



Terms of reference for New Town Evaluation Working Group Study

Background:

For a town to be connected to the gas network, certain economic criteria need to be satisfied. This is to ensure that over a certain period the costs of connecting the town are paid for through the consumption of gas and the associated tariffs. In April 2006 a new connection policy was published (CER/06/032), setting out revised criteria for the connection of new towns. Where towns, under the old policy, were deemed to be uneconomic and therefore did not qualify for connection, under the new policy some of these towns may qualify under the new criteria. The purpose of this study is to evaluate the connection of towns under the new policy.

This report will examine individual towns and towns grouped on a geographic/regional basis, which currently are not connected to the gas network, to ascertain the feasibility from a gas economics perspective of connection under the new connection policy to the gas network and identify what towns, or groups of towns, qualify for connection and what towns do not.

A study on towns not connected to the gas network carried out for BGE by DKM Economic Consultants in 2001 found most towns examined to be highly uneconomic in terms of gas connection under the connection policy in operation at that time. The new connection policy is unlikely to make towns hitherto highly uneconomic viable but will improve the viability of towns that were already close to being economic.

The review will be carried out on a cost/benefit basis purely from a gas point of view.

Enquiries in relation to the process should be directed to Mark Holohan at Bord Gáis Networks, Block 2, Arena Road, Sandyford Business Park, Sandyford, Dublin 18. Tel: 01 602 1354. Fax: 01 602 1375, and email: newtowns@bge.ie

○ **Objectives**

- The objective is to produce a report on the potential of extending the gas network to Towns not currently served within the criteria of the new Connections Policy.

○ **Scope**

- The scope will include a cost/ benefit analysis solely from a gas perspective.
- An evaluation of the likely loads will be produced.

- A high level engineering design analysis of the costs involved in developing an Engineering solution will be produced.
- An economic appraisal of costs versus revenues will be undertaken of potential towns identified.

○ **Deliverables and publications**

- The first phase, within 3 months, will produce an analysis of those areas that have recently been studied. This is likely to include Cahir, Cashel, Monasterevin and also potential towns along the new Mayo/Galway pipeline corridor. A list of the phase 1 towns will be published when confirmed.
- The results of Phase 1 will be published on the CER website in September 2006
- The second phase, will take a further 9 months after phase one has been completed, and will address the remaining areas currently not serviced by natural gas. Some of the towns from Phase 1 which were close to satisfying the economic criteria may be reassessed here. A list of the phase 2 towns and phase 1 towns which are to be reassessed will be published when confirmed.
- A final report will be produced at the end of the study, c. June 2007 incorporating the findings of both the first and second phase. The report will outline what towns or groups of towns are viable within the new connection policy and which are not.

