

# Embedded Generation

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Charging Issues Standing Group

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## CONTACT

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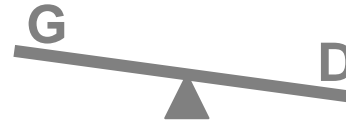
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# The Issue

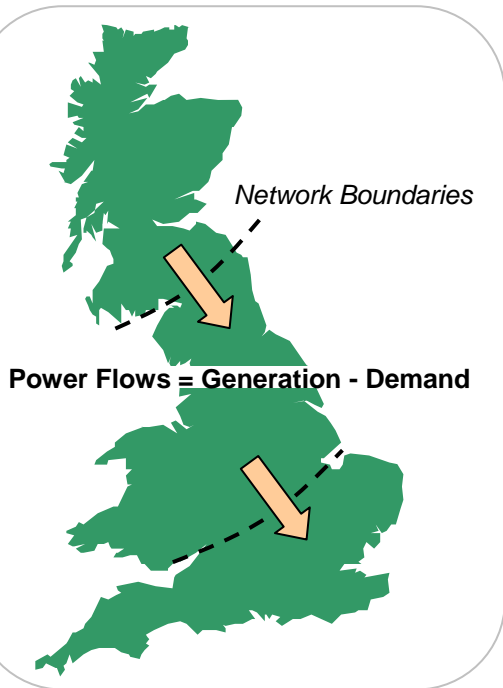
- ◆ **Exemptible distributed (embedded) generators avoid generation and receive demand TNUoS from the relevant supplier**
  - ◆ Due to the effect of the residual element of charges, this treatment leads to an 'embedded benefit' of ~ 18 £/kW
  - ◆ Is this reflective of the impact on the transmission system?
- ◆ **At BETTA, a directly connected gen. at 132kV in Scotland located in close proximity to one which is embedded would arbitrarily pay ~ 18£/kW more**
  - ◆ Ofgem introduced the time limited small gen. discount in Scotland for 132kV directly connected gen. to address this (NGET SLC C13)
- ◆ **Ofgem consider that the current situation is neither sufficiently cost reflective nor a level playing field for competition and that an enduring solution is required.**
  - ◆ The TADG industry working group developed 'strawman' models for reform
  - ◆ NGET Standard Licence Condition C13 amended to include an obligation to progress for April 2011

# Impact on Transmission

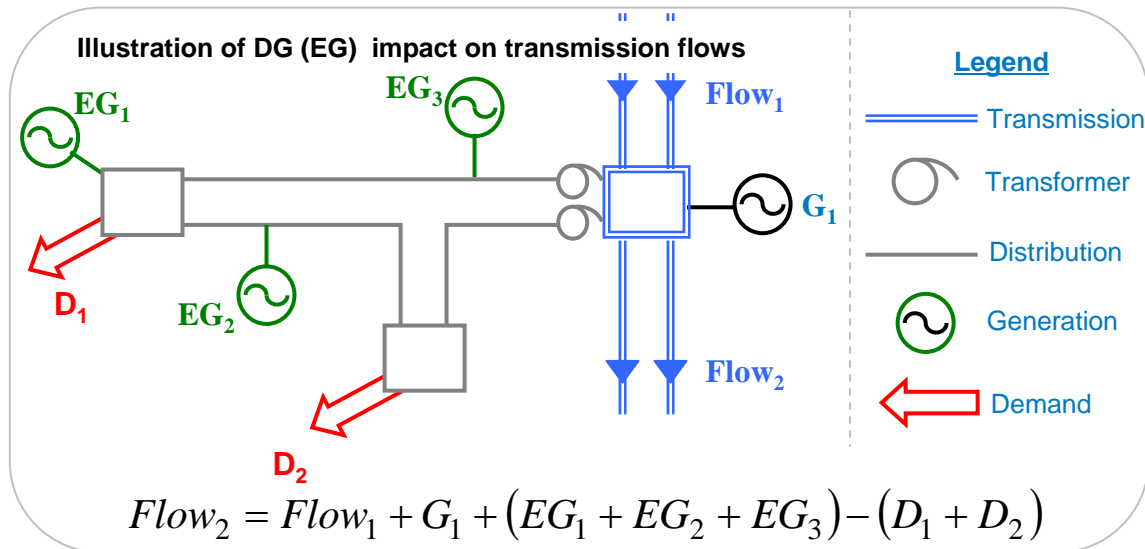
- ◆ The cumulative impact on the wider transmission network of DG is the same as directly connected generation



