

Securing Income Biomethane Sales

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UK Biomethane Day

26th June 2012

Biomethane Sales

- Market Overview
- Engineering Solution
- Commercial Arrangements
- RHI Application Process
- Green Gas Certificate Scheme

- **Who's interested in Biomethane?**
- **What do Producers have to offer?**
- **What do Producers have to do?**
- **What income can Producers expect?**
- **Some perspectives on RHI**

SECURING INCOME
SUPPLIERS INTERESTED IN BIOMETHANE

Market Potential

- Suppliers interested in Biomethane...

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GDF SUEZ



DONG
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SECURING INCOME
WHAT'S PRODUCERS CAN OFFER

What do Biomethane Producers have to offer a Shipper?

- High gas quality to comply with network entry requirements
- Consistent CV to meet local target level
- Predictable (flat) delivery profile
- Protection from upstream commercial risk
- Commercial regime for delivery consistent with UNC
- With or without Green Gas Certificate!





SECURING INCOME
WHAT PRODUCERS HAVE TO DO

What do Biomethane Producers have to do?

- **Before the day**
 - Primary operational issue for **Producer** and Transporter is gas quality
 - Gas constituent key safety concern for Transporter
 - Gas CV key regulatory compliance issue for Transporter
 - Transporter advises **Producer** of Target CV on D-1
 - **Producer** sets up plant to meet gas specification and Target CV
 - **Producer** calculates production volume/CV and nominates to Shipper & Transporter

What do Biomethane Producers have to do?

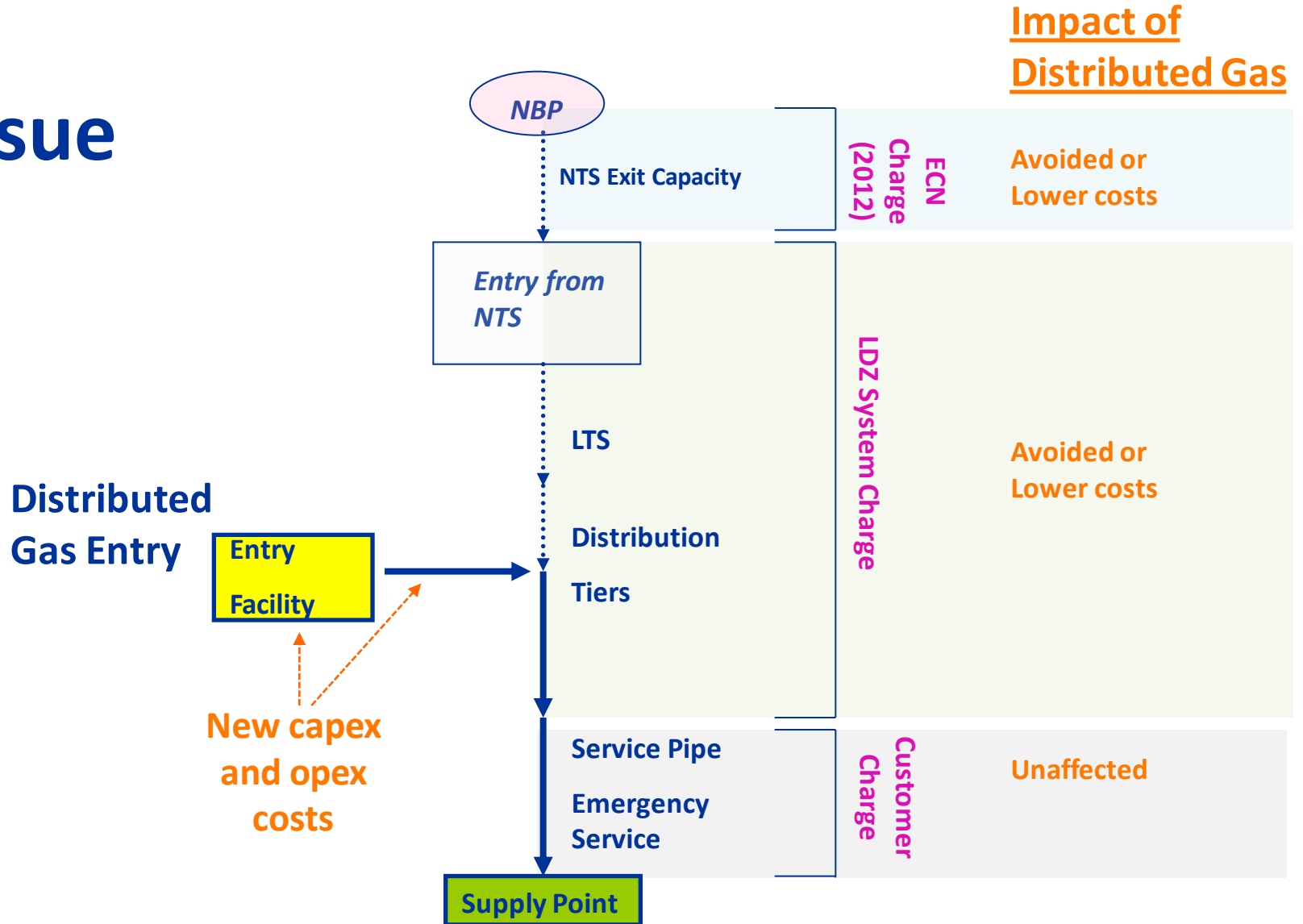
- **On the day and after ...**
 - Shipper balances commercial portfolio
 - Out of balance subject to system buy or sell charge rates
 - Scheduling charges also apply (much lower)
 - Transporter balances the network
 - Transporter may issue notice to reduce or even stop flow
 - Highly unlikely if the flow levels are within agreed limits
 - **Producer** confirms volume delivered
 - Everyone reconciles volume and energy delivered
 - **Producer** claims RHI payments on eligible biomethane energy delivered