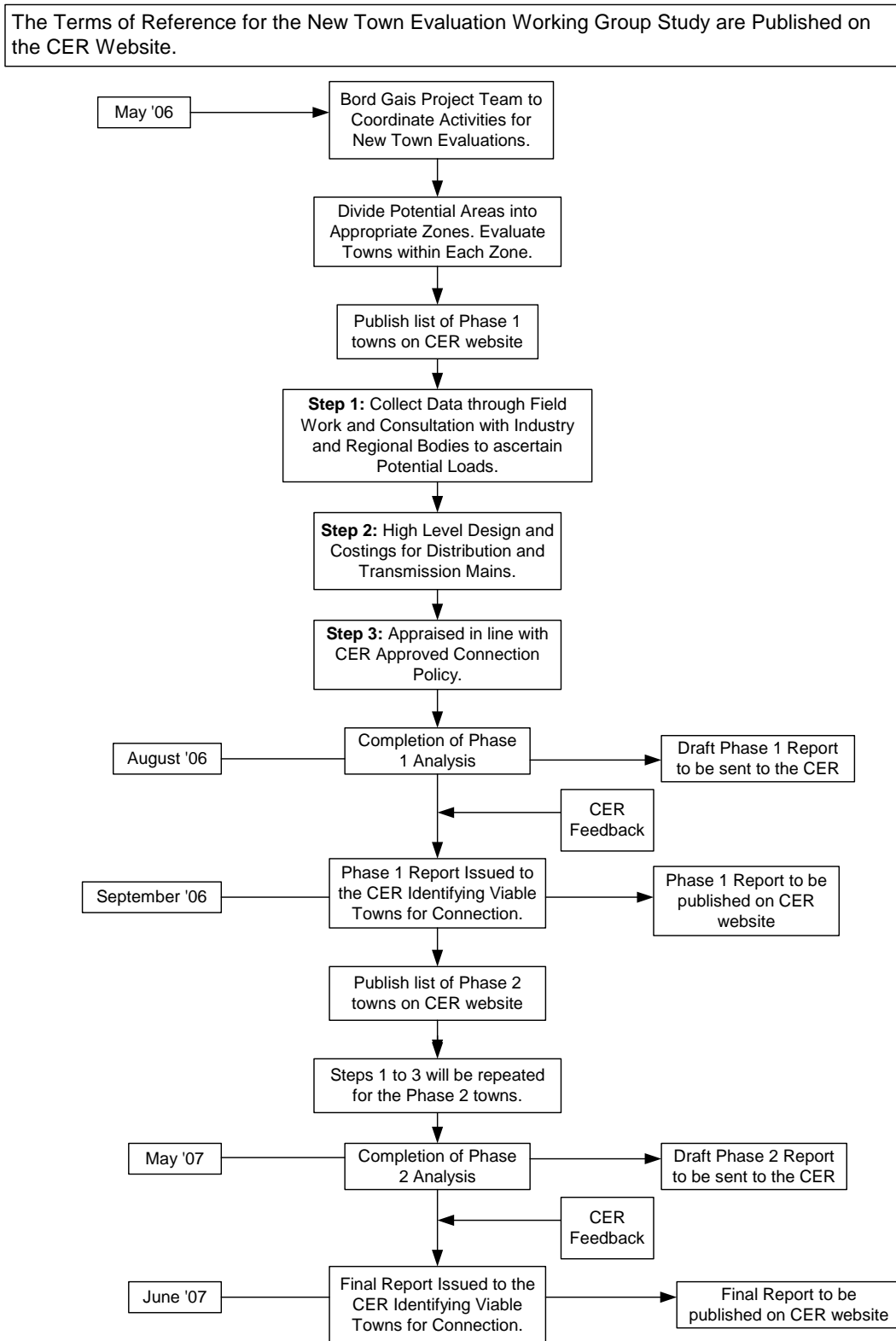
○ **Methodology**

- A project team will be set up within Bord Gáis Networks.
- The project team will produce a scope and programme plan.
- Management of the process and programme will be the responsibility of the project team.
- The project team will coordinate the activities associated with the delivery of a report.
- A geographic zonal approach will be taken where potential areas will be divided into appropriate zones, taking into consideration the National Spatial Strategy 2002-2020. Within each zone there will be number of towns or groups of towns that will be evaluated as part of the study.
- Data will be collected through field work and consulting with industry and various regional bodies.
 - Field work will involve Bord Gáis representatives visiting each zone and gathering gas load information on towns within the zone through Local authority development plans etc and consulting with local industrial, commercial and new housing developers
 - In certain zones data is currently available on towns and this data will be validated.
- Towns within zones where a large amount of data already exists will be appraised in a first phase of the programme.

- Towns within zones where data has yet to be collected will be treated in the second phase of the programme as it will take longer to collect the relevant data.
- Existing potential Industrial and Commercial loads and future new developments of domestic load will be considered.
- Outline designs and high level costings for a Distribution mains Network and a feeder main routing for each town will be produced. The associated Transmission mains and offtake requirements will also be designed and costed.
- The potential investments will be appraised, example attached, in line with the CER approved Connection Policy over a 25-year period and using Bord Gáis Networks' regulated rate of return. The appraisal will compare:
 - the present value of full pipeline and ancillary capital equipment (including AGI) costs and operating costs (both Transmission and Distribution) attributable to meeting the projected load. Capital costs include local authority charges associated with road openings. The present value of any attributable upstream (deep) reinforcement costs will also be included; and
 - the present value of, in all cases, 100% of distribution and transmission (entry and exit) tariff revenue attributable to the projected load.
- For the connection of a potential new town, or a regional group of new towns, to proceed, the present value of the revenues has to exceed the present value of the costs as determined in the economic appraisal.
- Following the analysis of potential towns further more detailed analysis will be carried out on towns that were initially close to satisfying the financial criteria whereby further consideration will be given to CSO data and town/county/regional development plans. These towns will be included in the Phase 2 final report.
- Towns may be grouped where they satisfy the following indicative criteria
 - a) Proximity of exit points from Transmission network – identify towns that are located close to and along the same section of Transmission pipeline;
 - b) Proximity of exit points from Distribution network - identify towns that are located close to and along the same section of Distribution main;
 - c) Identify towns with significant I&C loads and/or domestic load growth potential;
 - d) Identify towns that could be connected sharing the same Transmission and/or Distribution spur;
 - e) Determine towns that would be able to share the same operating costs (e.g. emergency response);
 - f) Evaluate selected towns individually taking into account any synergies identified above;
 - g) Towns with a positive NPV will be automatically included;
 - h) All other things being equal, towns with a negative NPV will be included in a descending order (with the town having the least negative NPV per additional therm being added first) as long as the total NPV of the group is positive (>0).

