The Economic Life of Energy Network Assets – Consultancy Support for Ofgem's Future Price Controls

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24th November 2010

Note: This presentation was made to a stakeholder meeting on 24th November. The views expressed in the presentation are those of the consultancy concerned. They are not the views of Ofgem and where those consultants are working for Ofgem, final reports have yet to be received and no decisions have been made on the material by GEMA.

Introduction

Project objective

To consider the economic and technical lives of gas and electricity network assets, and how changes in the way the networks are used could alter the economic life of those assets.

Project team

Consortium of Cambridge Economic Policy Associates (CEPA), Sinclair Knight Merz (SKM) and GL Noble Denton. Includes economic experts on regulation and price control reviews and engineering experts on electricity & gas networks.

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Summary of approach

1. Assess technical lives of existing assets.
2. Consider scenarios for use of networks to understand potential economic lives.
3. Consider implications of (1) and (2) for appropriate approach to depreciation.

Presenting tentative results today, not final conclusions

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Existing regulatory and statutory asset lives

Network	Regulatory life (years)	Statutory life (years)
Electricity Transmission	20	10-80
Electricity Distribution	20	2-100
Gas Transmission	45	30-100
Gas Distribution	45	10-100

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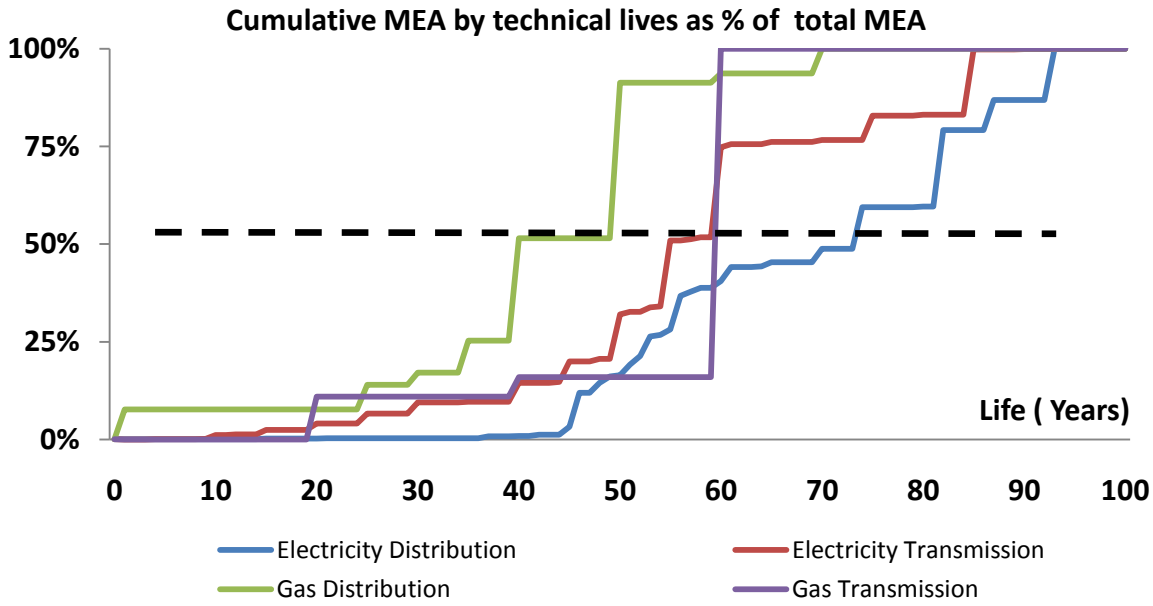
Step 1: Technical lives

Network	Average tech. life (years)
Electricity Transmission	54
Electricity Distribution	73[1]
Gas Transmission	60
Gas Distribution	45-80[2]



Notes:

1 - 51 excluding underground cables

2 - depending on assumption about PE pipes

What do we mean by technical life?

The *estimated* length of time from the date of commission to the date when *on average* the asset falls below minimum acceptable *technical* and/ or *safety* performance levels.

