

BIO'LOGIC Assistance

General introduction

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BIO'LOGIC *Assistance*

Expert and Engineering Consultant ...

... for public authorities and private companies ...

... specialist of Organic Wastes Management ...

**... and specially for anaerobic digestion
applications**

*Winner of 1998 « North Department
Council » company creation competition*

Public authorities support missions

- ◆ **Coaching for waste management policy definition**, from regional to local scale, including bio treatment (**anaerobic digestion**, composting) regards to local conditions (geographic, demographic, energetic, and development targets (economical, environmental, ...), **multi-criteria projects evaluation**
- ◆ **International tender assistance** (technical aspects, or complete mission in partnership) for bio treatment plants all along the different steps (technical tender documents production, offers evaluation, contract negotiation support, building and start running step support, performances validation, ...)
- ◆ **Technical missions** (facility expertise, communication management, quality and training, feasibility studies, ...)

Industries support and training

- ◆ **Food industries waste management and treatment : sustainable development** (CO^2 emissions reduction and global approach linked to process production, transportation, water consumption, bio treatment, energy impacts, ...)
- ◆ **Bio treatment technical solutions** (composting or anaerobic digestion projects, and biogas use for all industries)
- ◆ **Active bio treatment facilities assistance** (technical and biologic performances checking, process change or technical rebuilding support for best results, ...)
- ◆ **R&D Process development support** (technical and economical evaluation, experiment program ... for news products and services linked to bio waste management, compost quality and uses, sustainable development)
- ◆ **Training support** made to measure (staff or operating workers)

Some public clients (partial listing *and mission*)

- ◆ **Environmental Agency** for Region Provence-Alpes-Cote d'Azur Council (1,3 millions inhabitants) : *Spanish composting strategy and modern composting treatments plants expertise - action in 2001-2002*
- ◆ **City of Calais** (75 000 inhabitants) then **Calais District** (40 municipalities, 160000 inhabitants) : *all definition studies for anaerobic digestion project (action 1997 to 2001) then full tender assistance (on running, engineering process chosen, detail engineering studies on running) for 27 000 tons/year biowaste anaerobic digestion plant with biogas cogeneration (process tenderers : Valorga, OWS, Linde, Farmatic)*
- ◆ **Mayenne Departmental Council** (280 000 inhabitants, 13 districts) : *coaching for bio waste management strategy definition*
- ◆ **Bangkok Municipal Authority** (4,3 millions inhabitants, 8000 tons/day ; action in 2000-2001) : waste management definition study (in partnership) ; **specific mission in the team : all biowaste aspects, including anaerobic digestion treatment**
- ◆ **Arras District and Douai District** (14 000 and 20 000 tons/year) : *composting plants technical expertises then tender technical assistance for rebuilding (performances evaluation step or tender step)*

Other references (partial listing, and mission examples)

◆ Environmental Agencies

- ◆ **ADEME** (French Notional Energy and Environmental Agency) : *methanisation industrial process evaluation, methanisation applications study*
- ◆ **ARPE** (Environmental Agency for Region Provence-Alpes-Cote-d'Azur Council - 1,3 millions inhabitants) : *spanish composting strategy study and modern composting treatments plants expertise - action in 2001-2002*

◆ industry

- ◆ **EDF** (France's electricity provider) : *composting project expertise*
- ◆ **Kronenbourg** (major French brewery) : *sewage sludge project expertise*
- ◆ **Cerestar** (major corn starch factory) : *biogas valorisation feasibility study*

◆ teaching and training

- ◆ **ENACT and CNFPT** (public civil servants schools) : *bio treatments and biowaste management*
- ◆ **Lyon** (postdoc level) and **Lille Universities** : *biowaste and quality management*
- ◆ **engineers schools** (french « grandes écoles ») : *Ecole des Arts et Métiers, Ecole des Mines ... : biogaz and anaerobic digestion*

