

# THINK

**GUARANTEES OF ORIGIN – SALES STRATEGY**

September 2022



# INVESTIGATING THE MARKET FOR GUARANTEES OF ORIGIN

## Introduction

### Aim / Structure of the Study

This Study was developed by Think RE GmbH for investigating the Guarantees of Origin (GoO) market in Greece. Therefore, the document is divided into four chapters without registers and appendix.

Chap. 1 summarizes the results of the study in terms of the main price drivers, provides a brief overview of the current indicative prices in selected analyzed countries, and highlights strategic implications for the sale of Guarantees of Origin.

Chap. 2 discusses regulatory trends in the market for Guarantees of Origin. This chapter provides an overview of the most important regulatory market developments and briefly discusses future development opportunities.

Chap. 3 analyzes the general price drivers for Guarantees of Origin. In particular, environmental influences, RE technology and regulatory conditions in a market are identified as the main price drivers.

Chap. 4 covers the market for Guarantees of Origin in Greece in detail. The process of issuance, transfer and cancellation of GoOs is covered. Where the information is available, an overview of transaction volumes and prices is provided. Possible sales channels are identified.

# INVESTIGATING THE MARKET FOR GUARANTEES OF ORIGIN

## Introduction

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# INVESTIGATING THE MARKET FOR GUARANTEES OF ORIGIN

## Agenda

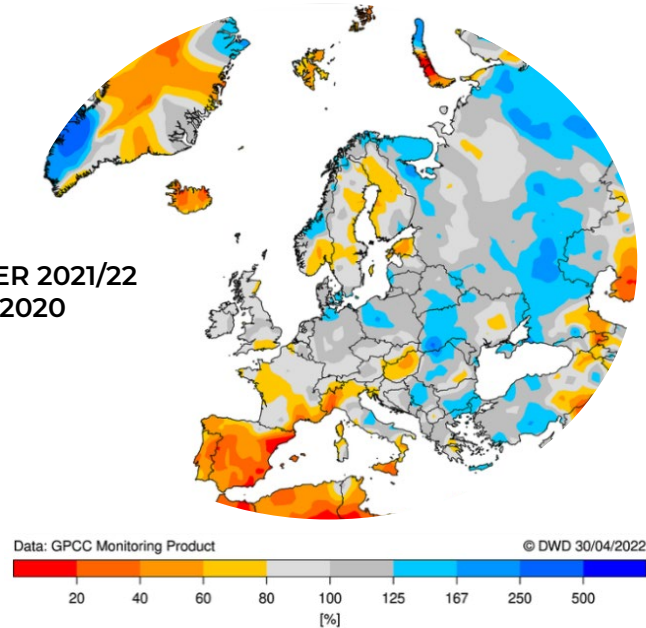
- 1** Management Summary and Strategic Implications Page 05
  - 2** Regulatory Tendencies Page 09
  - 3** General Price Drivers Page 20
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### 3. GENERAL PRICE DRIVERS

