1. INTRODUCTION
   1. PV generation
   2. Module Integrated Converter (MIC)
   3. Problem statement
2. STATE OF THE ART
   1. Topologies of DC-DC converters
      1. Buck converter
      2. Boost converter
      3. Non-inverting Buck-boost converter
   2. Maximum Power Point Tracking techniques
      1. Constant voltage
      2. Perturb and Observe
      3. Incremental conductance
3. NON-INVERTER BUCK-BOOST CONVERTER DESIGN

Intro explaining the reasons for selecting this DC-DC converter(selection of topology)

* 1. System requirements
  2. Circuit analysis
  3. Component sizing
  4. Simulation results

1. HARDWARE IMPLEMENTATION
   1. Selection of commercial components
      1. Passive components
      2. Switching circuitry
         1. Switch sizing
         2. Heat sink sizing
         3. Drivers and optocouplers
      3. Sensoring circuitry
         1. Input voltage sensor
         2. Output voltage sensor
         3. Current sensor
      4. Power supplies
   2. PCB design
      1. PCB structure (schematics in appendix)
      2. Design considerations
      3. Power side
      4. Control side
2. MAXIMUM POWER POINT TRACKING

Intro explaining the reasons for selecting P&O (selection of topology)

* 1. Perturb and Observe implementation
  2. Simulation of the MPPT
     1. Model of the PV panel
     2. Simulation results

1. TEST AND VALIDATION OF RESULTS
   1. PCB
      1. Power Supplies
      2. Optocouplers
      3. Drivers
      4. Sensors
   2. MPPT ?? Decide this when the test is defined!!
      1. RT-box
      2. PV simulator
      3. Load
      4. Experimental results
2. DISCUSSION

Write about the results obtained during the project and mention the + and – results.

* 1. Encountered problems
  2. Future work

1. CONCLUSIONS

Things to remove, write or change in each chapter:

1. **INTRODUCTION**

I think the first part of the intro gives a general overview, but we can add/remove something if you think so. I consider it is ok like it is.

* 1. PV generation
* I deleted a paragraph for the STC conditions and included it in “PV panel model”.
* I added an explanation to Thassilo’s comment.
* I modified a bit the text to make it shorter and also corrected some mistakes.
  1. Module Integrated Converter
* I would call this section like this instead of MIC implementation because we don’t implement it here. Also, writing the entire name.
* Consider rewriting the first part as it is repetitive. Start explaining what is a MIC and why do we use it. Mention that the efficiency of the MPPT is usually higher than 99%.
* Delete the figure with the two MPP due to partial shading as we are not implementing this.
* Maybe reorganize the structure as mentioned in the comment.

1. **STATE OF THE ART**

* Delete the flyback converter.
* Brief intro explaining what’s is going to be written in this chapter.
* Include in the MPPT techniques the advantages and disadvantages of each of the algorithms.

………

1. **DISCUSSION**

This section fulfils several aims:

* It compares your results with previous results from other authors
* It clarifies the innovation (the new added knowledge) of your work •
* It may also be a little self-critical, i.e. by announcing and explaining potential shortcomings of your work
* Therefore, the discussion will contain many citations which will be – at least in part – repetitions of those cited in section "2 State of the art"
* The discussion may be split into subsections covering different aspects/fields of your work
* The discussion demonstrates your ability to think critically about your research. It is therefore the most important section with respect to your intellect •
* Length: dependent on the amount of data and of existing background information. Something between 5 and 15 pages.

1. **CONCLUSIONS**

This section raises the overall questions of your work:

* What has been achieved?
* What is still missing?
* What should follow -up activities focus on? etc….
* Length: c. 1 page