PhytoFIT Consulting

Services in sustainability & energy transitions

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Presentation of PhytoFIT Consulting

- More than **10 years** of experience in strategic consulting applied to **sustainability and energy transitions.**
- A **rigorous, scientific and sourced** approach.
- A combined expertise of **technological, economic, environmental and regulatory** dimensions.
- A **global network of experts** covering all regions and technologies related to energy and ecological transitions.

Energy transition


Decarbonisation strategy


Biomass and sustainability


Regulatory compliance & certification


Life Cycle Analysis & Product Carbon Footprint


Carbon dioxide removal (CDR) technologies


Carbon Markets

Energy transition

Our expertise in **alternative and low-carbon energies** can support your transition and help you answer critical questions, including:

- Which alternative sources of energy (**heat, electricity, fuels**) are adapted to your needs?
- Which technologies are the most **mature**?
- What is the cost (**OPEX/CAPEX**)?
- What are the **environmental impacts**?
- What are the **risks to safety**?
- What are the **benefits for your clients**?

Biofuels | **Hydrogen** | **E-fuels**

Waste-based fuels | **Biogaa/Bio-LNG** | **SAF/Maritime**

Project examples
Client : Regional authorities **Description :** Multi-criteria analysis of storage solutions for photovoltaic electricity excesses, incl. batteries and hydrogen systems. The analysis included the assessment of costs, environmental impacts and safety issues.
Client : Fondation Nomads / H2 Network **Description :** Strategic study on the development of renewable hydrogen in French-speaking Switzerland.
Client : Passenger Shipping Company **Description :** Comparative analysis of low carbon propulsion systems (biofuels, synthetic fuels, e-fuels, biomass) for the fleet. The analysis includes a comparison of CO2 emissions, environmental impacts, safety issues and technical barriers (boats and infrastructure).

Decarbonisation strategy

Public and private energy systems and value chains are largely based on **fossil fuels**. We support your decarbonisation strategy through:

- A complete inventory of **energy/material flows**.
- The evaluation of **CO2 and environmental 'hotspots'**.
- The **substitution of carbon-intensive flows** (heat, electricity, materials, inputs, fuels) by economically viable low C alternatives.
- The establishment of **realistic and scientifically rigorous objectives** (e.g. SBTs)
- The implementation, monitoring and continuous evaluation of a **strategy and/or an action plan**.

Project examples
Client : Multiple **Description :** Inventory of energy consumption and associated emissions (Scope 1, 2 and 3). Analysis of scenarios for decarbonisation of heat production by low-carbon sources, e.g. biomass/biogas or hydrogen derivatives.
Client : Multiple **Description :** Assessing techno-economic and environmental impacts of using bio-sourced or recycled materials/plastics as chemical ingredients in the packaging sector. Implementation of a mass balance system for traceability.
Client : Regional authorities **Description :** Evaluation of the effectiveness of decarbonisation measures aimed at large consumers and recommendations for the application of policy incentives at municipal and cantonal levels within the framework of the cantonal climate plan.

Biomass and sustainability

Are you a producer of **heat, electricity or fuels derived from biomass** ? Are you looking to **replace fossil fuels/materials by biomass derivatives**? We help you:

- Identify the **types of biomass** adapted to your needs (wood, agricultural residues, biogenic waste, etc.).
- Evaluate the **availability** of different types of biomass and **competition with other uses.**
- Identify the **risks of impacts on the environment and society.**
- Implement a **sustainable and traceable supply chain.**

Project examples
Client : European Commission **Description :** Evaluation of the eligibility of more than 100 types of biomass, according to economic, technological and environmental criteria, as well as fraud risks. This project fed into the revision of the European Renewable Energy Directive (EU RED).
Client : Global good manufacturer **Description :** Establishment of a comprehensive biomass supply strategy for heat production and chemical precursor substitution. Different types of primary biomass (soya, cereals, palm oil, etc.) and secondary biomass (residues, waste, etc.) were compared based on an analysis of environmental and economic risks, as well as competition with other industrial uses.
Client : Mining company **Description :** Evaluation of key environmental/social risks when substituting fossil fuels with bio-based fuels. The project explored risk mitigation through the use of sustainable biomass certification by comparing different schemes on their strengths and weaknesses.

Regulatory compliance & certification

We help you ensure compliance of your activities and products with **Swiss/EU/Global regulations**, or voluntary certification standards. We also support **sustainability standard** organisations.

