

FITs DESIGN SEMINAR SPONSORED BY
World Future Council and Sierra Club, Michigan Chapter

Designing sustainable wind and solar PV FITs Method, approaches, examples, US case studies

East Lansing Marriott Hotel, Lansing, Michigan
February 23rd 2010 9am – 5 pm

Trainer : Bernard CHABOT, Consultant and trainer on renewable energy
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PROVISIONAL PROGRAMME

8 :30 – 9:00 : welcome of participants

9:00 – 9:30 : OPENING SESSION

Welcome address
Organization and goals of the seminar

Gayle Miller, Sierra Club
Paul Gipe

9:30 – 12:30 (including a coffee break):

PRINCIPLES OF FAIR AND EFFICIENT FEED-IN TARIFFS

- Wind and solar PV market deployment success stories and failures: role of FITS,
- Why and how to define “fair and efficient FITs”.
- Why to design FITs from a global intrinsic profitability before tax on profit and not on after tax ROE
- Remembering conventional economic profitability parameters: discount rate as WACC before tax, Net Present Value (NPV), Simple and Discounted Pay-Back Time (SPBT, DPBT), Internal Rate of Return (IRR), Benefit to Cost Ratio (BCR)
- Introducing the Profitability Index (PI): ratio of a project NPV to its initial investment cost

ADDED VALUE OF THE PROFITABILITY INDEX METHOD

- The linear universal model: project PI against selling price of kWh : defining both lifecycle cost of energy (LCOE), its structure and the profitability from a targeted market price.
- The universal Profitability Index Scale according to investors and market deployment strategies: consequences and recommendation for fair and efficient tariffs
- First example of universal wind and PV tariffs according to targeted profitability, investment cost ratios and potential annual energy yields. Discussion for application in the US context
- Taking into account existing or potential incentives: subsidy on initial investment, soft financing, carbon credits. Discussion on their inclusion or not in US FITs proposals.

12:30 – 13:30 : LUNCH

13:30 – 16:30 (including a coffee break):

CASE STUDIES: SIMPLE FITs DESIGN AND CALCULATION

- Presentation of the PIMPOWER software (on Excel): inputs, outputs, use of the PI scale
- First case study: defining wind power FITs: example on wind farms projects on three reference sites. Sensitivity analysis, discussion of results and first conclusions.
- Second case study: defining solar PV FITs: example on three reference projects (small domestic PV roofs, large commercial PV roofs, ground mounted large PV plants on two different sites. Sensitivity analysis, discussion of results and first conclusions.
- The devil is in the details:
 - How to take into account future inflation effects

- How to take into account a potential energy yield decrease.
- How to take into account potential future investment cost changes
- Case studies on the PIMSOFIT software for a wind and a solar FIT
- Discussion, recommendation and conclusions.

FROM SIMPLE FITs TO ADVANCED AND SUSTAINABLE FITs SYSTEMS

- The need of wind and solar PV FITs adapted to potential on site annual energy yield
- Proposal for wind power: FITs system based on annual specific energy yield in kWh/m².year. Examples and discussion.
- Proposal for solar PV: FITs system based on potential optimum annual energy yield in kWh/kWp.year. Example of case studies for European countries. Discussion and conclusions for US States.

16:30 – 17:00

GENERAL DISCUSSION AND CONCLUSIONS FROM THE SEMINAR, FOLLOW-UP PROPOSALS

Moderators : Paul Gipe, Gayle Miller