

***Contribution to Agora Energiewende-SHURA  
Energy Transition Center Webinar:***

**Potential Impact of Border Carbon  
Adjustment on Turkish Industry**

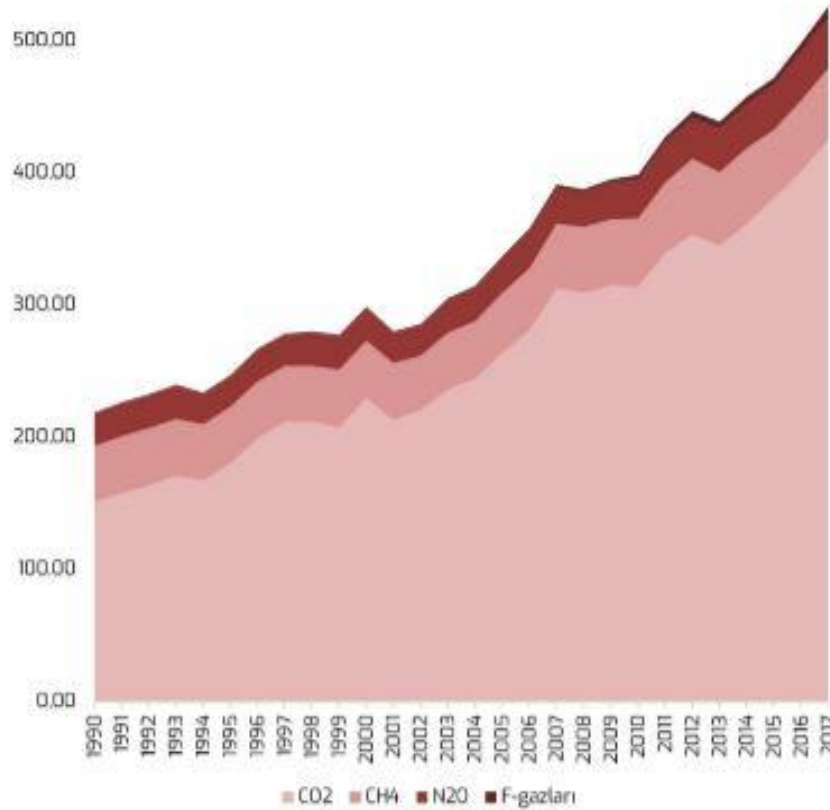
**Assoc. Prof. Cigdem Nas, Economic  
Development Foundation IKV**

**14.05.2020**

# **Present Situation with regard to Carbon Emissions**

- **Turkey's greenhouse gas emissions increased 135.4 % compared to 1990 levels in 2016**
- **Reached a total of 496.1 Mt CO<sub>2</sub>**
- **In 2017 it increased by 140.1 % to 526.4 Mt**
- **This increase is mostly attributed to**
- **Energy, transport, manufacturing and construction sectors**

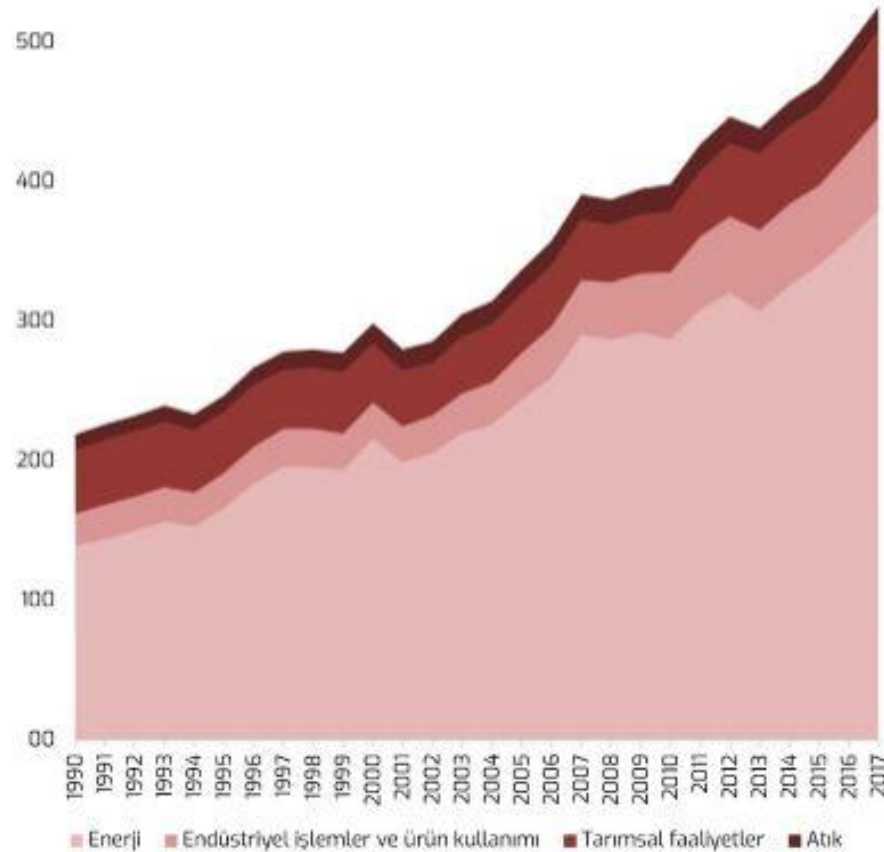
# Cumulative Greenhouse Gas Emissions 1990-2017



