INDEPENDENT ATTESTATION

Tool for comparing greenhouse gas (GHG) emissions avoided by the conversion to electricity

Hydro-Québec retained GHD to undertake a verification of its new tool to compare GHG emissions avoided by the conversion of natural gas, heating oil and propane heating systems to electricity. Hydro-Québec launched this online tool in 2020 on its Internet site.

GHD has conducted the verification to a limited level of assurance, using the general principles outlined in ISO Standard 14064 Greenhouse Gases Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions. This standard outlines the verification principles to apply in order to ensure that greenhouse gas emissions reporting is complete, accurate, consistent and transparent. Although the ISO standard only applies to greenhouse gas verification, these general principles were used for the verification of the functionality of the tool developed by Hydro-Québec, and the information sources referenced.

GHD has established a conflict of interest verification protocol, which is rigorously applied to ensure its independence and that of its staff in the execution of verification mandates. This verification was performed by experienced and qualified professionals in accordance with GHD's conflict of interest verification process.

The spreadsheet for calculating avoided GHG emissions and the documentation of the functionality of the electronic tool, were prepared by Hydro-Québec based on its own collection of data gathered from numerous internal and external sources of information. GHD has 1) examined and corroborated the traceability of the sources of information and of the input data used in the calculations, 2) validated the basic assumptions and the references cited, and 3) conducted interviews with Hydro-Québec personnel in order to compare the flow of input data and the results produced by the electronic calculator. The calculations contained in the spreadsheet were evaluated using several scenarios combining the three target markets (commercial, industrial and institutional), the five sources of energy proposed (natural gas, fuel oil no.2, fuel oil no. 6, propane and electricity) and several activity sectors considered by the tool. These scenarios also assessed the values of the energy sources at the limits of the possible data ranges. The agreement between the spreadsheet calculations and the quantities obtained using the comparison tool was verified, by sampling of several possible scenarios.

The verification method used by GHD includes re-calculating avoided emissions and applying a sensitivity analysis to assess the integrity and reliability of the comparison tool. GHD can affirm that the evidence obtained during the verification is to a limited level of assurance.

GHD

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Nuran Attarmigiroglu, Lead Verifier

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