

Sustainability, 20 years of the 'LE VIVRAY' Project, Normandy, France.

This book is written for my 3 boys and family and good friends, it is Not an academic paper, it is a true Empirical evidence practical publication.

However, things have really changed in the last few years, and many people are constantly asking us many questions about our activities here. So, this book will join other 'How to make' books that are published here by Bryan Microengineering.

We are at present a '**Independent non-commercial Sustainability & Renewable Energy Project**', and been doing the research and development for over 20 years now. And NO, we do not just throw money at this stuff, and if necessary, we will re-invent the wheel if it works out more cost effective. Our Mantra **Keep it Simple, Make it Robust, and keep it Cost Effective.**

Over the past 20 years we have seen many changes in the issues surrounding our planets health and its Future.

When we started here at 'Le Vivray' in 2002, we knew we had the opportunity to start from a clean plate, as the land and old buildings, local red brick and oak framed barns were basic constructions, and in the past 50 years had only received limited emergency maintenance. Therefore, we had the opportunity to design and implement sustainability strategies at the project's creation.

We wanted to live and walk lightly on this planet and we could use our skills to help others in the future. We were older parents of a young family, however being a slightly older dad, I was fortunate to know many good friends that were, farmers, engineers, builders, surveyors, architects, electricians, master masons, true bricklayers, master joiners and many more professions and good friends who have offered their free help and advice over the years. And yes, most of them thought that we were 'mad as hatters' taking on such a large and complicated project.

CHAPTERS.

A1. Short Introduction. Saving the Planet on a budget.

1. Explain Sustainability in a practical context at 'Le Vivray'. Why, How, and the Future.
2. Planning and cost effectiveness resolution.
3. Development, Testing, cost effective and minimum environmental impact. Capital Costs kept minimum; work done by our own team. ROI, Return On Investment
4. Reliability and effectiveness of commercial products, and sourcing locally.
5. Regulations and conforming to Country codes and Safety.
6. Skills required.
7. Insulation of old buildings to Passive House standards, what and how.
8. Garden and food growing
9. Our own FR approved Sewage system.
10. Grey water system and re=use, Reed beds, holding fish pond, etc.
11. Heating & Energy Creation and self-consumption, using second hand etc.
12. What's required for a normal Domestic House/Dwelling.
13. 2kW Solar PV Trackers.
14. Solar PV differing types mounting installations.
15. AC coupling with used Grid Tied PV Inverters.
16. Wind Turbines.
17. OzInverter. Creating your own 240vac 50HZ Mini Grid.
18. PLANTE Battery, and notes on batteries technology.
19. Other interlinked projects, Transportation, ECO salt swimming pool.
20. Acknowledgements.
21. Tables and graphs for size and volumes etc.
22. Further research links and other useful contacts.