



# TES – ISCC stakeholder meeting

— Insights from a Pilot audit



# TES at a glance: global leader in e-NG and green hydrogen

## What is TES

Emerging global leader in the e-NG (and green H<sub>2</sub>) value chain

Advancing flagships projects in US, Canada and Germany

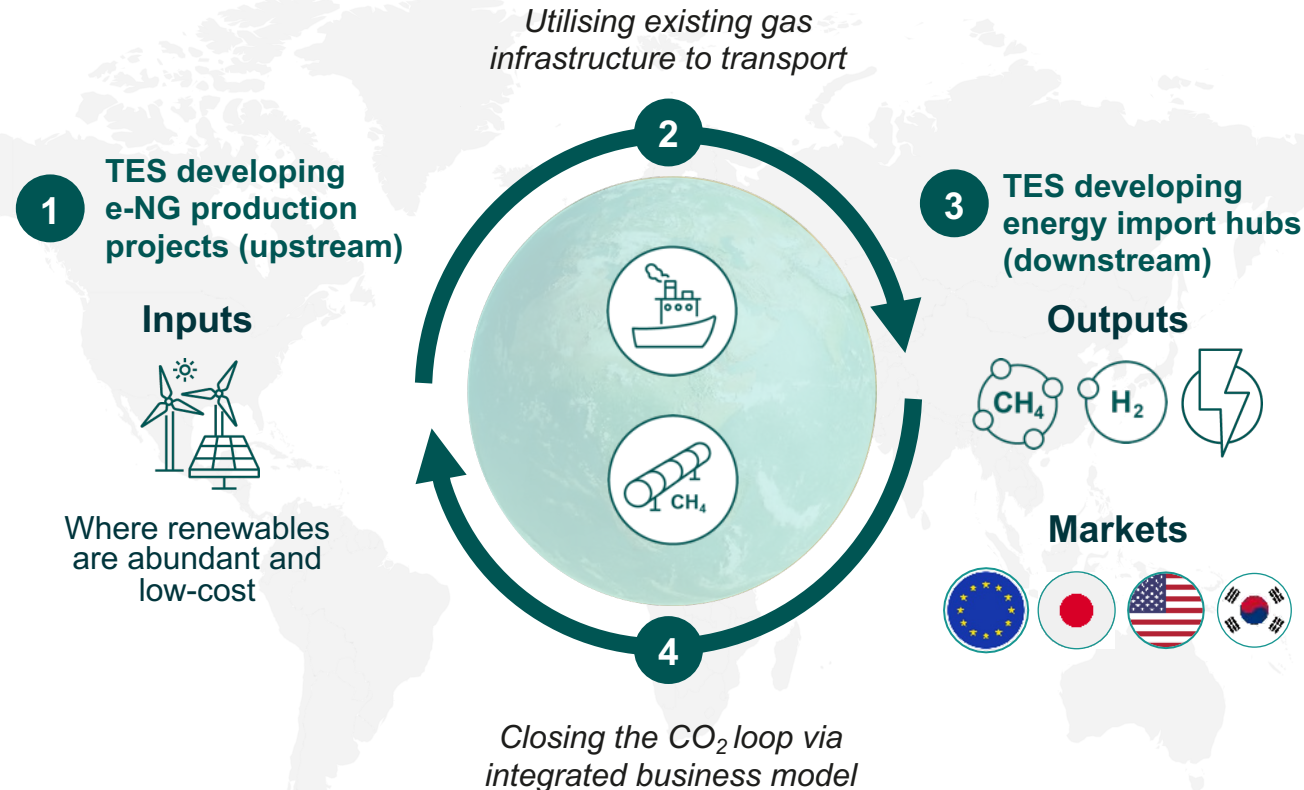
Leading portfolio of pipeline projects to drive long-term growth

### Production targets:

1 Mtpa of e-NG by 2030

5 Mtpa of e-NG by 2035

## Strategy: produce in low-cost regions, export to high-demand markets



**e-NG made from green H<sub>2</sub> + sustainable CO<sub>2</sub><sup>1</sup> will be certified as a green renewable fuel (H<sub>2</sub> + CO<sub>2</sub> = CH<sub>4</sub>)**

## Company details

### Select investors



### Project partners



**130+**  
TES dedicated employees

**Offices in**  
Europe, US,  
Canada, Middle East  
and Japan

# TES e-NG pilot audit objectives

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## Understanding the audit process

- ✓ **Explore audit dynamics** by gaining comprehensive insights into the typical workflow and key elements of an auditing process.
- ✓ **Understand** the industry **standards** and **best practices** involved in conducting successful audits.
- ✓ **Identify** the **traceable chain of custody** with TES' supply chain

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## Guide on-site teams in plant construction

- ✓ **Identify** the regulatory and audit-related **requirements** to the teams building the upstream plants
- ✓ **Evaluate** the **impact** of fulfilling these **requirements** on the project developments
- ✓ **Identify** key strategies to **reduce eNG GHG emissions**, aiming for near-zero emissions

