



L'avenir est au multicarte... (Thierry Gaudin - Fondation 2100)

ESA HQ Paris - 28 August 2002 –

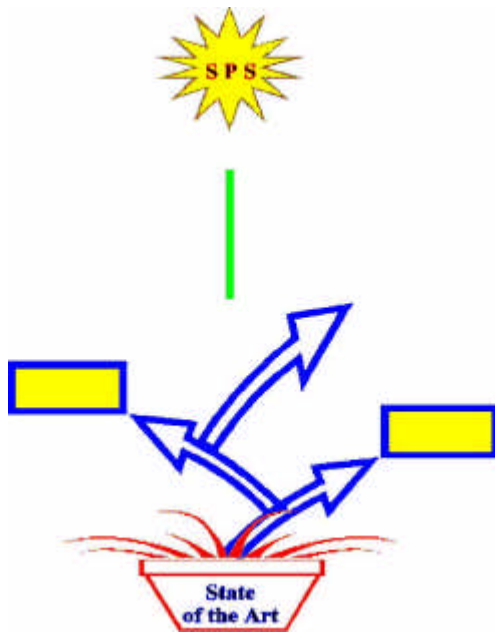
Solar Power Satellites

- An European Perspective -

Recent/planned SPS activities in France

presented by Guy Pignolet

"TERRACING" TOWARDS SSP



Space Solar Power is a great concept...

... but realisation is far away !

... too far for Government or Industry !

Peter Glaser proposed "terracing"

with small steps that have
their own merits in the short term.

This is the path chosen in France,

mainly under the leadership

of **the University of La Réunion**

SSP IN FRANCE



Initial information work was made in the 80's by Lucien Deschamps of EDF then lead was taken by University of La Réunion in 1994 with the **Grand-Bassin** WPT project

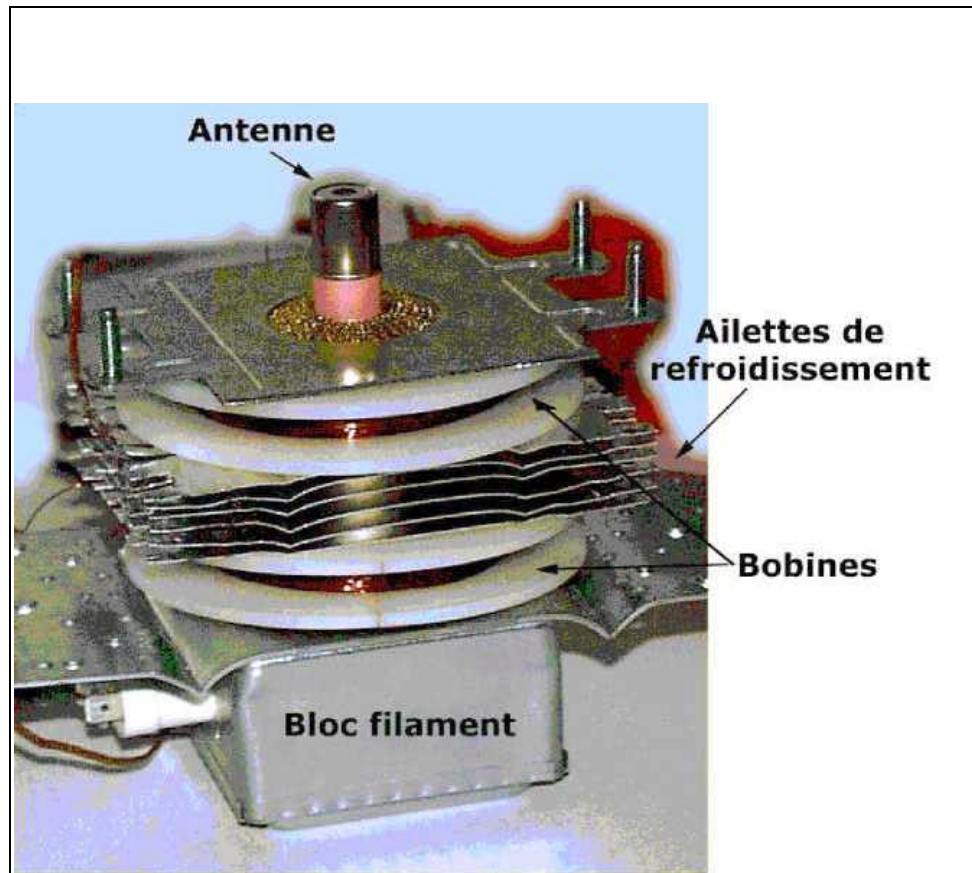
CNES has no definite policy but gives occasional help

POINT-TO-POINT WPT



For international experts,
next step is operational
point-to-point WPT

Grand-Bassin was selected
in 1994 because of special
conditions in terms of actual
energy needs and because of
favourable environment
in terms of academic
and technical support



TAMING MAGNETRONS

Main work of researchers
at University of La Reunion
is to achieve
control of magnetrons
with **clean spectrum output**
and **phase lock capability**
for energy beam formation
from multi-source
projector arrays

INDUSTRY PROTOTYPE



Most important progress was **the learning involvement of several local industries** in the construction of the first Grand Bassin prototype with national, regional & local supporting grants

A presentation was made to **the international community** during the WPT'01 workshop

"VEGETAL" RECTENNAS



Tree-design wire rectennas
integrate in harmony
with nature environment

In Angers, ESEO is developing
integrated rectenna chips

WPT work is also done
in Limoges and Nice,
other SPS work is done
in Orleans and Paris

STUDENT "T.I.P.E."



