

# Helping our Customers

Thrive in a Global Economy

International Conference on E-Fuels

Date 24 May 2024

**Authentix**<sup>®</sup>  
The Authority in Authentication



## Currency



## Government



## Commercial Brand Protection

### Level 3 Security

- Actively used at **6 industry leading central banks** and across **27 denominations**

### High Speed Sensors

- Over **550 high speed sensors** are used by central banks for **authentication and note fitness**

### CDI2 Sensors

- World's **first CDI2 Camera Sensor/Fitness** solution
- Dual sided authentication detector

### National Fuel Integrity

- **12 active national** fuel integrity programs
- **150 billion liters** of fuel authenticated annually

### Tax Recovery

- Operating one of the three **largest global tax stamp programs (Pakistan)**
- **Over 5 billion** products are stamped annually
- **EU TPD ID Issuer** solution provider for **Greece and Cyprus**

### Pharmaceuticals

- Trusted by **6 of the leading global pharmaceutical companies**

### Spirits

- Trusted by one of the **largest global spirits brand owners**

### Beauty

- Trusted by **leading global consumer brands**

### Online Brand Protection

- Trusted by **over 200 global brands**

# AUTHENTIX VALUE PROPOSITION

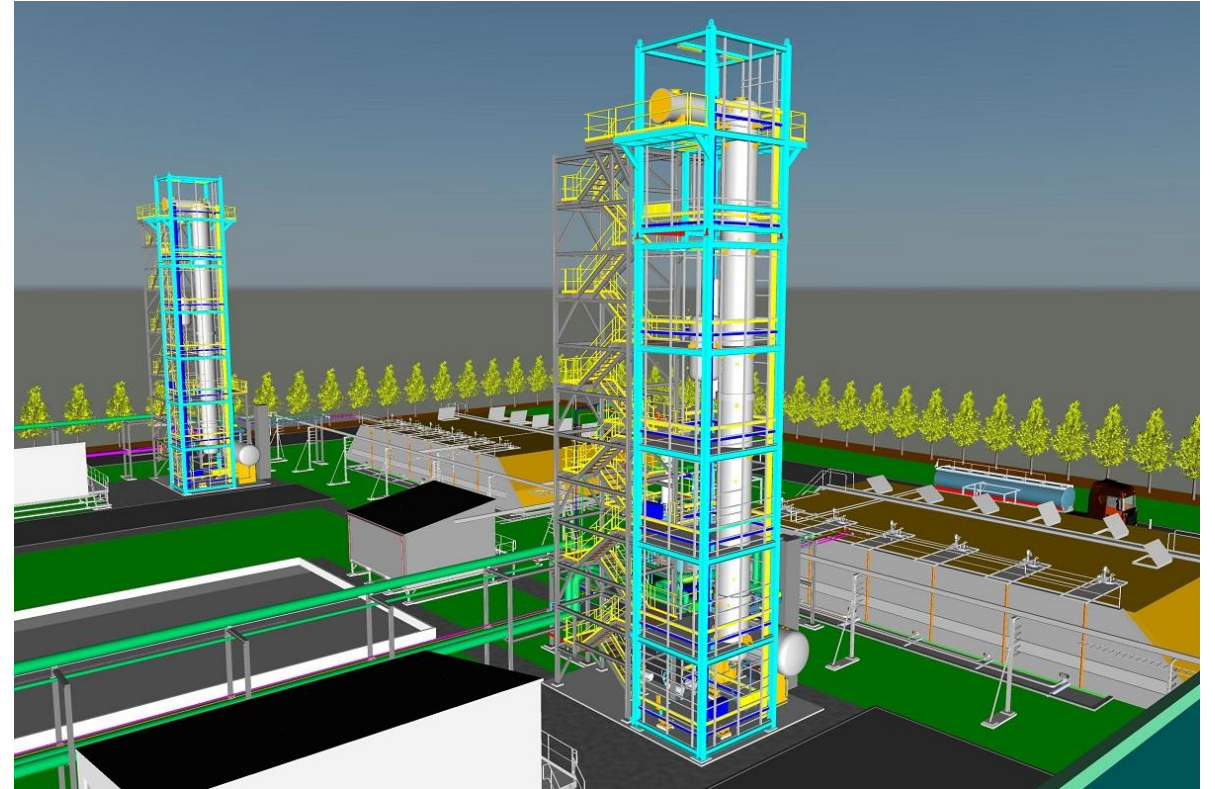
- Renewable energy sources (e-Methanol, e-fuels, ammonia, hydrogen) are all chemically indistinguishable from their grey sourced equivalents
- The renewable energy source will be priced higher, subsidized or hold valuable carbon credits
- This will result in abuse of any arbitrage and fraudulent practices

