TENDER SPECIFICATION

Background

The Centre for Sustainable Energy (CSE) worked with the DECC Energy Prices team (now Distributional Impacts Analysis team) to develop the Distributional Impact Model for Policy and Strategic Analysis (DIMPSA). This model is used to estimate the distributional impact of policies funded through energy bills and of policies designed to affect energy usage. It has been used in the policy development process, particularly when analysing the impact and fairness of polices currently under development.

The DECC Distributional Analysis team use this model to produce quantitative analysis. The input data for this model is sourced from different policy teams within DECC and the Distributional Analysis team run the model internally and disseminate results.

An extension to the model will give us up-to-date evidence with which to influence the development of policies developed as part of the Green Deal and beyond. These policies will have significant distributional impacts and a number of policies will target benefits at specific households.

With a mind to increasing the fairness of future interventions, some form of targeting may be used in future policies aimed at directing policies towards that section of the population that needs it the most. This model will allow the DECC Distributional Analysis team to contribute critical analysis of the impact and effectiveness of this targeting. We will be able to provide detailed quantitative evidence of the impact on households in different demographic groups.

Description of Requirement/s

DECC would like the following, which you must cost up separately, as well as provide an indication on the timing and resource required for each:

<u>Modelling extensions</u>

1. Extend the current capability of the model to be able to produce estimates of the **private costs** of energy and climate change policies. This should include:
    a. direct costs of installing energy efficiency, renewable heat and renewable electricity measures as a result of Warm Front, CESP, CERT, CERT Extension, Green Deal Energy Company Obligation and Green Deal Finance, the Renewable Heat Incentive and Feed-in-Tariffs. This includes the full costs of purchasing measures and also the additional money the household needs to pay for a subsidised measure;

b. hidden costs of installing energy efficiency, renewable heat and renewable electricity measures as a result of Warm Front, CESP, CERT, CERT Extension, Green Deal Energy Company Obligation and Green Deal Finance, the Renewable Heat Incentive and Feed-in-Tariffs. This includes the costs of researching eligibility, supervising installation and the costs of redecorating post installation. Data on these costs is available in DECC based on research by Ecofys and is currently used for policy appraisal.

2. Use the above **information on private costs to inform/determine take-up of energy efficiency, renewable heat and/or renewable electricity installations** through policies such as CESP. CERT, CERT Extension, Green Deal Energy Company Obligation, the Renewable Heat Incentive and Feed-in-Tariffs.

3. Extend the capability of the model to include **the cost of repaying loans as part of the Green Deal Finance policy.** Users should be able to adjust repayment rates, periods and loan amounts in the modelling to be able to assess different repayment scenarios.

4. Include the ability to model **additional policies** separately. These should include:
    a. Policies that involve a specific levy on electricity prices (e.g. like DIMPSA currently models the Renewables Obligation and EU Emissions Trading System);
    b. Policies that involve a specific levy on different fuels;
    c. A future energy supplier obligation (such as Green Deal Energy Company Obligation) with separate targeting to provide us the flexibility to explore different ways it could be targeted (i.e. separate out the Supplier Obligation impact as the targeting for the Green Deal Energy Company Obligation could differ from CERT, and potentially be based on benefit proxies). In addition, this should also be able to account for the provision of conventional (i.e. gas) heating measures;
    d. Another policy which involves the distribution of energy efficiency, renewable heat and renewable electricity measures with targeting;
    e. Social Price Support, including:
        i. The ability to model the core group of eligible households: where energy suppliers give a specific rebate to all households that meet a specific set of criteria (e.g. households on Pension Credit); and
        ii. The ability to model the broader group: where an aggregate amount of money is used by energy suppliers to support a more broadly defined group of households (e.g. bottom three income deciles).

    The difference between the core and broader groups is that everyone in the core group would get a benefit whereas only

some of the households in the broader group would get one (the number of household that benefit would be constrained by the available resources). In order to model this, we need to be able to specify a broad group of eligible households and an aggregate amount of funding (or number of households that will receive a benefit and then let DIMPSA randomly allocate the benefits to households in the group.

5. Improve the way DIMPSA models **products policies** by:
    a. Uniformly spreading the energy savings (and negative savings from the heat replacement effect) over all households (rather than applying a percentage reduction;
    b. Include net savings on the consumption of other fuels (including gas);
    c. Include the option of separately modelling the net costs associated with purchasing more efficient appliances as a result of products policies (cost assumptions will be supplied by Defra).