Engineering students do
"Coached" Personal Interest

Work in many schools
learning for themselves
and teaching their teachers
about WPT and SPS

First contact is through
the internet website
www.grandbassin.net
(in French and in English)

DEMO MODELS



Jean Perrin Lycee has an
integrated school project
for manufacturing
and selling worldwide
SPS system demonstrators

Models will help
promotion of SSP concept

contact :

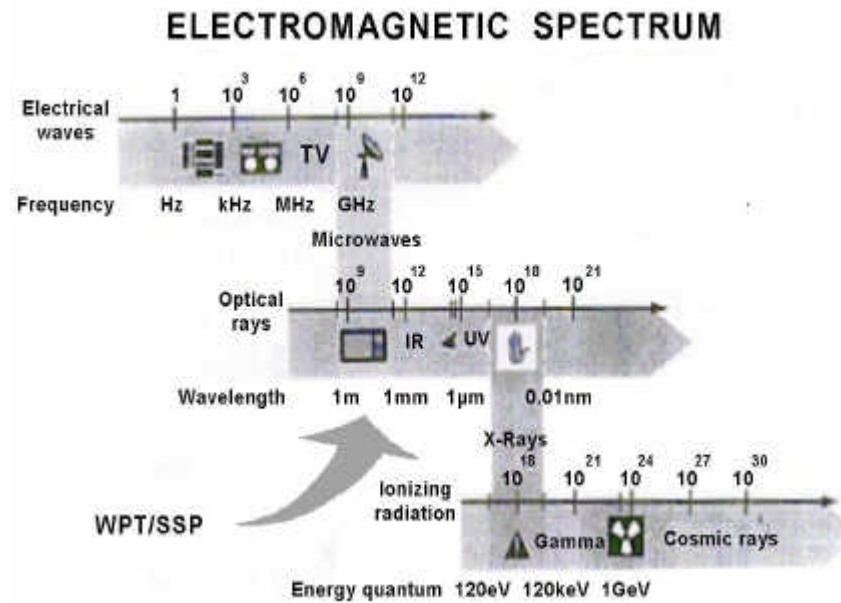
tesfperrin@netcourrier.com

SUNSAT ENERGY COUNCIL



The international Board of the Sunsat Energy Council met with the President of the French Senate to discuss the SSP option SPS test systems in space could possibly be funded on **Defense budgets** to ensure energy futures or Planet Earth

2.45 GHZ ISM BAND



A special issue
for future consideration
is the preservation
of the frequency bands
used for SSP

The ITU gives attention
to **effective use**
hence the importance
of operational WPT

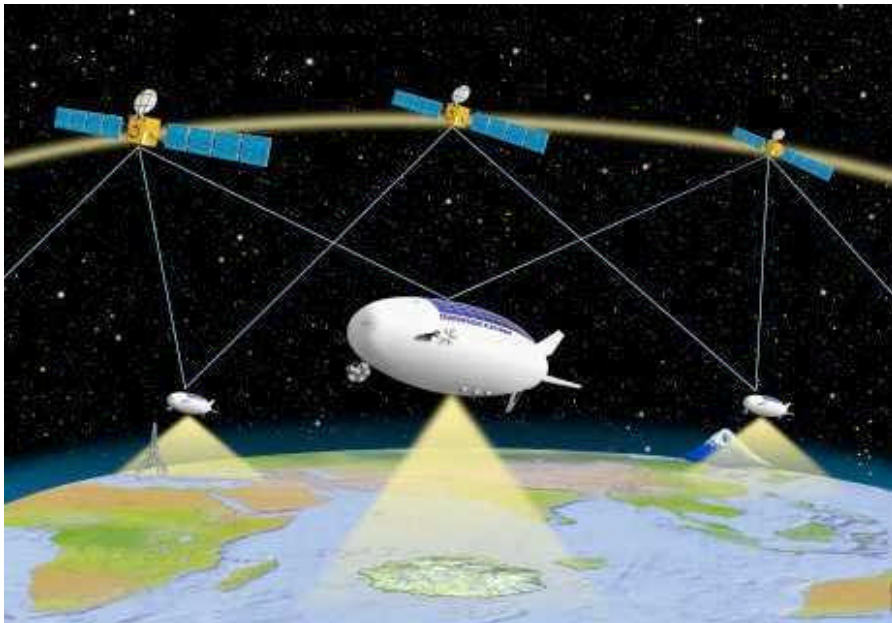
OPERATIONAL WPT



is essential to build
towards the future
of Space Solar Power

Europeans might
join forces and
concentrate on making
Grand-Bassin
become operational
as soon as possible !

NEXT STEPS IN EUROPE



* Participation in international WPT tests from space

* WPT power systems for **stratospheric platforms**

* Participation in international technological development for SPS-2000 class projects

www.grandbassin.net