

Creating Jobs in the Solar Cell Industry

Learning from Developments in Norway and Germany 2001-2015

University of Bergen

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Hanne Sjøvold Hansen, MSc

with

Åge Garnes, Professor

Tom Skauge, Associate Professor



**Western Norway
University of
Applied Sciences**

Presentation overview

1

What was the purpose of the study, and why is it important?

2

What methods and theories were applied?

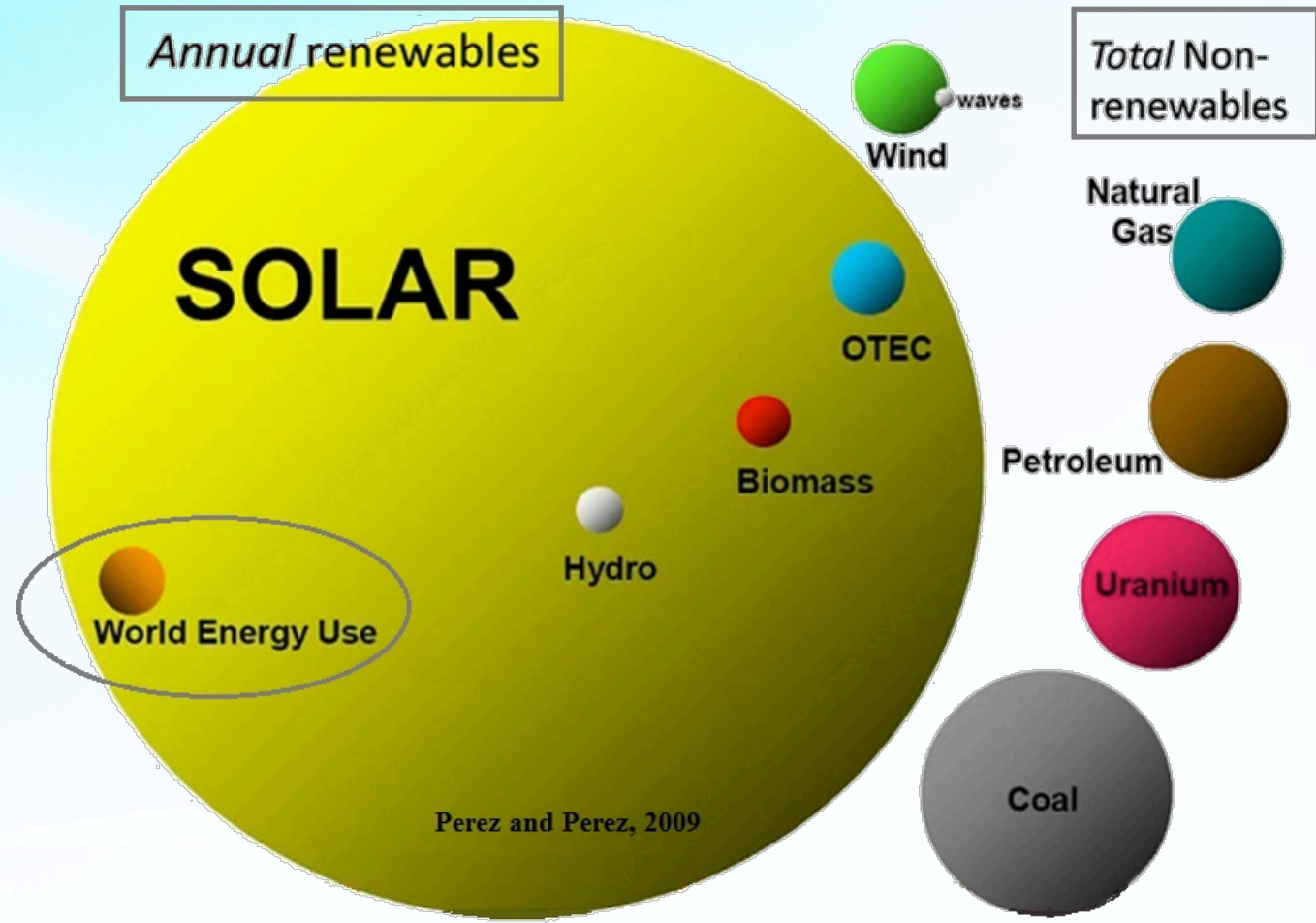
3

What were the results and the conclusion?