- ◆ There are some local benefits associated with embedding (i.e. avoided transmission investment)
- ◆ Existing embedded benefits may not accurately reflect difference

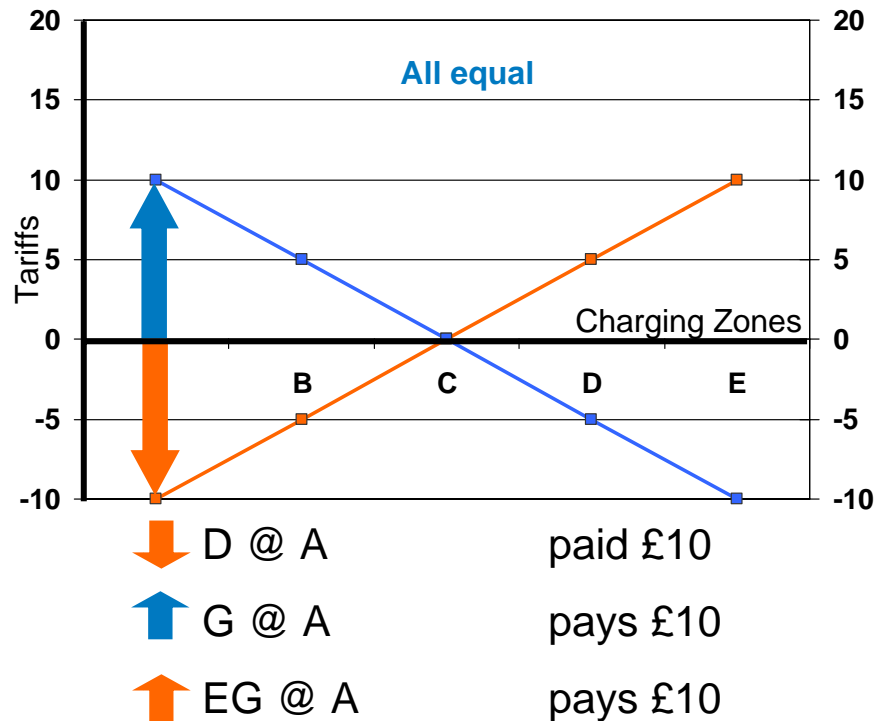


- ◆ We have undertaken analysis that calculates the benefit of embedding as being less than half the current amount

