

A Green Gas sustainability certification scheme for Ireland

Why a sustainability certification scheme?

Ireland has set national targets in order to prevent climate change. In order to achieve this overall goal, measures for greenhouse gas (GHG) emission reductions and replacement of fossil fuels by green gases are in force, and new ones are being discussed. Ireland's high agricultural potential and its existing gas infrastructure make biomethane feed-in an important option. A green gas registry certification can help to establish a green gas market and to ensure that its development follows clear and transparent sustainability criteria. IERC's GreenGasCert Project has developed a blueprint for a green gas certification scheme for Ireland. This pamphlet gives an overview of the advantages and the functionality of this scheme.

Key properties

The main objective of the GreenGasCert project was to develop the blueprint of a certification scheme, which addresses the unique specialties of agricultural production systems and green gas production and utilization in Ireland. The key elements of the certification scheme blueprint developed in the GreenGasCert project include amongst others:

- a robust methodology for calculating and accounting for greenhouse gas emissions savings arising from biogas use,
- a functional tool for the performance of GHG emission calculations based on actual process information from stakeholders and market actors,
- a set of sustainability criteria, indicators and definitions to be used as a starting point for the process of the actual practical implementation of the sustainability certification scheme,
- a pilot certificate template to define the interfaces and links between the certification scheme and the registry blueprint.

The certification scheme blueprint developed throughout the GreenGasCert project recognizes the mandatory sustainability requirements from the EU Renewable Energies Directive (RED). Furthermore, the comprehensive GHG calculation methodology included in the blueprint complies with the requirements defined in the EU Renewable Energies Directive.

The scheme blueprint developed in the GreenGasCert project is suitable for the sustainability certification of green gas as well as the application of the green gas in different sectors (heat, power, transport).

Green gas sustainability certification in other countries

Over the recent years, sustainability certification schemes and frameworks have gained significant importance in the various sectors of the EU bioeconomy. Prominent examples stem from i.e. the organic food and feed production and the EU biofuels sector. After the introduction of the EU Renewable Energies Directive in 2009, several certification schemes for liquid biofuels have been

developed by industries and stakeholder and have been recognized by the European Commission. Thus, in general, broad experience does exist with regards to certification processes of biobased materials. GreenGasCert has built on these experiences and existing building blocks to compile a blueprint considering the unique features of green gases and the Irish agricultural production sector.

What are the legal boundary conditions for a green gas sustainability certification scheme?

One important framework containing requirements for green gas certification is the EU Renewable Energies Directive, which is currently under revision. One aim of the RED is the reduction of green house gases while respecting sustainability criteria. The derived criteria, if the current recast of the RED is implemented as foreseen, will also be applied to renewable gases. In order to fulfil these criteria, sustainability will be fundamental for all green gas production plants in the European Union. For green gases like biomethane, the most important sustainability criteria are the overall GHG emissions of the biomethane. These vary significantly depending on the substrate which is used for the production of biomethane. Waste and residues have generally lower GHG emissions than energy crops and therefore have a bigger impact on GHG savings.

Further legal requirements could derive from support schemes which could be established in Ireland. The certification blueprint is flexible enough to include such future changes into the setup.

How does the system look like?

In general, sustainability criteria defined by the developed scheme) will be assessed along the value chain for green gas production. This process will involve on-site audits and will, whenever suitable, be based on already existing certification and auditing practices in the Irish agricultural sector or for anaerobic digestion practices in Ireland.

Throughout this process, information regarding the sustainability and the mass flow of the feedstock, biogas or biomethane will be collected or generated and will be passed throughout the whole process chain. The final product of this process is a sustainability certificate which shows that the sustainability criteria of the system have been met by all operators throughout the value chain. Furthermore, the sustainability certificate will include information about the GHG mitigation potential as well as additional information regarding the total amount of green gas produced, etc. This sustainability certificate will be issued to the operator responsible for the last process step before grid injection. Once a green gas amount is injected into the grid, the corresponding sustainability information will be transferred to the green gas registry blueprint (another important product of the GreenGasCert project).

The following figure 1 shows the general framework with the two main elements of GreenGasCert on a macro level.

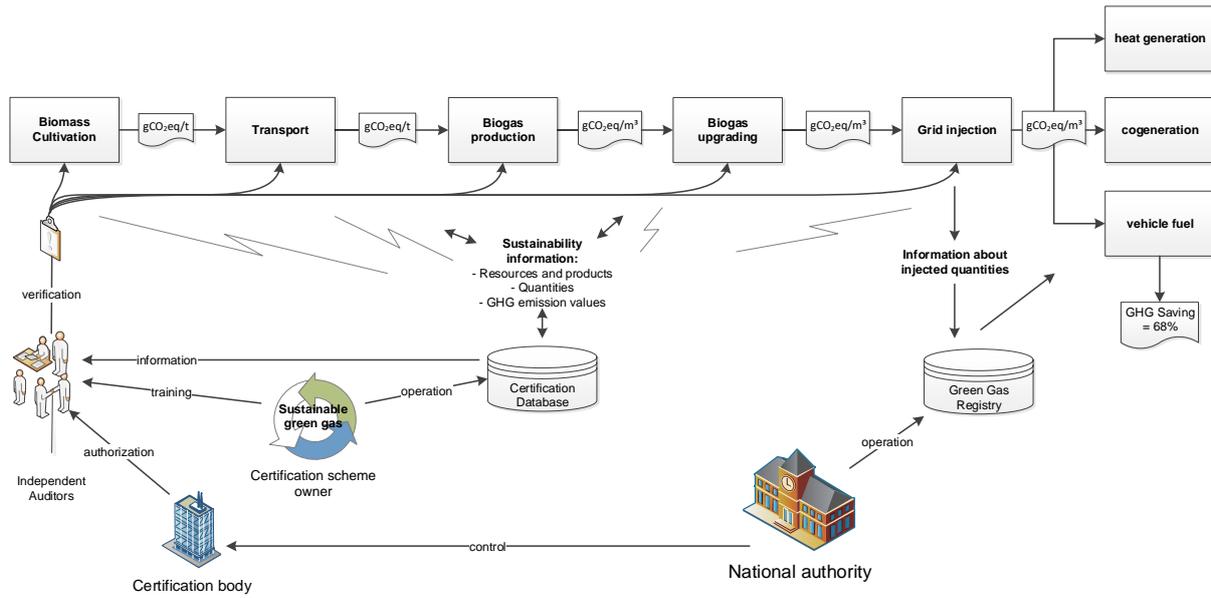


Figure 1 A sustainability certification scheme and registry for Ireland – the system overview

Read more

More Information regarding the green gas certification scheme can be found in the final report of the GreenGasCert project which can be found in the project's final report ([Link](#)) or on the project's website (www.greengascert.ie).