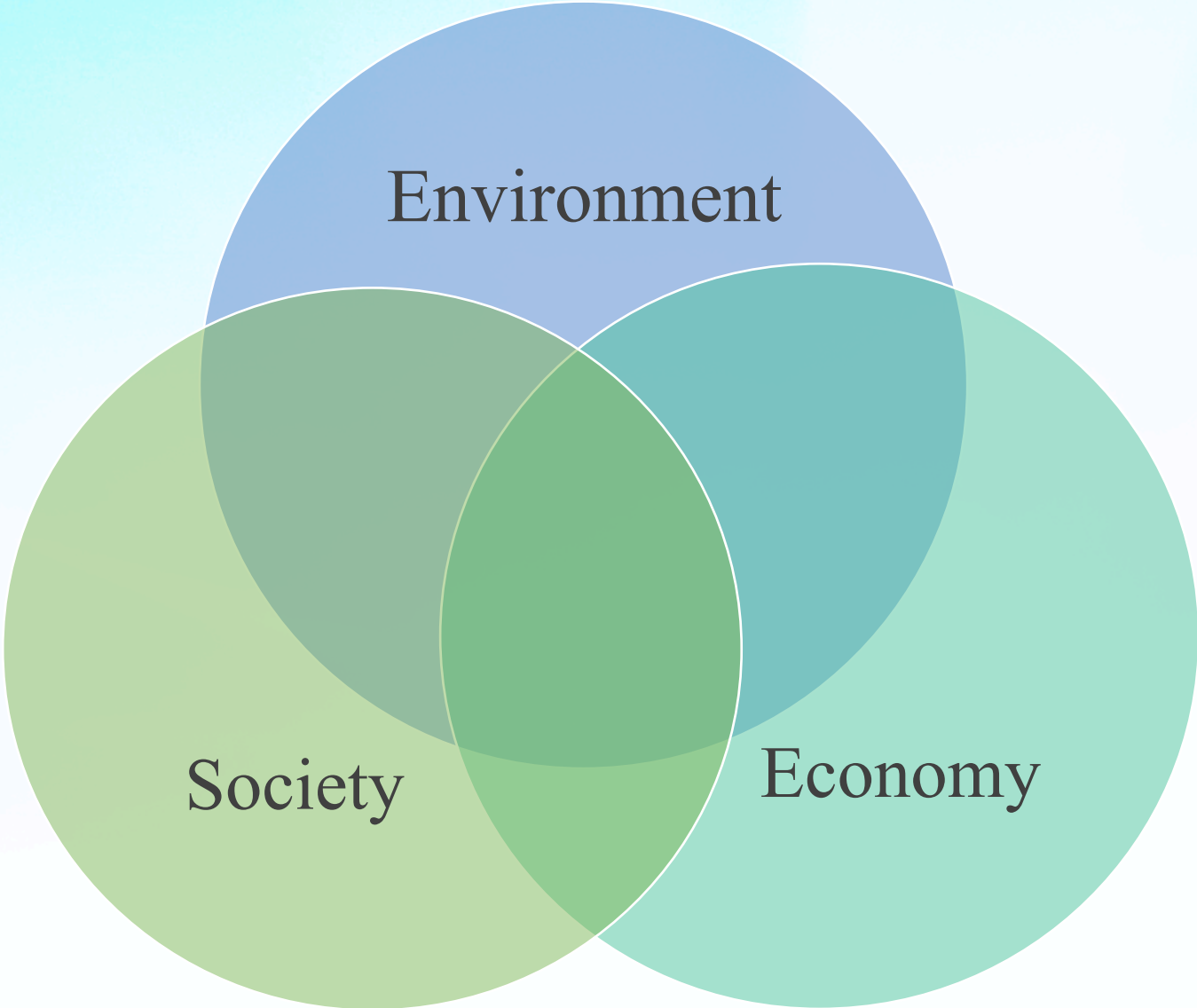
Background

- Jobs
 - A relatively high unemployment in Norway today
 - Mainly due to a decline in the oil and gas industry
 - In 2015, this industry represented $1/9$ th of the working population in Norway
- Greenhouse gas emissions

