Whitepaper Bottlenecks Renewable Materials with Focus on End-of-Waste Status

Green Chemistry New Economy (GCNE) is there for the gamechangers in the Circular Economy.

GCNE is a Dutch platform focused on accelerating the material transition in chemical manufacturing in the Netherlands: from fossil based materials to circular, biobased, and CO2-based materials. GCNE focuses on 'gamechangers', often young companies in the scale-up phase. The platform guides these companies in their financing challenges and, as a result, has a large network of innovative entrepreneurs, financial organizations and deep insight into the obstacles these companies face.

GCNE is regionally organized within the Netherlands and collaborates with the clusters; Chemport, Smart Delta Resources, Moerdijk, Deltalinqs, and Economic Board Zuid-Holland, Amsterdam Chemistry Network, and Chemelot. GCNE was founded by the Regional Development Companies, InvestNL, TNO, and knowledge center Brightsite in Geleen and is supported by the provinces of Limburg, North Brabant, Zeeland, South Holland, North Holland, Drenthe, Friesland, and Groningen.

Policies of the National and European governments are necessary to prevent dependence on fossil materials and non-European countries.

- The rapidly growing import of cheap new plastic from countries like China makes it impossible for Dutch gamechangers in plastic recycling. And impossible to produce alternatives from **renewable materials** to compete and continue to invest.
- These companies are essential for the economic potential and job retention in the crucial chemical industry for Europe. They represent the **sustainability of the chemical sector and the innovative power** that distinguishes the Netherlands internationally and generates trade. They help to prevent, that the Netherlands and Europe, from becoming completely dependent on materials from non-European countries. Which would ultimately make these products more expensive due to our dependence.

A well-balanced set of conditions is needed to allow the market for renewable raw materials to mature.

- **Financiers** tend to step out at crucial moments or stay away because there is no sustainable and reliable national or European policy. Circular products are insufficiently offered on a large scale in the markets (for example in grocery stores, circular packaging for foods, dairy, or detergents is hardly available). Our gamechangers and supporters ask us to provide perspective and offer concrete solutions.
- The market needs to be stimulated through "**market demand**," which involves a combination of incentive measures such as recycled content obligations in combination with European origin declarations.
- The **availability of renewable materials** needs encouragement. Legislation that is restrictive needs revision, particularly around the "end-of-waste" dossier. Adequate availability of sustainable energy is also an important condition.
- **Scaling up and realizing factories**, especially so-called "First of a Kind" factories, designing products aimed at recycling, and continuing industry policy for business propositions now and in the future definitely need support.

European coordination on conditions is essential.

- The chemical sector is characterized by **large scale and internationalization**. National interventions will lead to market disruption and stagnation of further development of biobased chemistry.

- The **business climate** of the member state pose a risk to national frontrunner initiatives. The business climate of a member state must be attractive for businesses to establish and operate, including economic stability, regulatory environment and infrastructure.
- **Gamechangers** are desired, given the urgency; leading and being ahead requires shaping and anticipating European policy and avoiding market disruption within the EU.

Work on Material Declarations based on harmonized self-assessments.

- To **use waste or residual streams**, an end-of-waste status must be obtained, a complex and time-consuming process. The self-assessment is a workable solution.
- The industry has the best understanding of the stream, further responsibility within the industry is preferable to a material-by-material approach by government agencies (in the Netherlands, the environmental agencies). A good **self-assessment system** is obvious.
- A **uniform approach**, as conceptually developed in the Netherlands for PHA (PHA is a family of biodegradable plastics) at the level of diverse input streams and based on a specific platform for various applications, helps entrepreneurs accelerate their business.
- The **consortium** of GCNE, Invest-NL, the Union of Water Boards, and VNO-NCW is currently working on appointing a chain coordinator who will develop a uniform approach for self-assessment for various waste and residual streams.
- Self-assessment deserves greater recognition as an instrument to achieve a **material declaration**.
- Self-assessment seems to be at odds with legal certainty, but **legal certainty** is also not provided through other routes.

Self-assessment as a recognized route to material declaration with verification and creates the necessary trust.

- A self-assessment tool provides practical guidelines for the industry to get started within a harmonized, verified, and described framework. This increases the necessary trust among investors and entrepreneurs to provide comfort for renewable material propositions, even though legal certainty is not yet provided. The result forms a "**material declaration**."
- **Standardization bodies** such as NEN in the Netherlands and DIN in Germany possess the necessary expertise to independently and transparently guide the process of establishing a harmonized framework for self-assessments. This contributes to the quality and broad acceptance of material declarations, both nationally and at the European level.
- Self-assessment can be followed by **certification**, which is applied under certain conditions by private certification bodies. This shifts government intervention from content assessment to process assessment through the accreditation of certifying bodies.

The Self-Assessment Tool must be supported at the European level and gain European validity.

- To fully utilize the internal market, a unified European standards system and a **standardized self-assessment scheme** are needed for the self-assessment methodology.
- Standardization bodies such as NEN in the Netherlands and DIN in Germany can play a central role within the CEN framework, provided that at least five **member states actively participate in the standard development**.

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