İklim Haber, 29.04.2019,

<https://www.iklimhaber.org/turkiye-seragazi-emisyon-istatistiklerinden-ne-anlamaliyiz/>

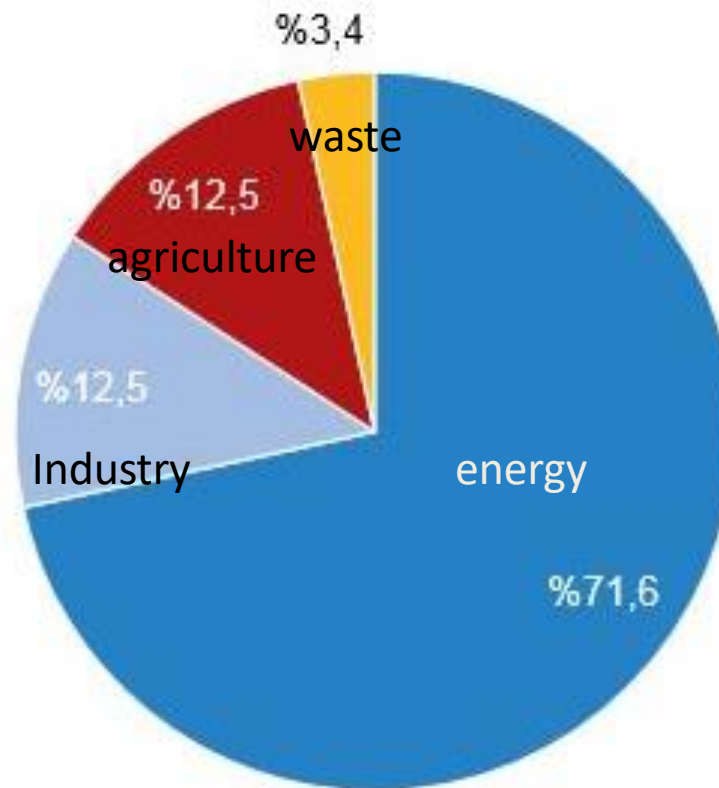
# Sectoral Breakdown of Greenhouse Gas Emissions 1990-2017



İklim Haber, 29.04.2019,

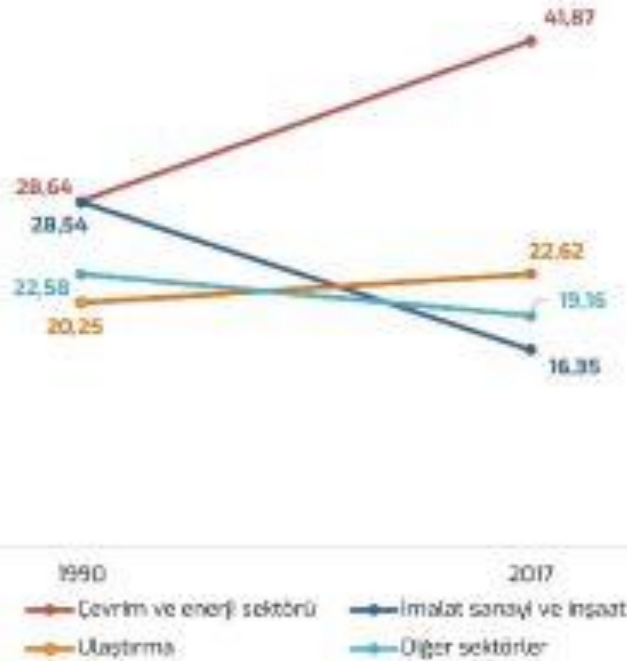
<https://www.iklimhaber.org/turkiye-seragazi-emisyon-istatistiklerinden-ne-anlamaliyiz/>