- On completion of Phase 1 an interim report will be forwarded to the CER outlining the analysis of those areas where detailed data is currently available. The final version of the Phase 1 report will be published on the CER website
- On completion of Phase 2 an interim report will be forwarded to the CER outlining the analysis of those remaining areas plus any phase 1 towns which were reassessed
- A final report will be issued to the CER outlining the conclusions of the study, re-iterating the findings of Phase 1 and Phase 2 and identifying which towns are viable for connection and which are not.

Fig 1. New Town Evaluation Process



Appendix 1B

New Town Appraisal Template - Results Summary – Example

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11...	Year 20	Year 21	Year 22	Year 23	Year 24	Year 25
Demand (MWh)																		
Capacity																		
New Housing	0	23	46	70	93	116	139	163	186	209	232	232	232	232	232	232	232	232
Large I&C	0	20	370	370	370	370	370	370	370	370	370	370	370	370	370	370	370	370
Medium I&C	0	6	11	17	22	28	28	28	28	28	28	28	28	28	28	28	28	28
Small I&C	0	14	20	23	24	26	27	29	29	29	29	29	29	29	29	29	29	29
	0	63	448	479	509	540	564	589	612	635	659	659	659	659	659	659	659	659
Commodity																		
New Housing	0	3,052	6,104	9,156	12,208	15,260	18,312	21,364	24,416	27,468	30,520	30,520	30,520	30,520	30,520	30,520	30,520	30,520
Large I&C	0	4,000	79,000	79,000	79,000	79,000	79,000	79,000	79,000	79,000	79,000	79,000	79,000	79,000	79,000	79,000	79,000	79,000
Medium I&C	0	800	1,600	2,400	3,200	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
Small I&C	0	1,875	2,625	3,000	3,188	3,375	3,563	3,750	3,750	3,750	3,750	3,750	3,750	3,750	3,750	3,750	3,750	3,750
	0	9,727	89,329	93,556	97,596	101,635	104,875	108,114	111,166	114,218	117,270	117,270	117,270	117,270	117,270	117,270	117,270	117,270
real prices, €/000																		
Revenue																		
Distribution																		
Capacity	0	38	425	440	456	472	480	489	497	506	514	514	514	514	514	514	514	514
Commodity	0	11	113	117	120	124	125	126	128	129	131	131	131	131	131	131	131	131
Transmission																		
Capacity	0	52	366	392	417	442	462	482	501	520	539	539	539	539	539	539	539	539
Commodity	0	3	32	34	35	36	38	39	40	41	42	42	42	42	42	42	42	42
Capex																		
Distribution																		
	-6,000	-362	-367	-257	-245	-245	-230	-230	-217	-217	0	0	0	0	0	0	0	0
Transmission	-750	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Connection Charges																		
New Housing																		
	0	44	44	44	44	44	44	44	44	44	44	0	0	0	0	0	0	0
I&C	0	43	45	12	8	8	4	4	0	0	0	0	0	0	0	0	0	0
Opex																		
Distribution																		
	0	-140	-140	-140	-140	-140	-140	-140	-140	-140	-140	-140	-140	-140	-140	-140	-140	-140
Transmission	0	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11
Net Cash Flow	-6,750	-321	507	631	685	730	772	803	842	872	902	1,075	1,075	1,075	1,075	1,075	1,075	1,075
Net Present Value @ ROR	€3,790																	
Note:																		
The figures presented are for illustrative purposes only																		