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## Identify regulatory compliance gaps

- ✓ **Assess our readiness** in meeting the delegated act regulatory requirements for Renewable Fuels of Non-Biological Origin (RFNBO) production
- ✓ **Identify potential gaps** in regulatory compliance so we can develop strategies to effectively bridge these gaps
- ✓ **Create** a greenhouse gas (GHG) **calculator** that is **straightforward** and easy for **auditors to use**

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## Enable off-take deals

- ✓ **Provide reassurance** of **eNG compliance** with EU regulatory requirements
- ✓ **Determine** a pre-validated **CI score** to be used in discussions with off-takers

# Source of CO2 is critical in TES use case

- Criteria for considering power renewable

**Options overview**

	1. Direct connection	2. Grid connection			
		(2) >90% RES	(3) <18 gCO <sub>2</sub> eq/MJ	(4) Imbalance settlement period	(5) Electricity from the grid with further requirements
Additionality +	✓	✗	✗	✗	✓
Temporal correlation 	✗	✗	✓	✗	✓
Geographical correlation 	✗	✗	✓	✗	✓
Renewable PPA 	✗	✗	✓	✗	✓

## GHG Calculation formula

$$E = e_i + e_p + e_{td} + e_u - e_{ccs}$$

Where:

$E$  = total emissions from the use of the fuel in g CO<sub>2</sub>/MJ

$e_i = e_{i \text{ elastic}} + e_{i \text{ rigid}} - e_{\text{ex-use}}$ : supply of inputs

$e_{i \text{ elastic}}$  = emissions from elastic inputs

$e_{i \text{ rigid}}$  = emissions from rigid inputs

$e_{\text{ex-use}}$  = emissions from inputs' existing use or fate

$e_p$  = emissions from processing

$e_{td}$  = emissions from transport and distribution

$e_u$  = emissions from combusting the fuel

$e_{ccs}$  = emission savings from carbon capture and geological storage

## Eligible CO<sub>2</sub> sources for the element $e_{\text{ex-use}}$

Allowed sources				Exclusions	
Activities listed under Annex I of Directive 2003/87/EC (limited to max. 2041)	CO <sub>2</sub> captured from the air	Production or combustion of biofuels, bioliquids and biomass fuels	Combustion of RFNBOs and RCFs	Naturally released CO <sub>2</sub> from a geological source	CO <sub>2</sub> from deliberately combusted fuels
					CO <sub>2</sub> where capturing benefit was already considered in other provisions of the law

# Key result of the pilot audit

Carbon intensity requirements for RFNBO certification	GHG emissions (%) per source	Commentary																
<div><p>Reference RFNBO CI [gCO2eq/MJ]</p><table><tr><th>Category</th><th>Value [gCO2eq/MJ]</th></tr><tr><td>Reference Fuel (Diesel)</td><td>94</td></tr><tr><td>RFNBO</td><td>28</td></tr></table></div>	Category	Value [gCO2eq/MJ]	Reference Fuel (Diesel)	94	RFNBO	28	<table><tr><th>Source</th><th>Value (%)</th></tr><tr><td>Electricity</td><td>94</td></tr><tr><td>CO2</td><td>-3</td></tr><tr><td>CH4</td><td>-3</td></tr><tr><td>Total</td><td>100</td></tr></table>	Source	Value (%)	Electricity	94	CO2	-3	CH4	-3	Total	100	<ul style="list-style-type: none"><li>• Scope 2 emissions constitute the bulk of the emissions in the supply chain</li><li>• If we electrify the energy inputs of the supply chain, power would account for over 90% of emissions occurring in the supply chain</li><li>• Consequently, the introduction of renewable capacity into the power grid would improve the Carbon Intensity (CI) score of e-NG</li></ul>
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Total	100																	

# Lessons learned from the pilot audit

## Initial Stages of EU RFNBO audit compliance

The pilot certification audit was undertaken at a developing phase, preceding the official EU recognition of certification schemes and amidst pending clarifications on intricate legislative elements. The previous experience ISCC possesses in biofuel certification has been helpful in navigating through this evolving and detailed regulatory landscape

## Application of EU equivalent concepts abroad

EU legislation often describes concepts specific to its region, creating challenges when adapting these concepts outside the EU. This adaptation requires gathering data to demonstrate compliance with equivalent systems. In this process, ISCC's contribution in verifying adherence to such frameworks has been deeply instrumental

## GHG calculation methodology

Final clarification still required with regards to how to best implement RED III methodology into the GHG calculation, i.e. on the accounting of emissions occurring after RFNBO production: either accounted for as downstream emissions of the RFNBO plant or for each player taking custody of the molecule until delivery to final customer

## Beyond standard audit practices

The pilot audit deviated from typical audit, adopting a comprehensive approach to cover the entire supply chain, including stages beyond TES's custody (e.g.: liquefaction) to thoroughly assess eNG's qualification as RFNBO and its adherence to GHG emissions reduction standards



# Questions ?