With 25 years experience in tackling and preventing such abuse, Authentix can bring successful and innovative solutions for our customers

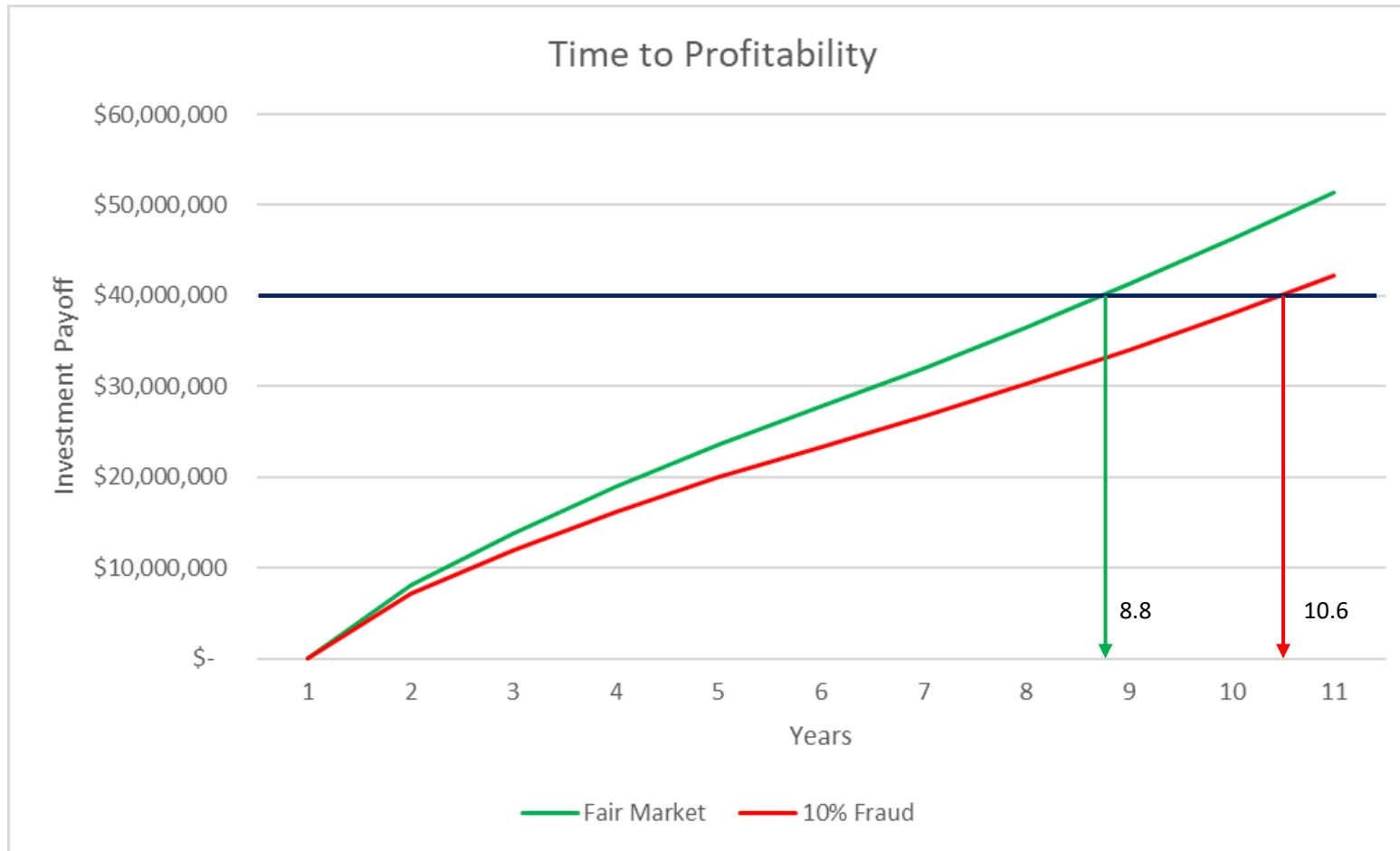
# E-FUEL PRODUCTION FACILITIES | DRIVERS FOR FINAL INVESTMENT DECISION

- Off-take agreements
- Clear policy landscape
- Assurance of fair marketplace

What if there is **fraudulent mis-representation** in the market?



# E-FUEL MIS-REPRESENTATION | IMPACT ON PROJECT PROFITABILITY



## E-Methanol Production Plant Example

Investment: \$40M

Capacity: 10,000 tonnes/yr

Operational Costs: \$1.5M/yr

### Market Prices

E-Methanol: \$960/t, falling to \$640/t after 5 yrs

Grey Methanol: \$500/t

Fraudulent Mis-representation of e-methanol on the market is modeled at only 10%

With all other variables constant, if only 10% of the e-methanol on the market is mis-represented, the time to profitability in this example increases by nearly 2 years.

# DIGITAL CERTIFICATION & TRACKING | WILL IT STOP FRAUD?

Example:

Chinese 'Advanced' Biodiesel

- In 2023, biodiesel from China flooded the EU market
- Prices crashed
- Certified as 'advanced' biodiesel, but actually from virgin oils