Note: Network Entry Agreement

WHAT DO BIOMETHANE PRODUCERS HAVE TO DO?
NATIONAL GRID CONNECTION CHARGE PROPOSAL

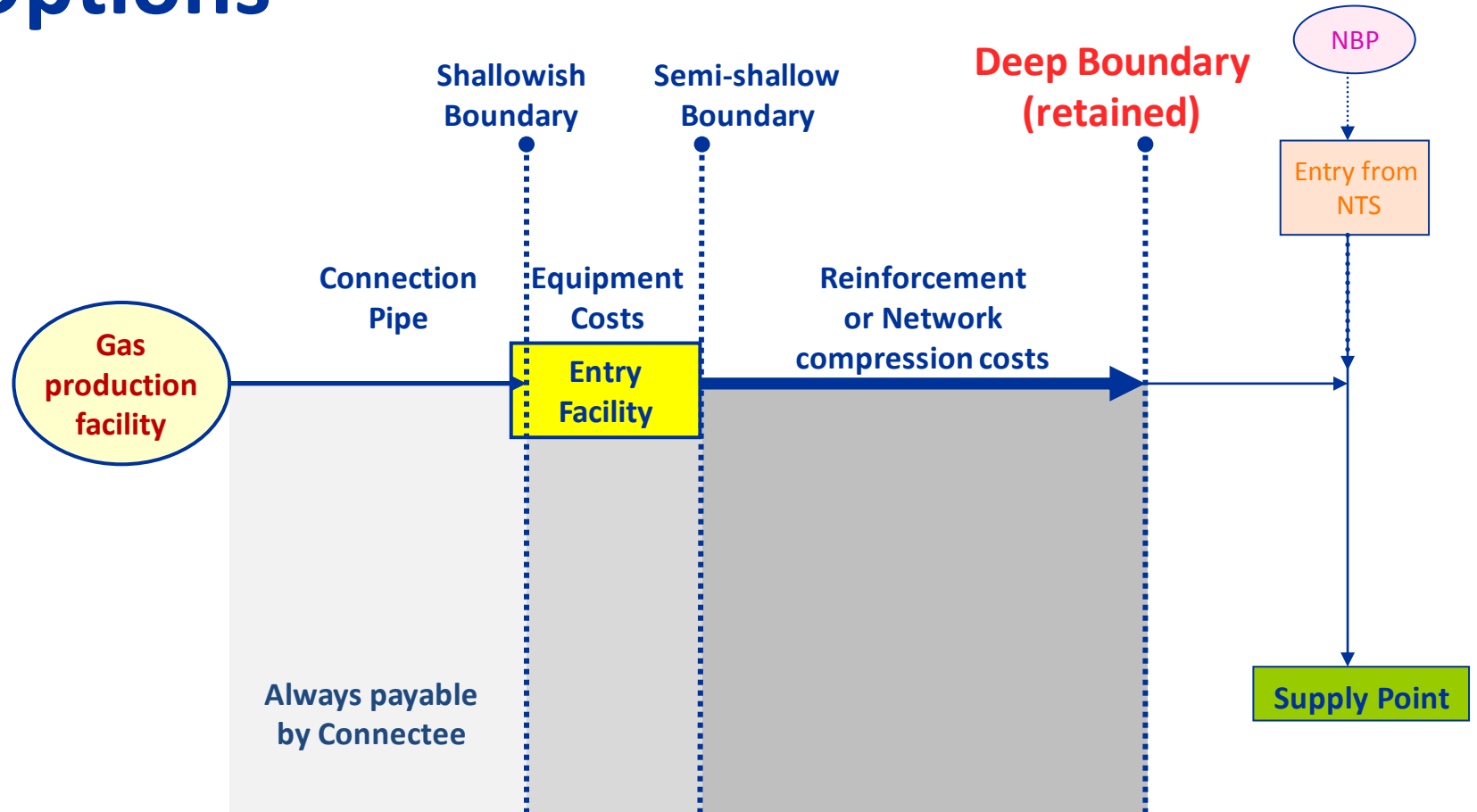
Transportation of Distributed Gas

Issue



Charging Boundary Options for Distributed Gas

Options



National Grid charging proposals for distributed gas entry

- Continue with deep connection charges **but** with an allowance ...
 - Reflecting transportation benefits of distributed gas
 - Proposal supported by Ofgem
- Connection charge to reflect deep capex in full
- Transportation entry credit **or** charge to reflect:
 - Deemed lower system usage (-ve)
 - Any entry opex costs (+ve)
- The connectee can opt to own and operate much of the entry facilities so reducing the GDN assets and/or entry operating costs