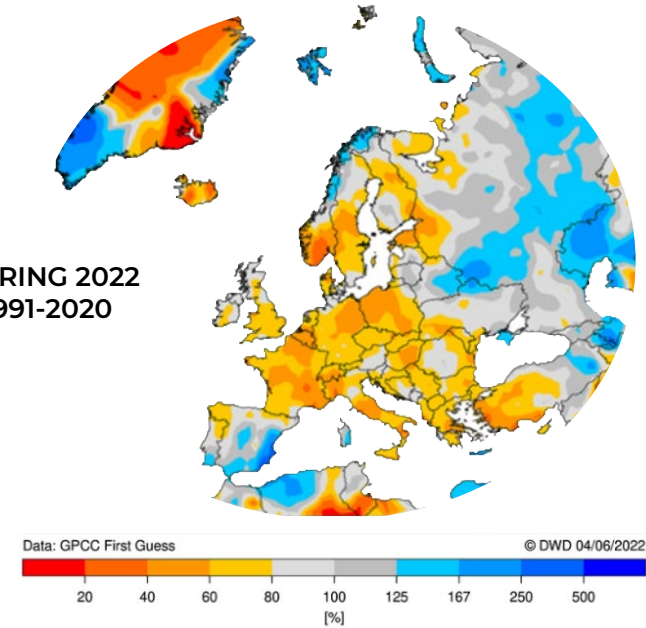
#### Environmental Influences

#### Increasing drought in Europe & Change in the main Wind Direction (1/2)

PRECIPITATION WINTER 2021/22  
PERCENTAGE OF 1991-2020  
AVERAGE



PRECIPITATION SPRING 2022  
PERCENTAGE OF 1991-2020  
AVERAGE



- Due to the high share of Hydro GoOs in the total supply, drought and reservoir water levels significantly reduce the supply of GoOs in Europe.
- The IPCC has identified water scarcity as one of the main risks for Europe as a result of climate change and has concluded that climate change is very likely to affect power generation. Mediterranean countries such as Greece, Spain and Portugal will be particularly affected, with hydropower potential projected to decline by around 10% with 2°C warming.

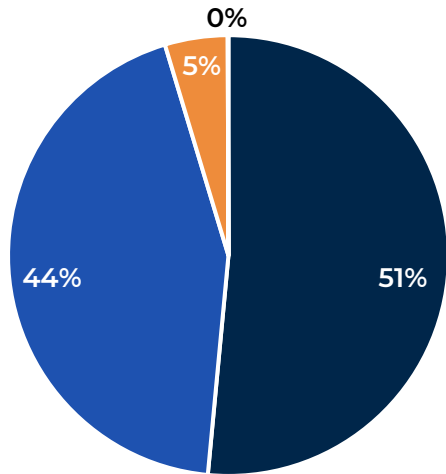
## 4. COUNTRY-SPECIFIC ANALYSIS

### Greece

#### DAPEEP GoO Market – Statistics 2021

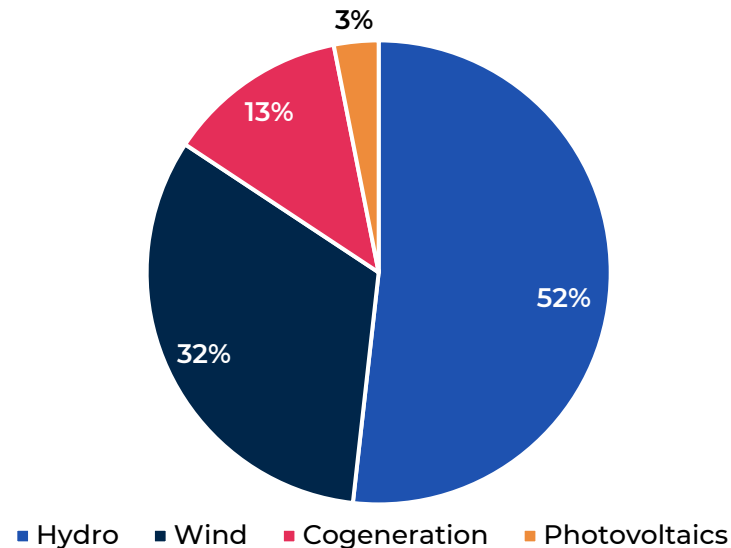
##### ISSUANCE

■ Wind ■ Hydro ■ Photovoltaics ■ Cogeneration



- The majority of the GoOs issued and cancelled in Greece in 2021 came from hydropower and wind power, respectively. Therefore, in the future, increasing periods of drought due to climate change will have a high impact on the quantity of GoOs offered in the country and thus on the price level.
- At the moment, there are no publicly available price signals on the Greek GoO market. According to a consultation with DAPEEP, the GoO price was around 1 EUR/MWh at the beginning of the year 2022, which is relatively low compared to other European markets.

##### CANCELLATION ON BEHALF OF END CONSUMERS



- However, a significant price increase is expected with an ongoing institutionalization of the GoO market and rising demand from buyers. Greece plans to introduce an auction platform for trading GoOs. The first auction is expected to take place in April 2023. On the platform, GoOs from subsidized RE producers will be sold on a mandatory basis. The revenues generated will be used to finance the subsidies. It is planned that RE producers who do not receive subsidies will also be allowed to participate voluntarily leading to an increased institutionalization and transparency of the market and a reduction in transaction costs from the seller's perspective.