# Greenhouse gas emissions: Sectoral breakdown 2018

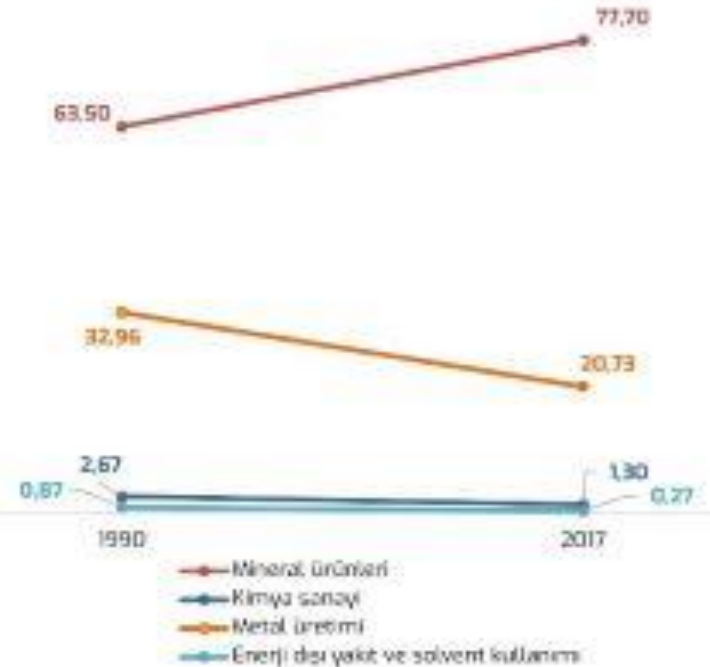


# CO2 Emissions by sub-sector

Yakıt Yanması Alt Sektörleri Kaynaklı CO2 Emisyonlarının Payındaki Değişim (%)



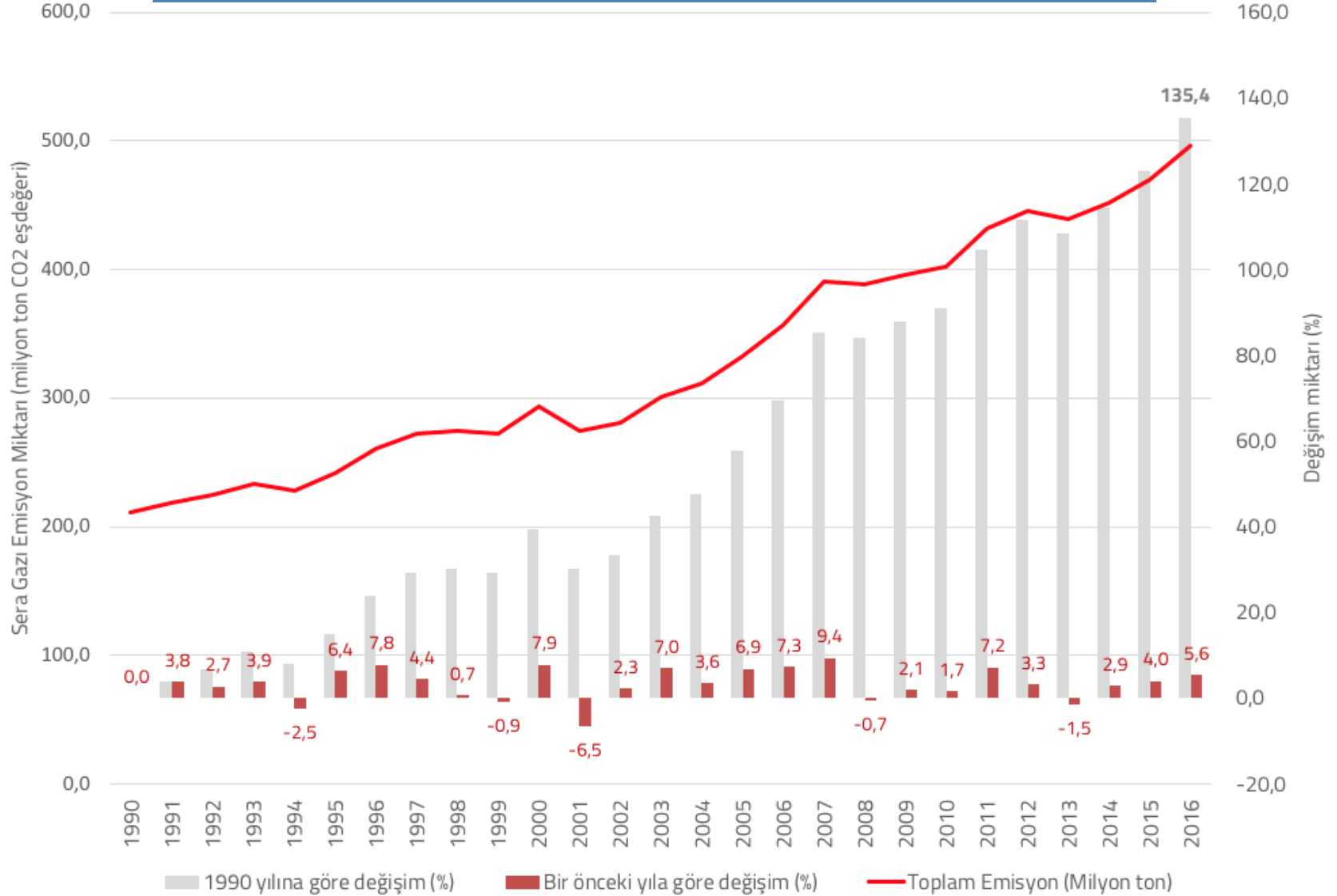
Endüstriyel İşlemler ve Ürün Kullanımı Alt Sektörleri Kaynaklı CO2 Emisyonlarının Payındaki Değişim (%)