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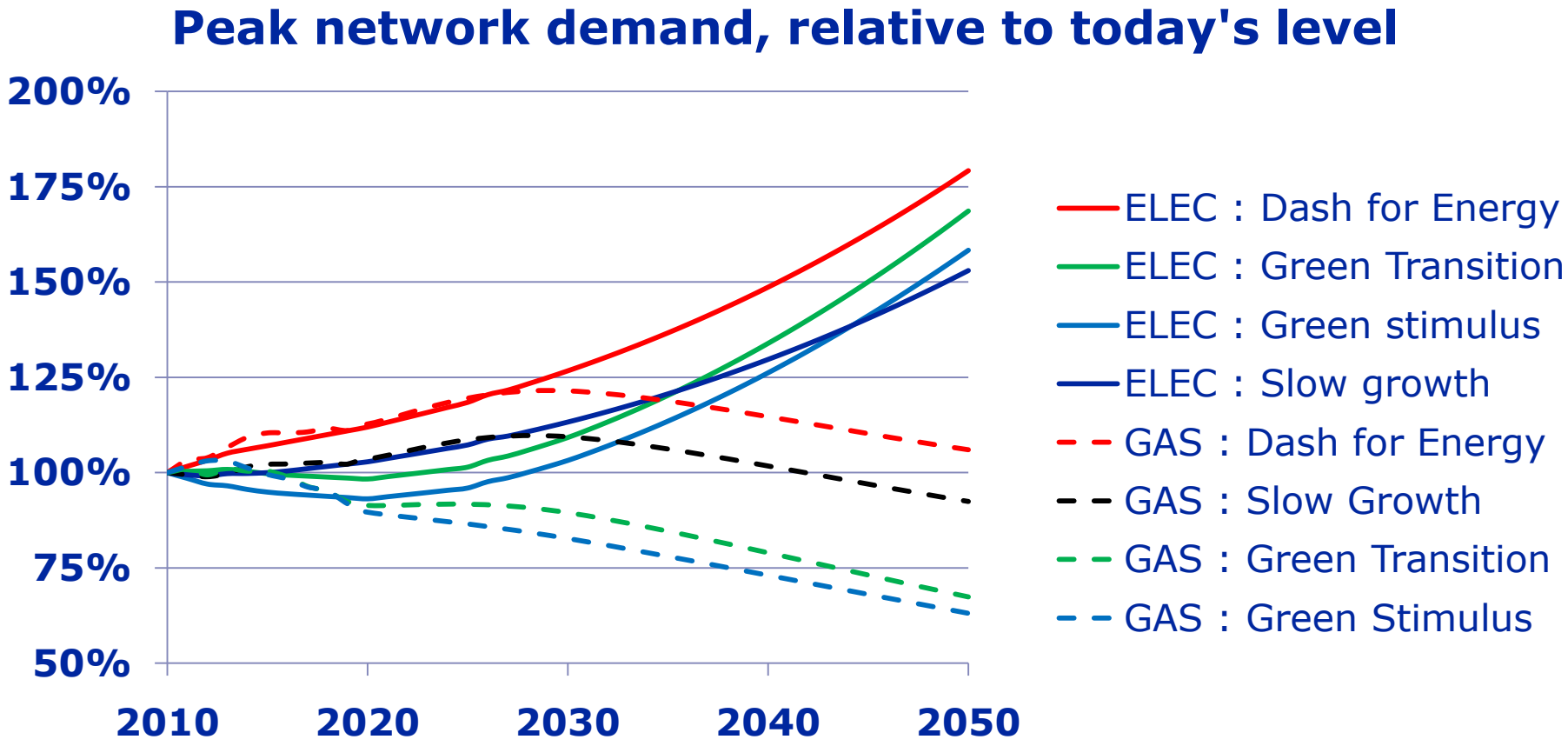
Step 2: Scenario conclusions



Electricity peak demand almost certain to rise

Gas peak demand likely to be at or below today's levels

Based on Project Discovery, extrapolated to 2050. Consistent with other published scenarios

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Possible developments worth watching

Development	Overall effect on asset lives
Significant micro-generation	Reduce economic life of transmission
Large scale energy storage/ interconnection	Reduce economic life, since peak demand is lower (although some load shifting and interconnection is in the scenarios already)
New technology	Unclear
Widespread CCS on gas-fired generation	Increase economic life of gas transmission.
Biomethane (technical potential limited to ~18% of demand)	Increase economic life of gas transmission
Implementation of decarbonisation policy – requirements to develop networks in specific ways	Reduce (since policy will probably not be economically optimal way)
Actual asset lives being revised because assets last longer than expected	Increase

CCS on gas could be key to future of the gas network.

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Step 3: Emerging questions affecting conclusions on asset lives

Gas

Assets have average technical life of at least 45 years.

Peak gas demand may rise to 2025, but falls back by 2050 to today's level or below

Should the asset life be changed from the current 45 years?

How quickly will the uncertainties be addressed?

Is the expected utilisation changes sufficient to justify a move away from straight-line depreciation?

Electricity

Assets have average technical life of over 50 years

Electricity will be used more in future.

If depreciation lives are to be increased, by how much?

Are there other uncertainties which affect the possible decisions?

Is there sufficient expected change in utilisation to justify a move away from straight-line depreciation?

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