1. Attendees

1. Frank Prashad (FP), RWE npower	12. Guy Nicholson (GN), RenewableUK
2. Ivo Spreeuwenberg (IS), NGET	13. Helen Snodin (HS), Scottish Renewables and HIE
3. James Anderson (JA), ScottishPower	14. Merel van der Neut Kolfschoten (MNK), Centrica *alternate*
4. Tim Russell (TR), REA	15. Michael Dodd (MD), ESB International
5. Garth Graham (GG), SSE	16. Robert Longden (RL), Mainstream Renewable Power
6. Stuart Cotten (SC), Drax Power Limited	17. Simon Lord (SL), First Hydro
7. Louise Schmitz (LS), EDF Energy	18. Anthony Mungall (AM), Ofgem
8. Andrew Barker (AB), Redpoint Energy	19. Jonathan Hodgkin (JH), Ofgem
9. Duncan Sinclair (DS), Redpoint Energy	20. Scott Hamilton (SH), Ofgem
10. Nick Screen (NS), Redpoint Energy	21. Miles Perry (MP), Ofgem
11. Steve Davies (SD), DECC	**Apologies for absence:** Paul Jones (PJ), E.ON; Ricky Hill (RH), Centrica.

2. Overview of Discussion

Ofgem opened the meeting by explaining the purpose of Technical Working Group (WG) meeting 8 was three-fold. Firstly, to allow Redpoint Energy Limited (Redpoint) to present an update to the provisional modelling results for the three potential charging options to the WG, and to give the WG the opportunity to highlight any anomalous outputs and to advise on presentational format. Secondly, to give the WG the opportunity to advise Redpoint as to how best to present its work to date at the wider TransmiT Stakeholder Event on 17 November. Thirdly, to discuss the timetable for the completion of the Final Working Group Report.

Ofgem stated that because Redpoint would be leading the meeting, they would provide a meeting note that would be specifically concerned with capturing WG comment on the modelling work and specific points of detail/clarification. Alongside this, Ofgem agreed to provide a 'high-level' note as a general record of the meeting.

Stakeholder Feedback:

GG informed the WG that he had been in discussion with the Governance Standing Group about preparatory work to help the CUSC Panel respond to any recommendations arising from the Significant Code Review (SCR)

Redpoint presentation:

Redpoint began their presentation to the WG by explaining that the purpose of the presentation was to present a draft slide pack of the provisional base case results for the Stage 1 and Stage 2 modelling work. Redpoint noted that a draft slide pack of preliminary results had previously been presented in the course of WG 7 and would therefore place more emphasis on highlighting notable changes made in response to WG feedback received. Redpoint also asked for WG feedback on how best to present its work to date at the TransmiT Stakeholder Event on 17 November.

Redpoint explained that in light of WG feedback revisions had been made to the constraints placed on annual build and cumulative generation build by technology. Redpoint also noted that, in response to WG feedback about the lack of nuclear build under the Socialised scenario in Stage 1 which was deemed an 'unrealistic' outcome when driven entirely by the transmission charging regime, they had since adjusted the modelling approach slightly to increase CfD levels by a small proportion for nuclear to move to a less extreme result for build under socialised charging approach. Redpoint added that for the purposes of transparency, the reasons for this change would be noted in their Final Report.

LS stated that because there had been some changes to some elements of the input assumptions applied in the Stage 1 modelling work as a result of WG feedback, it was important that the reasons for these changes, and explicit detail of what the changes involved, was recorded and made publicly available. She added this would serve to bring transparency to the linkages between input assumptions and modelling outputs (eg how the CfD levels have been calibrated in stage 1 to hit 2020 renewable targets). As a general point, she expressed her expectation that there would be a comprehensive list of input assumptions, and how they were derived, in Redpoint's Final Report. Redpoint stated that a comprehensive list of input assumptions would be included in their Final Report as appendices.

A similar presentational point was made with regard to the Scottish island groups, particularly the need to provide further details on the estimates of island tariffs. Redpoint noted that this level of tariff detail is still being collated and it is intended to share this with industry at the forthcoming industry event. Full detail will be included in their Final Report.

Redpoint noted that the Cost Benefit Analysis (CBA) data was under consideration by Ofgem and would not be released to the WG at this time. Ofgem confirmed that the CBA CBA analysis will be presented as part of the consultative process that Ofgem intends to launch in December 2011.

WG members saw merit in presenting both Stage 1 and Stage 2 results at the Stakeholder Event, but indicating the clear differences between the approaches to the audience.

- ***Tariff summary***

Some members of the WG requested that the presentation of results at the wider Stakeholder Event should be focused around 'key headlines', such as graphs pertaining to average Generation & Demand TNUoS tariffs across Great Britain (GB), Maximum Allowed Revenue (MAR), net generation investment and constraint costs.

One WG member noted that care needs to be taken when requesting tariff results, especially for potential projects. He noted that the estimated tariffs being presented were not to be taken as confirmation or indication of actual tariff levels or as the basis for investment decisions. Another WG member suggested that while this was true, estimated tariffs were an obvious way of understanding the impact of change of each modelling scenario, meaning it was natural that stakeholders would be primarily concerned with potential future tariffs.

- ***Presentation of Stage 1 results under 'imperfect foresight'***

Redpoint began discussion of the Stage 1 results by explaining some of the changes they had made to input assumptions in light of WG feedback and the subsequent impact they had made on the modelling outputs (eg, loosening build constraints, resulting in a wider spread of renewable investment outcomes). Redpoint added that their summary note (circulated on 19 October) also offered further detail on these changes.