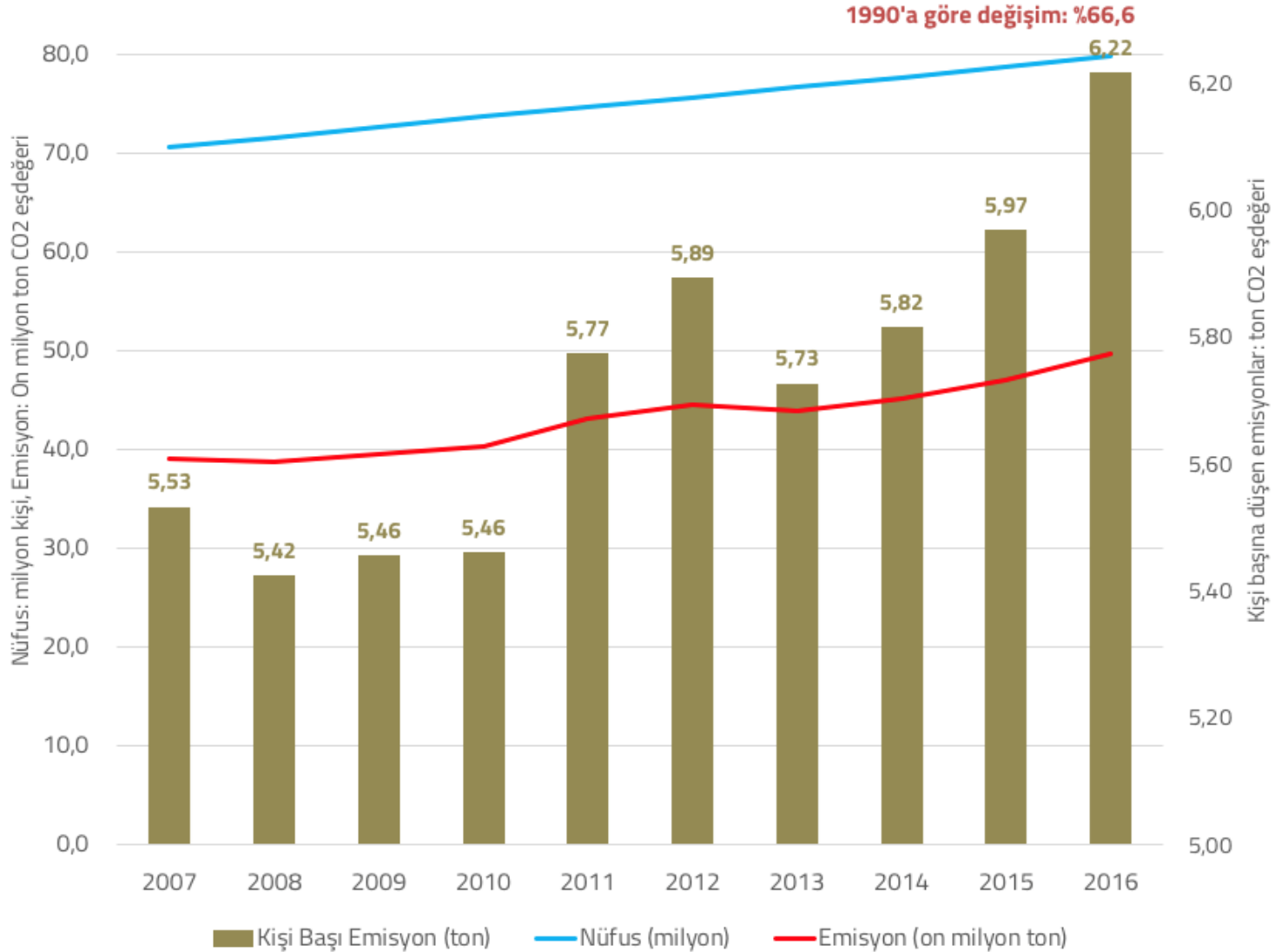
İklim Haber, 29.04.2019,

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# Turkey Greenhouse Gas Emissions 1990-2016



# Greenhouse Gas Emissions per Capita





# Electricity Use

- Consumption of electrical energy increased by 2.2.% in 2018 to 304.2 billion kWh and production increased by 2.2 % to 304.8 billion kWh
- Expected to increase to 375.8 TWh by a 4.8 % increase in 2023.
- *Composition of electricity production:*
- *37.3 % coal, 29.8 % natural gas, 19.8 % hydrolic energy, 6.6 % wind, 2.6 % solar, 2.5 % jeothermal, 1.4 % other sources*

# **“Climate Solutions: Turkey 2050 Vision”, Report by WWF**

- “Concurrent Growth of Low Emissions Technologies
- The rapid and parallel pursuit of the full range of technologies, such as wind, hydro, solar PV & thermal, and bio-energy is crucial, but within a set of environmental and social constraints to ensure their sustainability. By 2050, these technologies could meet 70% of the remaining demand after efficiencies have been applied, avoiding a further 10.2Gt carbon emission annually.”

# SITUATION OF MANUFACTURING INDUSTRY

- Need for a transition to a low-carbon economy
- Border carbon tax can accelerate this adjustment
- In the first instance transition to use of low-carbon natural gas from high-carbon coal as a transitory source of energy
- This transition can buy us time for a transition to more sustainable renewable sources of energy

# HIGH-CARBON MANUFACTURING PROCESS

- Manufacturing Industry in Turkey is a high-carbon one amid OECD economies.
- The ratio of greenhouse gas emissions to the resulting process is quite high.
- Reasons:
