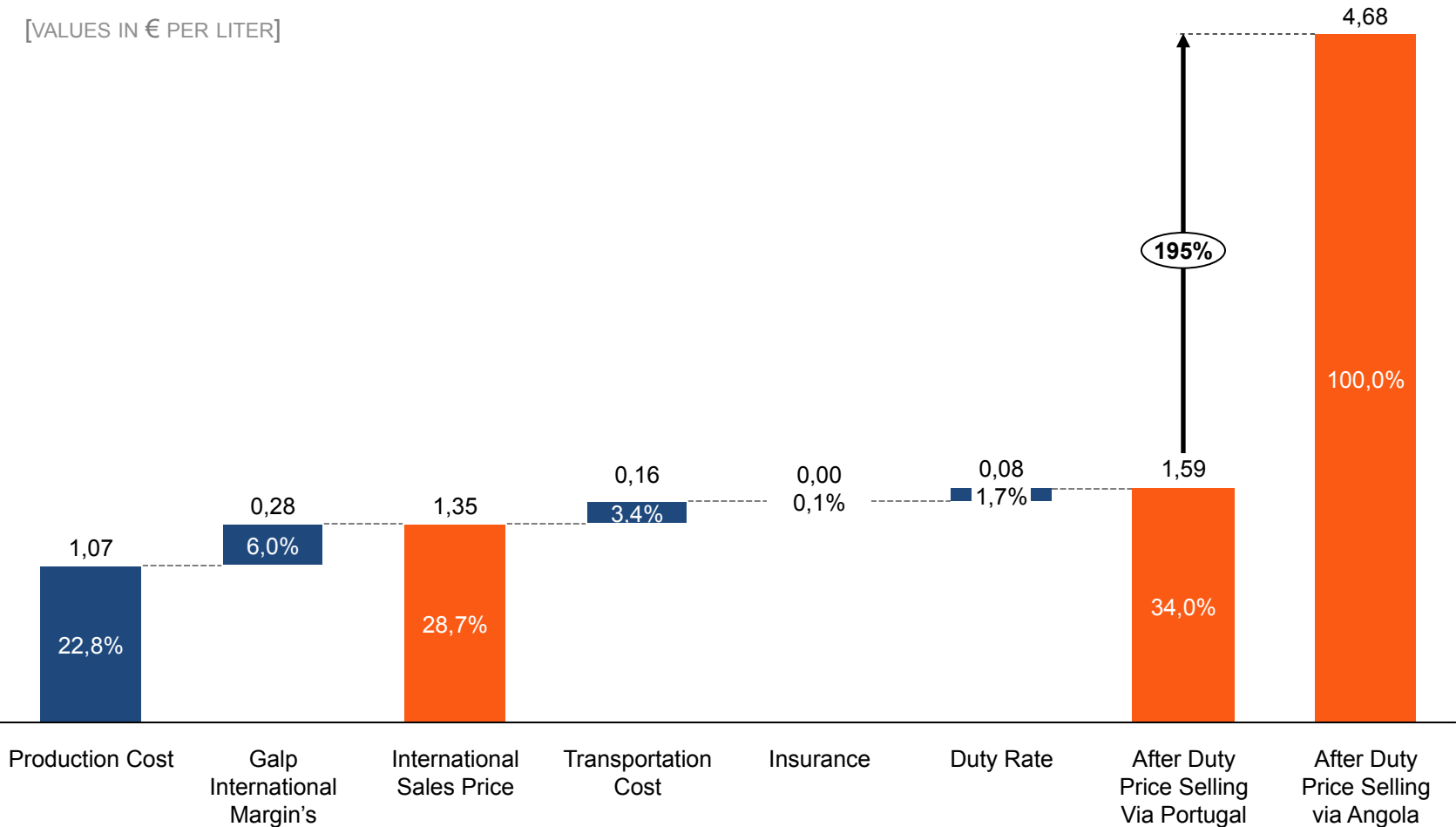
EXPORTING TO NAMIBIA THROUGH ANGOLA INSTEAD OF PORTUGAL INCREASES THE SELLING PRICE 2.95 TIMES, WHICH MAKES GALP LOSE COMPETITIVENESS

SELLING TO NAMIBIA DIRECTLY FROM PORTUGAL

NA Cost Breakdown

COST BREAKDOWN OF THE 5 MOST SOLD PRODUCTS IN ANGOLA¹

[VALUES IN € PER LITER]