Worked Example A

Full entry facility owned and operated by GDN

Full entry facility capital cost, say ... £300,000 (up front)

Entry opex (odorant, maintenance), say ... £10,000 pa

Transportation entry credit £7,309 pa

Example charges for biomethane facility with 500m³/hour (**44,000 MWh pa**) flow connected to low pressure mains in West Midlands (credit levels will vary across networks)

Existing, exit-based transportation charges would continue to apply for each option

Worked Example B

Full entry facility owned and operated by Connectee

Minimum connection capital cost, say ...£50,000 (up front)
Minimum connection opex ... £0

Transportation entry credit £17,309 pa

Example costs / charges for biomethane facility with 500m³/hour (**44,000 MWh pa**) flow connected to low pressure mains in West Midlands (credit levels will vary across networks)

Existing, exit-based transportation charges would still apply

Next steps

- UNC mod 391 raised and refined pre June 2012
- Considered by UNC Mod panel June 2012
- Sent for industry consultation; close 3 August 2012
- Ofgem decision expected September 2012
- Implementation (potentially) April 2013
 - Subject to Xoserve view on practicalities, expected July 2012



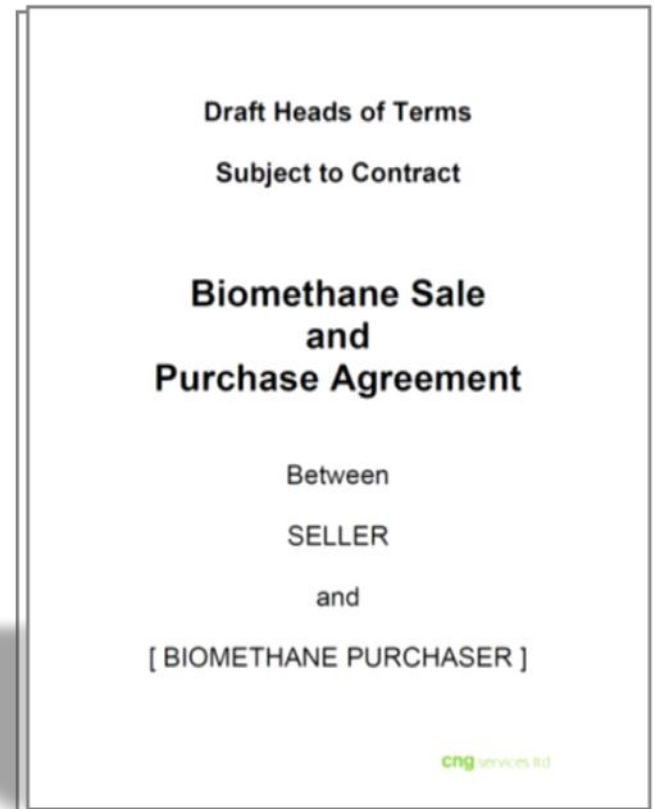
SECURING INCOME INCOME FROM BIOMETHANE

Biomethane Sales

- Monetary value
 - Value in the energy content (including propane energy)
 - Current prices c. 2.08 p/kWh (61p/therm)
 - This is for gas produced every day of the year
 - Value in the Renewable Heat Incentive
 - Rate increased in 2012 to 7.1p/kWh (208.1p/therm)
 - **Note:** net of Propane/heat energy
- Other value?
 - Green Gas Certificates
 - CSR and Environmental commitments
 - Customers may pay a premium for these features!
 - Note – selling such a small parcel of energy without the Green Gas Certificate may need a discount to the market price?

Biomethane Sale & Purchase Agreement (SPA)

- Fixed term
 - 5 or 10+ years?
- Phased delivery volumes
 - Incremental increase over [1 to 2] years to maximum production...
 - Daily Target Production
 - Annual Delivery Target
- Matched CV target
 - LDZ Average
- SPA terms consistent with NEA





SECURING INCOME
RHI APPLICANT PERSPECTIVES

RHI Applicant Perspective

- Talk to Ofgem RHI Team before applying
- Biomethane Producer must Register for RHI
 - RHI payments made to the Producer
- Gather high quality evidence bundles through project lifecycle
 - Process schematic (highlight metering)
 - Biomass source and a detailed description of origin
- Network Entry Agreement
 - Biomethane Quality & CV compliance ...
 - Propane CV Measurement

**Focus on securing a robust and comprehensive
Network Entry Agreement**

- Future Applications?

Thank you for listening

- Talk to a Supplier over lunch ...?

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RWE
The energy to lead



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BACKUP SLIDE
REGULATION 42

RHI Plant Configuration Considerations

- 'Most' fossil energy used in the AD to Biomethane process must be deducted