## **Industry suspects fraud as flood of Chinese biodiesel destabilises market**

A drastic increase in biodiesel imports from China has caused a stir in European markets, with industry representatives warning that the EU waste biodiesel industry could 'collapse' unless urgent regulatory measures are taken.

Without physical authentication, digital schemes are more at risk of fraud

# PHYSICAL AUTHENTICATION | WHERE CAN IT BE APPLIED?

## IDENTITY PRESERVATION



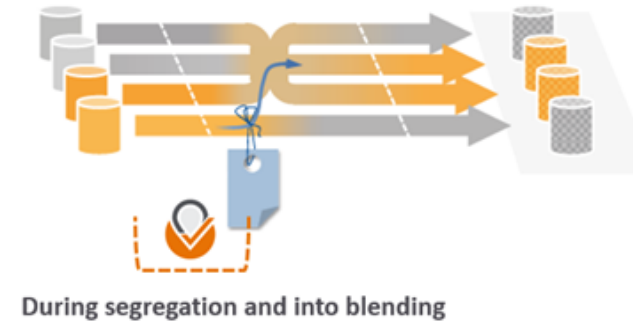
## MASS BALANCE



## SEGREGATION



## BOOK & CLAIM



 Points of physical verification

Green Fuel produced and certified.  
Authentix marker added.



Green Fuel



Grey Fuel

Grey Fuel produced with no  
certificate or marker added.



Certificate, by mass,  
shows 50%  
Marker result shows 50%



Blend Tank  
50% Green Fuel



Digital certificate and  
marker  
results match



Digital certificate and  
marker  
results indicate fraudulent activity



Certificate, by mass, shows 50%  
Marker result shows 50%



Fuel Barge 1  
50% Green Fuel



Certificate, by mass, shows 50%  
Marker result shows 50%



Fuel Barge 2  
50% Green Fuel



Certificate, by mass, shows 50%  
Marker result shows 50%



Cargo Ship 1  
Bunkering



Certificate, by mass, shows 50%  
Marker result shows 25%



Cargo Ship 2  
Bunkering



Grey Fuel  
Adulterant



Fuel Barge 2  
Adulterated  
25% Green Fuel