6. Extend the current capability to be able to **model results for 2025 and 2030**. The final set of interim years to 2020 will be agreed during the prioritisation exercise. Consider also ways in which demographic changes need to be modelled to account for the extended timelines.

7. Extend the current capability to be able to alter the level of energy saving (e.g. **account for comfort taking** and, if possible, underperformance of measures) from a particular energy efficiency installation by household composition.

8. Allow the user to **randomise the allocation of installations across all households** if needed (e.g. for policies where no targeting is proposed).

9. Provide the user with the **ability to run the measures criteria separately** to determine the maximum potential for measures using different settings:
    a. Producing a summary table of total measures prior to consumer choice;
    b. Producing a summary table of measure potential post-consumer choice i.e. once the household has been limited to a single heating technology.

10. Include **expenditure projections** in line with HMT methodology, allow expenditure to change with policies and include differential income and expenditure growth across different income deciles.

<u>Peer review process and capability</u>

11. Extend the current capability to be able to switch to **seeded randomisation** for the purpose of sense checking changes to inputs and

modelling assumptions and to model different scenarios of the same policy where scenario differences are unrelated to factors which affect take-up and the distribution of installations. Some thought should be given to the separation of randomisation streams (separate seeds) so that, for example, randomisation that affects a consumer choice is separated from randomisation about whether a consumer gets a measure (so the consumer's choice doesn't change if the likelihood of receiving a measure changes).

12. Extend the current capability of DIMPSA to be able to run the model in "testing/debugging" mode. This should include:
    a. Being able to switch to a smaller database. This could be a random sample, or the first n entries of the full database (if database order is random). This would then allow DECC to run against just a subset of the data by setting a switch.
    b. Being able to switch off elements of the modelling, to validate the other sections.

Input updates

13. The Living Costs and Food survey (LCF) data currently used is 2004/5, 2005/6, 2006 and 2007. This needs to be updated in DIMPSA by **replacing the oldest version (2004/5 and 2005/6) with the latest (2008 and 2009) version.**

14. Review the LCF data to include equality variables related to disability, ethnicity and disability.

Outputs

15. We would like an **update of the user manual and dataset guide** to include a guide on the extended functionality and all new variables that have been created (included how they are calculated, if they are derived variables.

16. In addition, we would like for you to carry out **training** for the Department's Distributional Analysis team (formerly Energy Prices team) on the model's newest capabilities.

Suppliers must provide details as to how they will manage sub-contractors and what percentage of the tendered activity (in terms of monetary value) will be sub-contracted.

Working Arrangements

The successful supplier will be expected to identify one named point of contract through whom all enquiries can be filtered.

If a consortium is awarded the contract, DECC may require it to form a separate legal entity as a condition of the contract.

Any sub-contracting opportunity greater than £20,000 (excluding VAT) should be advertised by the contractor, ideally via the Internet. Sub-contracting opportunities must also be managed by the contractor in line with the Public Contracts Regulations 2006 (as amended) where applicable.

A project manager and lead economist at DECC will provide the main points of contact with DECC, and will ensure two way communication with relevant officials in the department and the transfer of necessary knowledge.

Regular contact and meetings/conference calls will be held with the project team to discuss progress. Further updates to a wider group of officials will be required at key milestones.

DECC will provide meeting rooms, but the successful bidder will not be expected to work on a day to day basis on DECC premises.

Key Deliverables

The key outputs of this project will include:

- A working version of DIMPSA in DECC which includes all the agreed extensions in line with the project requirements above;
- Updated model documentation, including manual and dataset guide, incorporating all extensions and new variables;
- Training for DECC's Distributional Impacts Analysis team on the extended version of DIMPSA, as well as training for up to two new members of the team every year;
- An additional tester version of the extended model (with significantly reduced runtime) to aide peer review;

Period of Contract

The contract shall run from the date of the contract award to the end of March 2011.

Quotations

Tenders should be submitted on a fixed price basis and must be inclusive of all costs and overheads, including travel and expenses. Each individual requirement and sub-requirement listed above must be costed separately.

In submitting full tenders, suppliers confirm in writing that the price offered will be held for a minimum of 60 calendar days from the date of submission. Any payment conditions applicable to the prime contractor must also be replicated with sub-contractors.

DECC''s target is to pay all approved invoices within a maximum period of 10 days.