See Appendix 1.2 & 2 - NA

Source: ¹Galp Exports Division Internal Documents, 2014

MOZAMBIQUE IS A MARKET WHERE GALP CAN TAKE ADVANTAGE OF ITS ESTABLISHED PRESENCE, HOWEVER SOME CHALLENGES SHOULD BE TAKEN INTO ACCOUNT

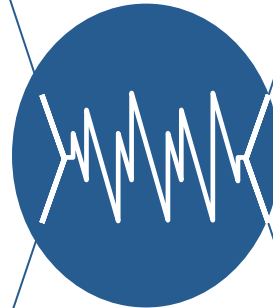
MAIN CONCLUSIONS

CHALLENGES

OPPORTUNITIES

- Lubricant **consumption** is expected to **increase 2.8%** annually until 2019
- Galp is already present in Mozambique:
 - It has its own distribution channels (**service stations**)
 - 13%-15% **of market share** on lubricants
 - Galp **sales force**: 6 people¹
- Mozambique **imports all lubricant oil**
- **Construction industry** is using Galp's premium products on machinery¹

Mozambique*



- Total consumption represented **26.1% of Galp excess capacity** in 2013
- “Black Market” for the lubricant products
- There is **1 vehicle per 50 people**
- All the major players are present in the market¹
- The market is highly concentrated (C2=79%)
- Lubricant “**portfolios**” are **reduced** (few product range)¹
- **80 days** until Galp products reach Mozambique (stock management is critical)¹
- Galp has been losing sales for Total due to the **lack of competitiveness**¹

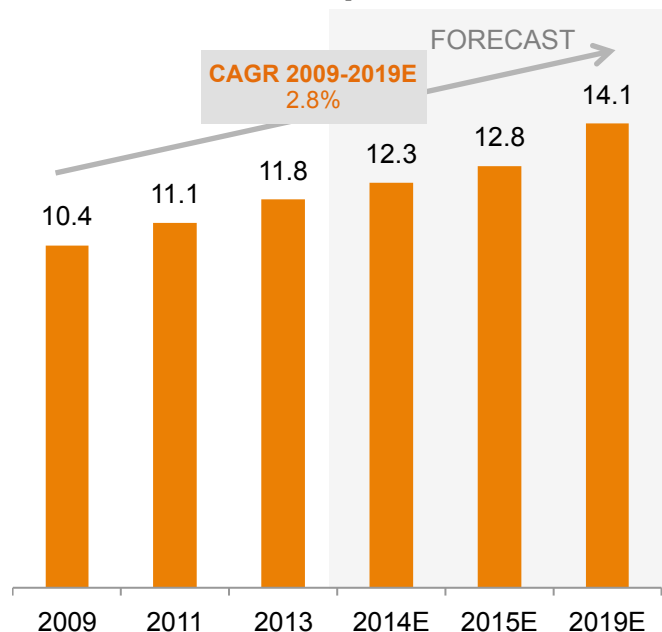
*Galp lubricant export department is already present in Mozambique, however the client specially requested data analysis for this country

IN 2013, MOZAMBIQUE'S LUBRICANT CONSUMPTION WAS OF 11,800 TONS, BEING ALL IMPORTED, AND THE MAIN PLAYER WAS PETROMOC

MARKET DEMAND & SUPPLY

MOZAMBIQUE LUBRICANT CONSUMPTION¹

[2009-2019E; THOUSAND TONS]

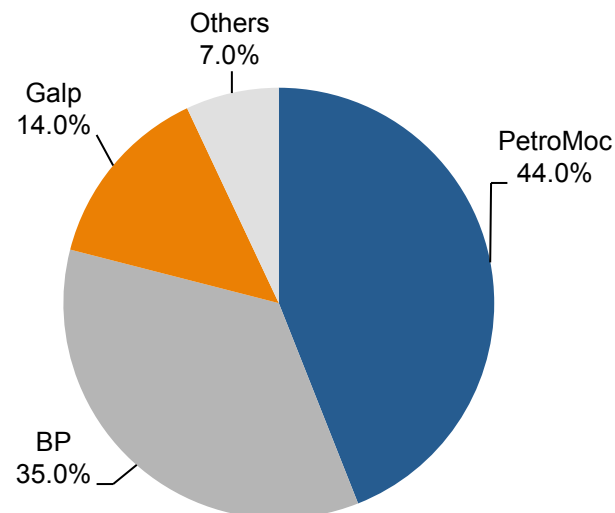


BLACK MARKET¹

- **Problem:** It is not possible to measure all the consumption since there are sellers on "every corner"