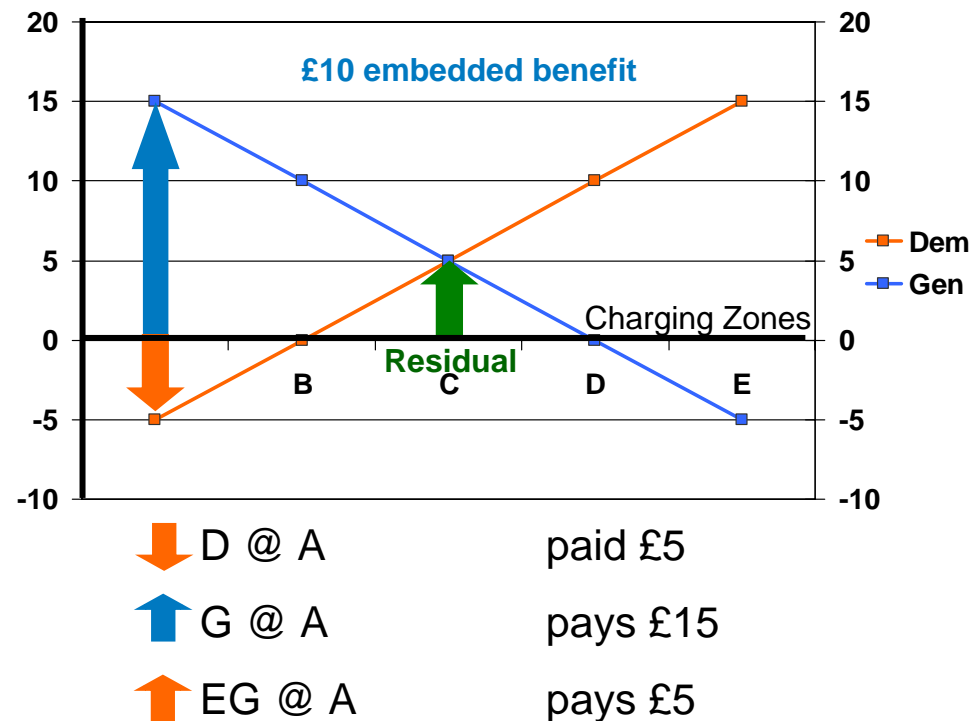


# The Effect of Residual – Illustrative

## TNUoS Locational Elements only



## Inclusion of the Residual Element



- ◆ Illustration ignoring impact of 27/73 tariff split (no effect on problem)
- ◆ Relative 'embedded benefit' is 2 x the residual in this illustrative example - £10 (i.e. Generation Residual Component + Demand Residual Component)