- Manufacturing industry is clustered around high carbon/high energy requirement sectors
- Cement, iron and steel, chemicals, aluminium, pulp, glass, metals....

- Relative delay in adopting new technologies, processes and know-how compared to more advanced countries.
- Low energy efficiency
- Unhealthy choice of primary energy sources

# INCENTIVES FOR A TRANSITION TO A LOW-CARBON INDUSTRY

- Incentives should be given in order to facilitate a transition to low carbon sectors:
- Tax advantages for green investments and transition to new green technologies
- Credits and loans with low interest rates
- Transfer of know-how from OECD/EU countries
- Joint ventures and partnerships
- Tax advantages in the import of capital equipment

# VIEWS FROM INDUSTRY

- “In December 2019 following the climate talks in Barcelona the EU took a step forward with the Green Deal. Talk of a carbon border tax started. Green deal is a threat on our doorstep at the moment. We are not aware of the details nor the effects. We do not know if it is going to be a tax for imports on the basis of country, company or sector.
- When the world economy is on the verge of a major crisis and unemployment is rising, we can be faced with such an additional barrier.
- This change is an opportunity for those producing green products or green systems.
- However we are not yet ready. What was once an advantage is turning into a disadvantage.
- This issue should be tackled and analyzed from a country perspective. It is not just a sectoral or company concern.
- European Green Deal will bring new requirements to companies exporting to the EU.
- It will be difficult for us to manage these added requirements”.