LUBRICANT PLAYERS MARKET SHARES^{1;2}

[2013; %] 100% = 11.8 THOUSAND TONS



REFINERIES AND BLENDING PLANTS

- **Refineries³:** Zero
- **Blending plants⁴:** one projected (PetroMoc + Hyrax Oil Sdn Bhd)

AGENDA

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5 Data Analysis

RV

5.1 Scoring Model

TC

5.2 Market Assessment - Country profile, Demand & Supply and Cost Breakdown

A China

B Thailand

C Indonesia

D Taiwan

E Zambia

F Congo

G DR Congo

H Namibia

I Mozambique

DA

5.3 Profit & Loss Analysis - Export to China

CO

5.4 Entry Mode

RF

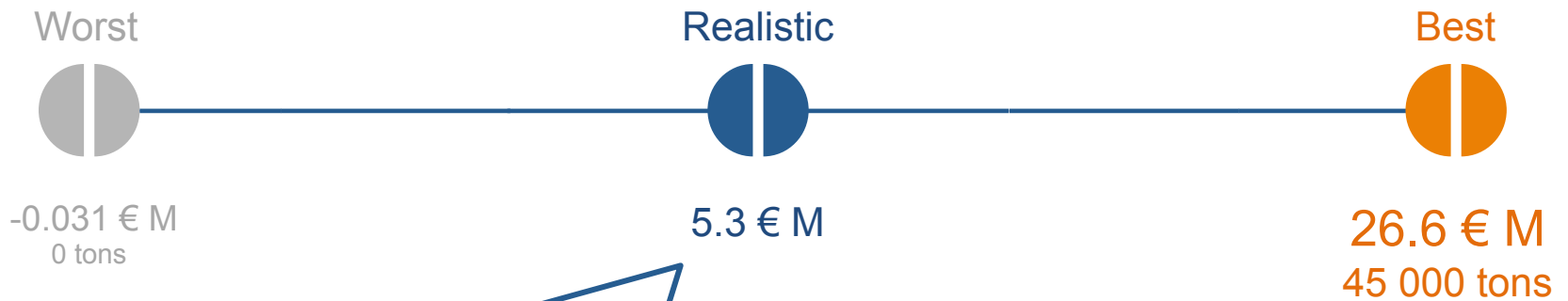
AP


IN ORDER TO QUANTIFY THE POTENTIAL PROFIT THAT GALP COULD HAVE IN CHINA, THE GROUP PERFORMED A SCENARIO ANALYSIS BASED ON A SET OF ASSUMPTIONS

PROFIT & LOSS ANALYSIS - EXPORT TO CHINA


5 Data Analysis

In these scenarios, Galp sells to big and small distributors.







Quantities: **9,000 tons**




Market targeted: **0.086%**



Profit: 5.3 € M
Profit Margin: **0.59 € per kilo**



Revenues: 22.93 € M



Costs:

- Concession costs: **17.0 € M**
- Administrative costs: 0.46 € M
- Translator: 0.013 € M
- Commercial fluent Mandarin: 0.088 € M
- 3 Initial trips to China: 0.018 € M
- 3 Trips to China: 0.018 € M

See Appendix 1.2 & 4

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5 Data Analysis

RV

5.1 Scoring Model

TC

5.2 Market Assessment - Country profile, Demand & Supply and Cost Breakdown

PM

A China

DA

B Thailand

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C Indonesia

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D Taiwan

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E Zambia

F Congo

G DR Congo

H Namibia

I Mozambique

5.3 Profit & Loss Analysis - Export to China

5.4 Entry Mode

IN ORDER TO IDENTIFY THE MOST PROMISING WAY TO ENTER CHINA, AN ENTRY STRATEGY FRAMEWORK WAS BUILT USING 8 COMPARABLE PARAMETERS

5 Data Analysis

ENTRY MODE

PARAMETER	Production				Distribution or Retail				Industry & OEM
	Joint Venture	New Equity	Acquisition	Licensing	Joint Venture	New Equity	Acquisition	Direct Sales	Direct Sales
Spare capacity usage									
Margin capture									
Investment needed									
Easiness to find partnerships									
Independence from third party									
Market know-how of partner									
Control over activities (brand usage, services, ...)									
Brand dependence									