- Evaluation of **compliance with national, European or global energy/transport regulations**, with corrective actions if necessary.
- Support for the **development and implementation of national/European/global legislation**.
- Preparation for sustainable **certification audits** (e.g. ISCC, RSB, FSC, etc.)
- Development and implementation of **sustainabiltiy standards, traceability and assurance systems**, following **ISEAL** codes.

Project examples
Client : Multiple **Description :** Conformity assessment of low carbon fuels against Swiss (Oimpmin/OMCC), European (EU RED, ETS/CBAM), US (RFS), or global (CORSIA/IMO) regulations, particularly for carbon intensity and other sustainability/traceability criteria.
Client: Multiple **Description:** Preparation for sustainable certification audits (e.g. ISCC or Verra VCS) with analysis of non-conformities and corrective measures.
Client: Roundtable for Responsible Soy (RTRS) **Description:** Support for the development and continuous improvement of the RTRS certification system, incl. sustainability, traceability and verification (audits) criteria, as well as for the recognition of the system by the European Union under EU RED.
Client: UK Government **Description:** Support for the development and implementation of a national sustainable Hydrogen standard.

Life Cycle Analysis (LCA) & Product Carbon Footprint (PCF)

The sustainability of products and services shall be assessed over **their entire life cycle** (extraction, processing, transport, use, end-of-life) and according to different **impact indicators** (GHG emissions, water consumption, human toxicity, air quality, etc.).

Our services include:

- **Life Cycle Analyses** (LCA), including critical reviews.
- Modeling of GHG emissions (**Product Carbon Footprint**).
- The interpretation of results in the form of recommendations for **process/operations improvement** to reduce life-cycle impacts.

Project examples
Client : Multiple **Description :** LCAs applied to different fuels, materials and chemicals on Simapro.
Client : Global fuel producer **Description :** Carbon footprint of biofuels, synfuels, Renewable Fuels from Non-Biological Origin (RFNBO) and Recycled Carbon Fuels based on biomass, in accordance with European, US or global (CORSIA/IMO) calculation rules.
Client : Center for Zero Carbon Shipping **Description :** Development of a LCA methodology for maritime fuels, including biofuels, and fuels based on blue/green hydrogen.
Client : Arcelor Mittal/European Commission **Description :** Life cycle analysis of ethanol produced from blast furnace gases off steel production (Steelanol project).

Carbon dioxide removal (CDR) technologies

Carbon Dioxide Removal (CDR) approaches include technological solutions (e.g., geological capture and sequestration, mineralization, etc.) or natural solutions (afforestation/reforestation, biochar). These solutions can help reduce your CO2 emissions and/or issue carbon credits. We support you to:

- Understanding CDR solutions and their characteristics.
- Evaluate the costs, technical constraints and environmental risks/benefits.
- Calculate potential GHG reductions.
- Identify the treatment of CDR solutions in voluntary carbon schemes (VCM) and legislation.

Project examples
Client: Investment Fund **Description:** Technological and environmental evaluation of a project for the capture and geological sequestration of biogenic carbon in the perspective of generating GHG reduction certificates.
Client: UK Government **Description:** Exhaustive analysis of the treatment of CDR technologies (geological sequestration, biochar, mineralization, oceanic alkalization) in different voluntary carbon schemes (sustainability and traceability criteria).
Client: Biochar producers **Description:** Market study on possible scenarios to commercialize biochar produced from biogenic waste. The options included energy production, soil enrichment and carbon credits.

Carbon Markets

Greenhouse gas reductions and carbon dioxide removal (CDR) may generate **carbon credits** on **regulatory** (ETS) or **voluntary markets** (VCM).

We support you with :

- The identification of different **carbon credit** systems. We help you understand their s**trengths and weaknesses** in order to choose the system that best suits your **needs and objectives**.
- **Registration** with selected carbon credit systems and **preparation for your audit.**
- **Developing new calculation methodologies** specific to your technology for acceptance by voluntary systems.

Project examples
Client: E-waste recycling company **Description:** Evaluation of the project's compliance with the Verra VCS standard, coordination of registration with Verra, contact with the verification body, modeling of GHG emission gains and administrative procedures.
Client: Swiss startup (low carbon concrete) **Description:** Mapping of the different VCM options to certify the GHG reductions obtained through the manufacturing of low carbon cement and concrete. Registration of the project in a certification system and development of a methodology for calculating specific emission reductions through the client's patented technology.
Client: Voluntary Carbon Market (VCM) scheme **Description:** Support for the evaluation and compliance of the system with the 'ICVCM' standard, which harmonizes the operation and eligibility criteria of VCMs.

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