One member noted that it would be helpful if Redpoint's Final Report included more detail (ie numbers and assumptions) in the graphs showing cumulative retirements by

generation type. Redpoint noted the possibility of including these in their Final Report. Redpoint added that they would explore the possibility of releasing a spreadsheet document containing more detailed figures on a range of modelling outputs where the material was not deemed to be commercially sensitive.

LS noted if the Status Quo modelling scenario is based on Gone Green[1] then obviously the model will meet renewable targets, meaning it was more logical to headline whether the alternatives also meet them.

Under the discussion of installed capacity by location, Redpoint explained that in the Improved ICRP scenario build decisions for offshore wind are driven by locational TNUoS. In contrast, under the Socialised scenario build decisions are driven by water depth.

Some WG members suggested that it would be helpful to see a 're-aggregation' of some of the zones associated with the geographical presentation of results, eg North v South Wales. It was also suggested that installed capacity and generation investment (net entry and exit) should be disaggregated further to allow better observation of load factor implications (high and low) under Improved ICRP, possibly by charging zone.

One WG member suggested that it would be helpful to see a disaggregation of installed capacity on the Scottish islands, including the order with which they 'come forward'. Redpoint agreed to consider this further.

One member of the WG expressed the view that the installed capacity by location outputs for 2020 were unduly constrained by the use of the TEC Register[2] as the basis for the input assumptions. In contrast, he suggested that because the 2030 projections were driven by economic investment decisions and less constrained by the TEC Register, they were potentially more characteristic of generator investment decisions. Redpoint noted that this point had been raised at WG 7 and had since flexed the build rate and maximum build assumptions in light of WG feedback to compensate for this and address the concern.

The WG queried the modelling outputs pertaining to constraint costs. Redpoint noted in their presentation that in the Socialised scenario there is a rapid increase in constraint costs which would not be offset by higher levels of transmission reinforcement imposed by the current transmission reinforcement schedule. Some WG members expressed the view that this was unlikely, noting that by conventional economic wisdom if constraint costs became excessive then transmission reinforcements would naturally increase to find a more optimally efficient level of energy generation. Redpoint explained that the possible reinforcements on the constraint boundaries have all been committed in earlier years (based on RIIO submissions and some additional generic reinforcements). The preliminary analysis seems to indicate that despite delivering all reinforcement projects (in an economic and efficient manner) the constraints costs remain high under this charging approach. . One member of the WG also noted that under Stage 1 it was logical to expect excessive constraint costs because of the 'unrealistically' high levels of renewables in the generation mix.

- ***Presentation of Stage 2 results under 'imperfect foresight'***

Redpoint began by noting that the Stage 2 results showed (relative to the preliminary results presented to the WG in October):

- Less difference between charging options relative to Stage 1
- More similarity in terms of national capacity mix between charging options compared to Stage 1
- A significant reduction in constraint costs in the Socialised scenario compared to Stage 1 as a result of less renewable generation.

[1] "Gone Green" is a scenario created by National Grid as one way of meeting 2020 renewable targets.
[2] The TEC Register provides a publicly available record of the existing allocation of Transmission Entry Capacity (TEC), the business it is allocated to, and the site details.

One member of the WG noted that because Stage 2 results involved an adjustment to CfD levels, it was important that stakeholders did not base judgements about the suitability of each option on overall costs. Rather, in the context of the SCR review, it was more sensible to base judgements on the signals generated by each option.

Some members of the WG expressed concern that there was 'over reinforcement' in the presentation of constraints costs in the Stage 2 Status Quo scenario. Ofgem responded by noting that the "last" reinforcement is triggered because the modelling signals that it is economic to do so (under an imperfect foresight model). Redpoint confirmed that the model does not seek to size reinforcement projects exactly (consistent with current practice) and recognises that some oversizing will deliver benefits relative to not doing the reinforcement at all.

- ***Presentation of 'perfect foresight'***

Redpoint explained that they had experienced some challenges with perfect foresight approach, noting that it produces convergent results on two of the three options (Improved ICRP and Socialised scenarios). However, under Status Quo scenario, the iterations do not converge to a single result. When compared with the imperfect foresight results, it was noted that the perfect foresight results indicate lower constraint costs in some years as transmission investment is brought forward and Scottish wind build reduces slightly. Redpoint stated that this meant that the model flipped between two results due to a feedback loop between wind in Scotland, HVDC investment and tariffs. As a result, the two extremes of Status Quo results landed above and below the imperfect foresight outputs in term of renewables (specifically Scottish wind).

One WG member suggested that caution should be exercised when evaluating the 'perfect foresight' (ie full information on transmission charges and generator locations) modelling approach due to its inherent 'lack of realism'. As such, this limited the degree to which generalisations and inferences could be made from the results it generated. Ofgem noted this point, and asked the WG if this was generally reflective of broader opinion. Following some discussion, it was agreed that the focus of analysis should be primarily concentrated on the results generated by the imperfect foresight approach, but 'cross-checked' with the perfect foresight outputs.

Preparation Stakeholder Event:

Ofgem began the discussion by asking the WG to offer suggestions as to the most appropriate format for the wider Stakeholder Event on the 17 November. Following some discussion, the following broad structure was agreed:

- Brief update from the WG would be delivered by IS
- Short summary by Ofgem explaining what Redpoint had been instructed to model
- Redpoint to use the majority of the time to present their modelling results
- Question and answer session at the end of the meeting

WG Report:

The WG discussed the arrangements for the timely completion of the Final Working Group Report. It was agreed that the Final Report would broadly differ from the Initial Report in that it would include additional sections detailing the progress made in the final two WG meetings.

It was noted that the revised WG Terms of Reference stipulated a submission date of the 17 November for the Final WG Report. Ofgem stated that this could be extended to the last week in November if required. The WG accepted this proposal, with IS agreeing to circulate a timetable for the completion and submission of the Final WG Report by 25 November.