Better

Worst

The most promising strategies are the ones involving **direct sales**

See Appendix 1.3 & 5

AGENDA

ES

6 **Contacts (CO)**

RV

6.1 **Contacts Overview**

TC

6.2 **Mr. Ye's Company Profile**

PM

6.3 **Galp Taiwanese Distributor's Company Profile**

DA

CO

RF

AP

DURING THE PROJECT THE GROUP CONTACTED SEVERAL ENTITIES IN ORDER TO EXPLORE POSSIBLE PARTNERSHIPS OR GATHER INFORMATION ABOUT THE MARKETS

CONTACTS OVERVIEW

CONTACT	ACTION PLAN	STATUS
Chinese Language University students	- Contacts and insights in the lubricant oil industry	Contacted
AICEP/Câmara do Comércio	- Contacts in Shanghai Automobile fair - Contacts in oil industry	Contacted for information on tariffs
Prof. Qinglei Dai	- Contacts with possible partners - Possible visit to facilities - Insights on the oil industry	Conference call on 17 th October
Dawn Chan (Chinese Nova SBE Student)	- Contacts of retired professor in the China Petroleum University of Shanghai - Translation of documents	Worked 4 hours per week supporting project research
Chinese Embassy & Portuguese Embassy in Thailand	Contacted for information on tariffs	Contacted for information on tariffs
Taiwanese Distributor	Explore opportunities for Galp in China with this distributor	Conference call on 11 th November
Lubricant Industry Companies	Contacts with possible Chinese partners	Sent (Galp is waiting for answers)

THE CONFERENCE CALL WITH MR. YE CONG WAS PROMISING SINCE HE WAS INTERESTED IN ACQUIRING GALP'S BASE OIL EXCESS CAPACITY

MR. YE CONG'S COMPANY PROFILE

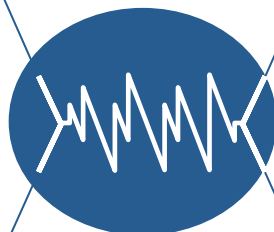
- **Main Activities:**
 - Lubricant production from recycled lubricants
 - Industrial lubricant supplier
- **Capacity:** 350.000 Tons per year (2 factories)
- **Sales:** 260 € M
- **Employees:** 500
- **Target:** unbranded industry and low/cheap car lubricant segment
- **Product:** White label lubricant

OPPORTUNITIES

- **Export base oils** - large demand
- Galp's lubricant excess capacity represents the consumption of **only one city**
- White label industrial lubricants

CHALLENGES

- Galp **production capacity** is small
- **Lack of information** about the company
- **Communication** in Chinese
- **Lack of Galp lubricants brand recognition**
- Partnership agreement



SOME OPPORTUNITIES AROSE FROM A CONFERENCE CALL WITH THE DISTRIBUTOR FROM TAIWAN, THAT IS PLANNING ITS EXPANSION TO CHINA

GALP'S TAIWANESE DISTRIBUTOR COMPANY PROFILE

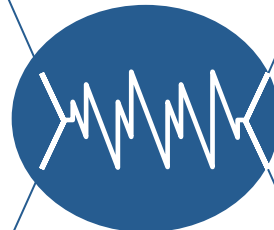
- **Main Activity:**
 - Automotive lubricant 1st line distributor
- **Products:**
 - Low segment: white label lubricant
 - High segment: includes Galp lubricants
- **Employees:** 10
- **Sales:** 30 containers per year (volume of 1.5 Million USD)
- **Goals:** Chinese market and South Pacific Asian market

OPPORTUNITIES

- **Local distributor**
- Plan to expand into China + South Pacific
- **Advertising** in magazines and participation in 3 fairs per year
- Point of difference: Galp being **100% imported** (no falsification)

CHALLENGES

- **Lack of Galp's brand awareness**
- Galp's **price is high**
- Distributor does not sell industrial lubricants
- They have been advertising Galp by themselves
- **Budget** requirement
- Partnership agreement



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References

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8 Appendix (AP)

RV

1 Individual Reports (IR)

TC

2 Country Assessment (CA)

PM

3 Scoring Model (SM)

DA

4 Profit & Loss Analysis - Export to China (PL)

CO

5 Entry Mode (EM)

RF

6 Contacts (CO)

AP