Municipalities projects : examples

- ◆ **Bio waste anaerobic digestion feasibility study** (*150 000 inhabitants, then 27 000 t/y, biogas cogeneration*)
- ◆ **Global waste management optimisation** (*collections, bio treatments, incineration, landfill*) for intercommunal level (*140 000 and 500 000 inhabitants*)
- ◆ **Co-digestion project feasibility** (*manure and municipal bio waste, 10 000 t/y*) with biogas use target in a swimming pool and sport hall
- ◆ **Reconversion study** for an existing (*obsolete process design*) composting plant (*50 000 t/y*)
- ◆ **Program technical assistance** (*Life-QUALORG, 30 000 inhabitants*)

Other services examples

- ◆ **Industrial anaerobic digestion process evaluation** (global expertise linked to potential public development subventions)
- ◆ **Industrial process company staff training** (bio treatments, quality management) and **composting plant workers**
- ◆ **R&D support**
- ◆ **biogas valorisation feasibility in food industry**

Why *BIO'LOGIC Assistance* name ?

as ... biologic reactions, bio wastes, bio treatments

as ... an essential link



because ... to follow life process **logic** is much more efficient than fighting against

as ... a **partner** for client internal means

and as ... right thinking and long term **before** acting

Ethics *and way to think and to do*

- ◆ **Independent Company**, guaranty for objectivity
- ◆ **Long term and sustainable technical choices, linked to Quality**
- ◆ **1 Euro (€) spent in conception step** can save 10 more during building step and 100 more when operating
- ◆ **Making easier organic potentialities** is more efficient than fighting against
- ◆ **Only senior consultants**, and other top partnership if necessary (full mission or other specialities than bio treatment)
- ◆ **Co production with client and knowledge transfer** along the mission to ensure more efficient and long term results
- ◆ **First training and measuring for efficient thinking, deciding and operating**

International
environmental experts
network member

Projects Global
Approach, linked to
sustainable development

Quality
management
concepts

**Assets and
specificity**

Senior
consultant
with 20 years
industrial
Anaerobic
digestion
experience

High level
decision makers training
(Government departments, universities,
industries)

Some available partnership independent senior specialists

- ◆ compost and fertiliser local management
- ◆ Project and Management Consulting
- ◆ Quality and environmental management (ISO 9002 et ISO 14001)
- ◆ Energy and water complex systems modelisation
- ◆ Electro-chemistry and heavy metals depollution
- ◆ ...

Scientific knowlegde

- ◆ Microbiological treatment processes, from laboratory pilot reactors to industrial plant size)
- ◆ Thermal production and uses
- ◆ Economic assessment
- ◆ Agronomic compost uses (conditions, experiments)
- ◆ Heavy metals toxicity and depollution
- ◆ Patent aspects

François CAYROL Curriculum Vitæ (part)

Present position : *BIO'LOGIC Assistance Manager* (since company creation in 1997)

- French, 49, 2 children

- **Dipl. Engineer ENSIA - Ecole Nationale Supérieure des Industries Agricoles et Alimentaires** (food sciences and technologies, 1976-1979)

Former jobs

- **Energy and Biomass department Manager** in Champagne-Ardenne Region Agriculture Council (1980-1984)

- **Research Department Manager** in VALORGA*S.A. (1984-1989) then **Scientific Manager** in VALORGA PROCESS* S.A. (1989-1994),

- **Chief consultant** in CADET (generalist environmental consulting company, 1995-1996)

Other informations

- Tender actions for Menemen composting plant (Turkey, 1996, 25000 t/an)

- Definition studies for many departmental and local waste management plans

- Knowledge fields : industrial microbiology, chemistry, agronomic, thermal and energetic calculations, process engineering, industrial patent policy

- Patents inventor (France, Europe, USA) in anaerobic digestion field

- Publications et conferences

** First world anaerobic digestion process developed for « solid » bio waste in 1980' years*

BIO'LOGIC Assistance

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