

# Proposals for DN Entry Charging



Steve Armstrong

15 September 2010

# Current Connection Charging Regimes

---

	<b>GAS ENTRY</b>	<b>GAS EXIT</b>	<b>ELECTRICITY GENERATION</b>	<b>ELECTRICITY DEMAND</b>
<b>DISTRIBUTION</b>	<b>Deep</b>	<b>Shallow-ish</b>	<b>Shallow-ish</b>	<b>Shallow-ish</b>
<b>TRANSMISSION</b>	<b>Super-shallow</b>	<b>Shallow-ish</b>	<b>Super-shallow</b>	<b>Super-shallow</b>

- Deep: Connectee pays for all Network connection and reinforcement costs
- Super-shallow: Connectee pays for sole use connection assets only
- Shallow-ish: Connectee pays for sole use connection assets and some reinforcement costs

# Problems with Existing DN Entry Regime

---

- Not consistent with DN entry via NTS offtakes
- For DN Entry of Biomethane:
  - Electricity DNO Entry treatment is more favourable:
    - DNUoS (transportation) credits available
    - DNOs incentivised to connect Low Carbon generation
    - May distort biogas usage decision relative to pure economic choice
  - Does not facilitate economic usage of Biomethane
    - Does not reflect sustainability benefits of biomethane
    - High up-front charges may be barrier to biomethane usage – high risk to developer

# Principles for new DN Entry charging regime for Biomethane

---

- Consistent with treatment of DN entry from NTS to extent comparable
- Facilitate the usage of biomethane e.g. no disproportionate barriers
- Take account of carbon reduction benefits of biomethane
- No adverse impact on consumers
- DN capex and opex reasonably incurred should be fully funded
- Compliant with statutory, safety case, Licence and UNC obligations

# Proposed Treatment of Costs

---

- Propose 3 category model:
- Category 1: Costs always payable by developer
- Category 2: Costs payable by developer subject to DN Allowance
- Category 3: Costs payable by Network and recovered through Price Control allowance

## Category 1 Costs

---

- Costs always payable by developer, such as:
  - Biomethane facility capital and operating costs
  - Biogas sourcing costs
  - Propane enrichment
- Note that the developer may obtain other incentives, e.g. Renewable Heat Incentive, which could help to offset these costs

## Category 2 Costs

---

- Costs payable by developer subject to DN Allowance, such as:
  - Connection to DN pipeline including design work
  - Connection pipe
  - DN reinforcement and compression costs, if required
  - Blending facilities, if required and possible
- DN Allowance based on peak day capacity within connection agreement (see later)

## Category 3 Costs

---

- Costs payable by DN to provide parity with DN entry from NTS offtakes, such as:
  - Gas quality monitoring
  - Pressure/flow control
  - Metering
  - Odorant
  - Shut-off valve
  - Telemetry & control equipment
- These costs would be recoverable through DN Price Control allowances and general transportation charges



# Basis of DN Allowance against Category 2 Costs

---

- Allowance relates to benefit to future consumers of biomethane
- To meet Low Carbon target without biomethane:
  - Existing gas distribution network may be under-utilised
  - Need expensive enhancement to electricity networks
- Biomethane entry:
  - Improves future gas network utilisation so reducing average unit gas transportation cost
  - May avoid some future enhancement of electricity networks so reducing overall energy supply costs
  - Likely to enable greater use of gas for domestic consumption
  - Makes best use of biogas resource (over twice energy compared to electricity generation)
- Propose that Allowance is based on NPV of unit DN transportation charges for typical domestic consumer
- No adverse impact on gas consumers in general since Allowance equates to level of DN transportation charges payable by incremental domestic consumers utilising biomethane
- Allowance should only be provided for DN Entry of Renewable Gas consistent with the greater benefits that such gas entry provides relative to fossil-based gas

## Example of Financial Impact of Category 2 Allowance

---

- Assumed DN entry supply:
  - Biogas facility flow rate of 500 m<sup>3</sup> per hour
  - This could produce around 25,000 MWh biomethane per annum
  - Entry capacity required would be 75 MWh/day with 90% load factor
- Typical domestic consumer use is 18.5 MWh per annum
- Typical domestic DN transportation charge of £120 per annum, with NPV of £1,460 (20 years at 6%)
- Entry supply is equivalent to  $25,000/18.5 = 1,350$  domestic consumers
- One-off Connection Allowance to offset against Category 2 connection and reinforcement costs is  $1350 * £1,460 = £1.97$  million
- Allowance could be expressed as £26 per pdkWh to give same total allowance for this supply

# Benefits of Proposed DN Entry Charging Approach

---

- Consistent with existing treatment of DN entry from NTS
- Should facilitate the connection of biomethane facilities so contributing to the attainment of carbon reduction targets
- Avoids the complexity and cost of changing the gas distribution transportation charging arrangements
  - Can consider how DN Allowances are most appropriately reflected in transportation charges in future
- Allowance may not cover in full the Category 2 costs for a Biomethane connection and so the regime would continue to provide a strong locational signal encouraging facility developers to locate their facilities close to the distribution network and in locations where the DN reinforcement/compression costs are lowest
- Provision of a DN Allowance against Category 2 costs enables competition in the provision of these facilities
- Charging regime needs to be considered alongside development of:
  - Wider Network Entry arrangements
  - DN Price Control arrangements
  - Renewable Heat Incentive to help fund Category 1 costs