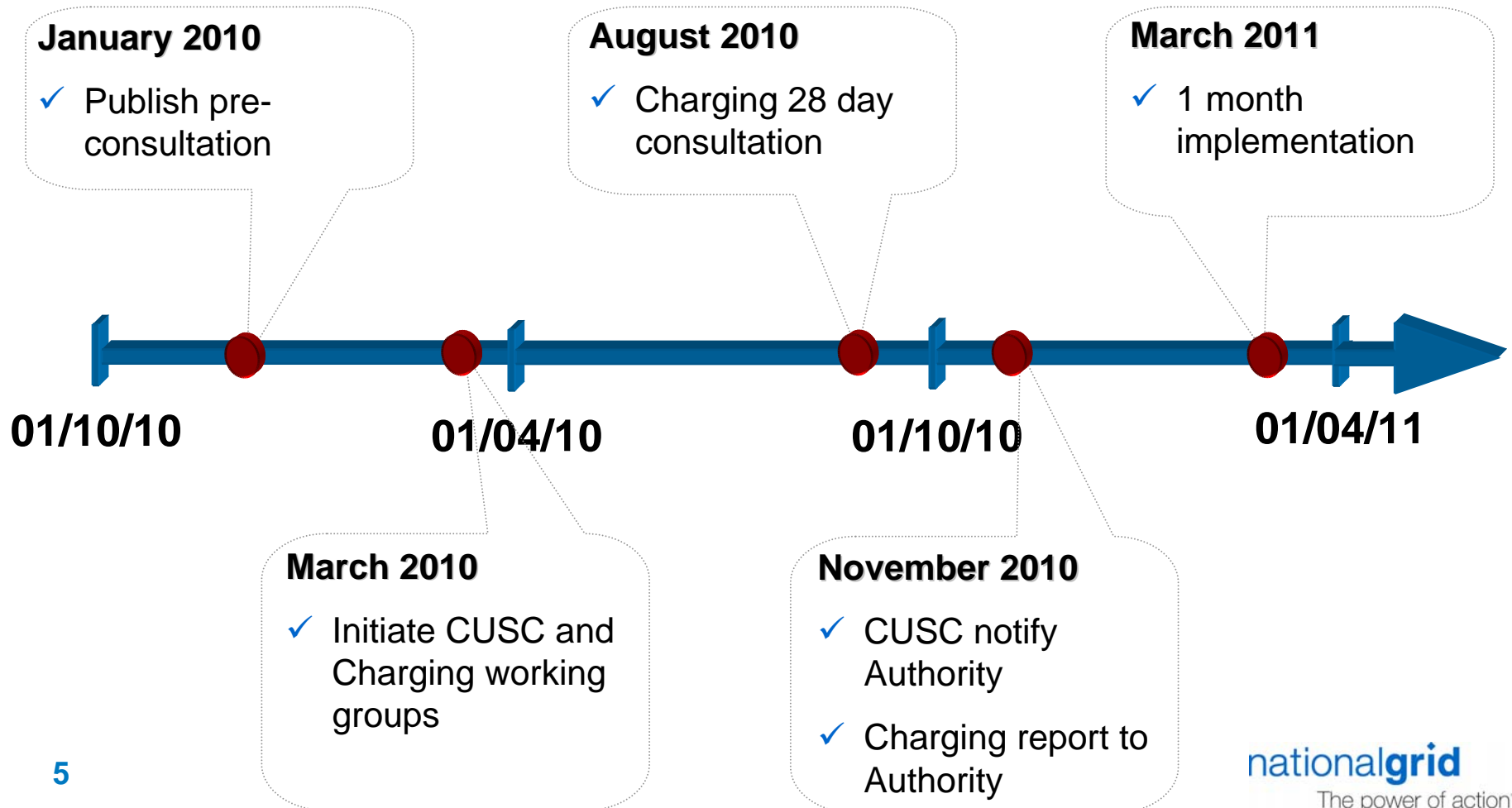
# Next Steps

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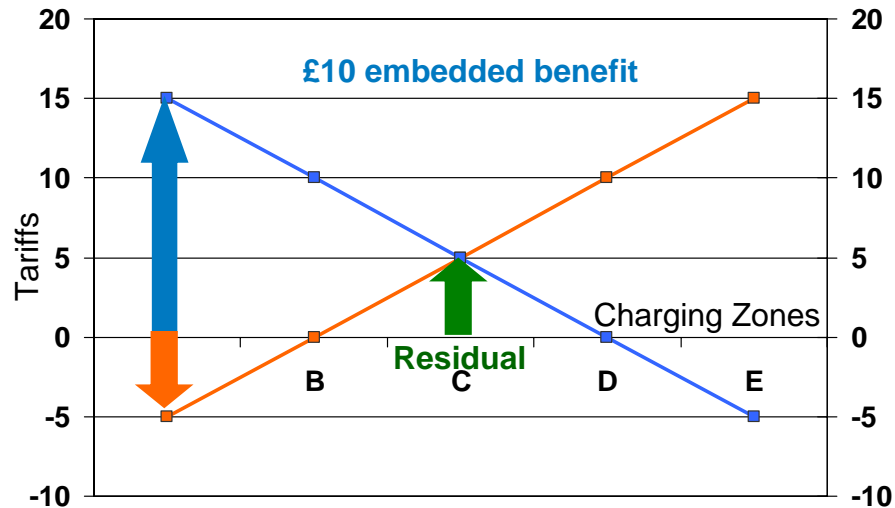
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### ◆ Consultation to be published exploring alternative models



# Additional Slide – The Effect of G/D split

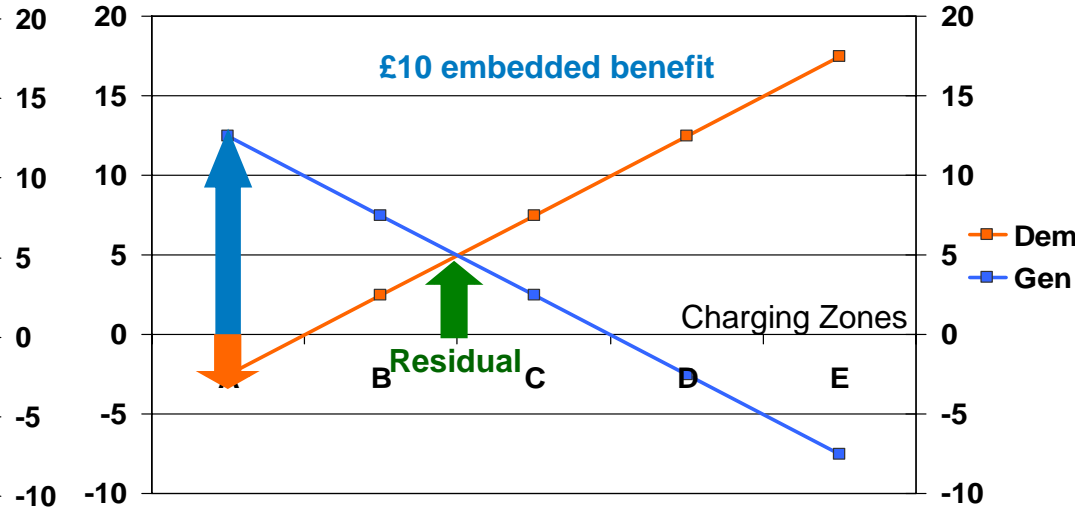
## Inclusion of the Residual Element



↓ D @ A  
↑ G @ A  
↑ EG @ A

paid £5  
 pays £15  
 pays £5

## Addition of 25/75, G/D split (illustrative)



↓ D @ A  
↑ G @ A  
↑ EG @ A

paid £2.5  
 pays £12.5  
 pays £2.5

- ◆ Relative 'embedded benefit' remains 2 x the residual; in this example £10 (i.e. The G/D split has no effect on embedded benefit)