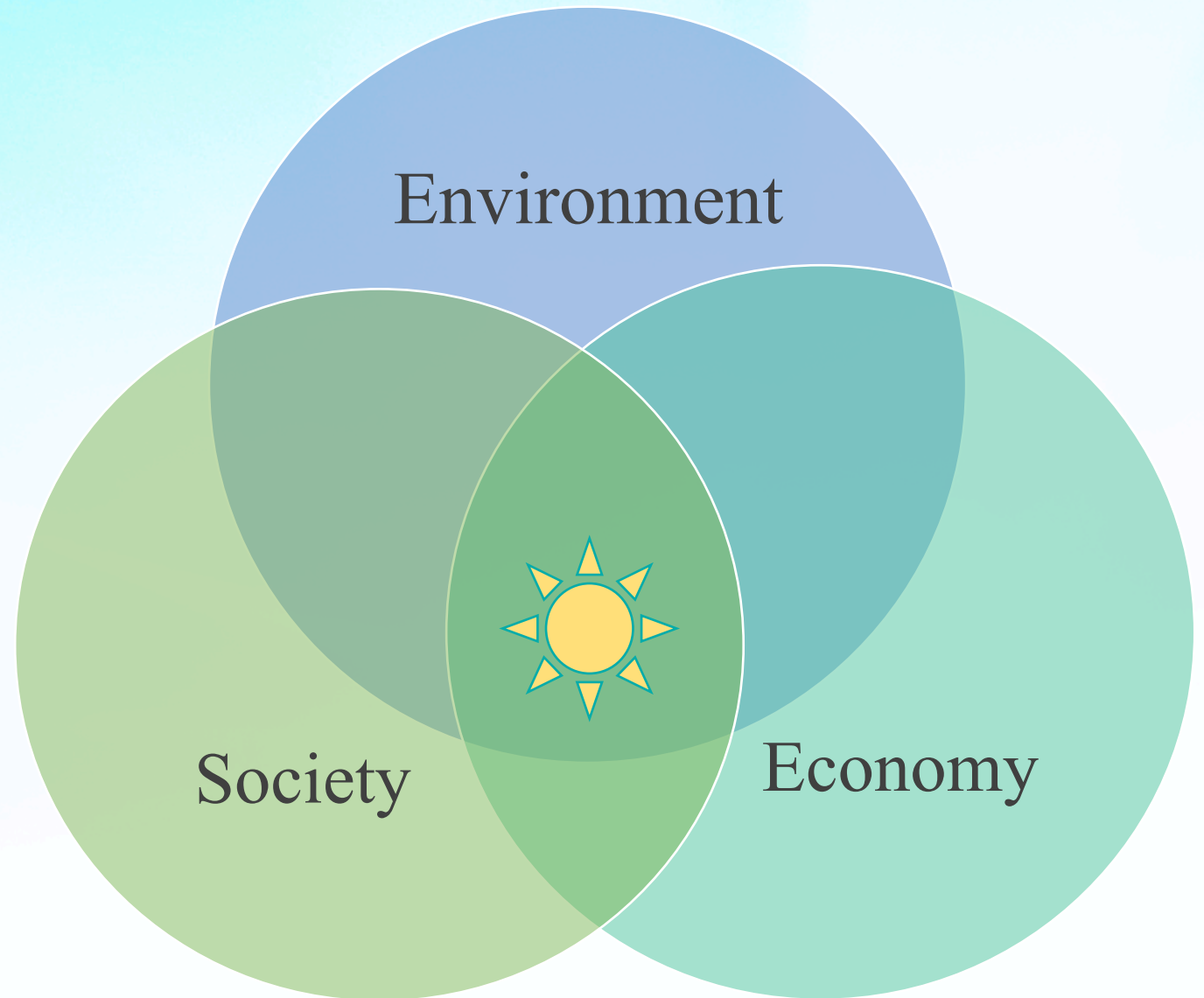
Background



This situation makes it interesting to find new industries that might qualify for the Triple Bottom Line:



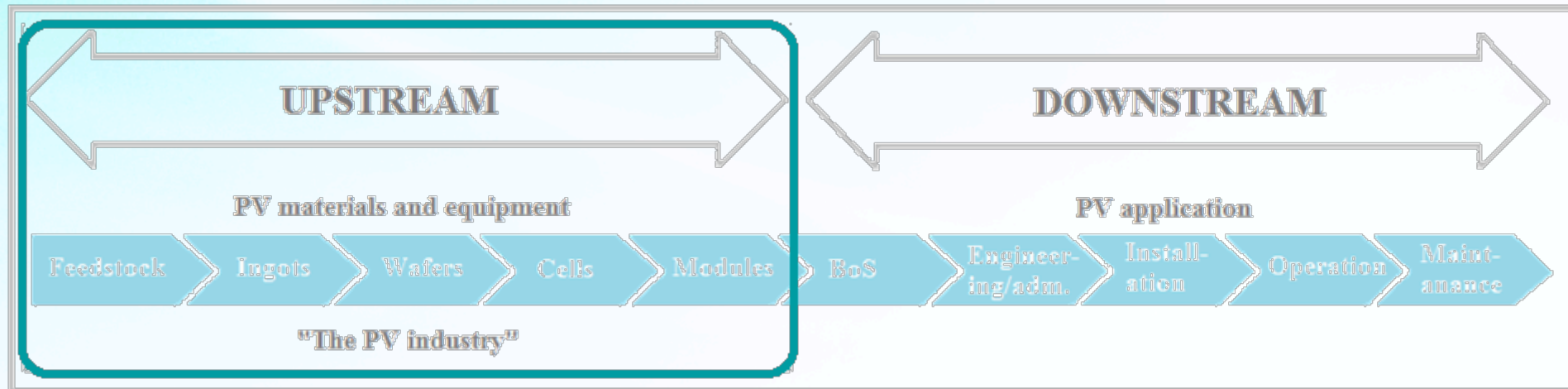
Jobs in the solar cell industry, also known as the PV industry, might qualify for all the three dimensions



Our research questions

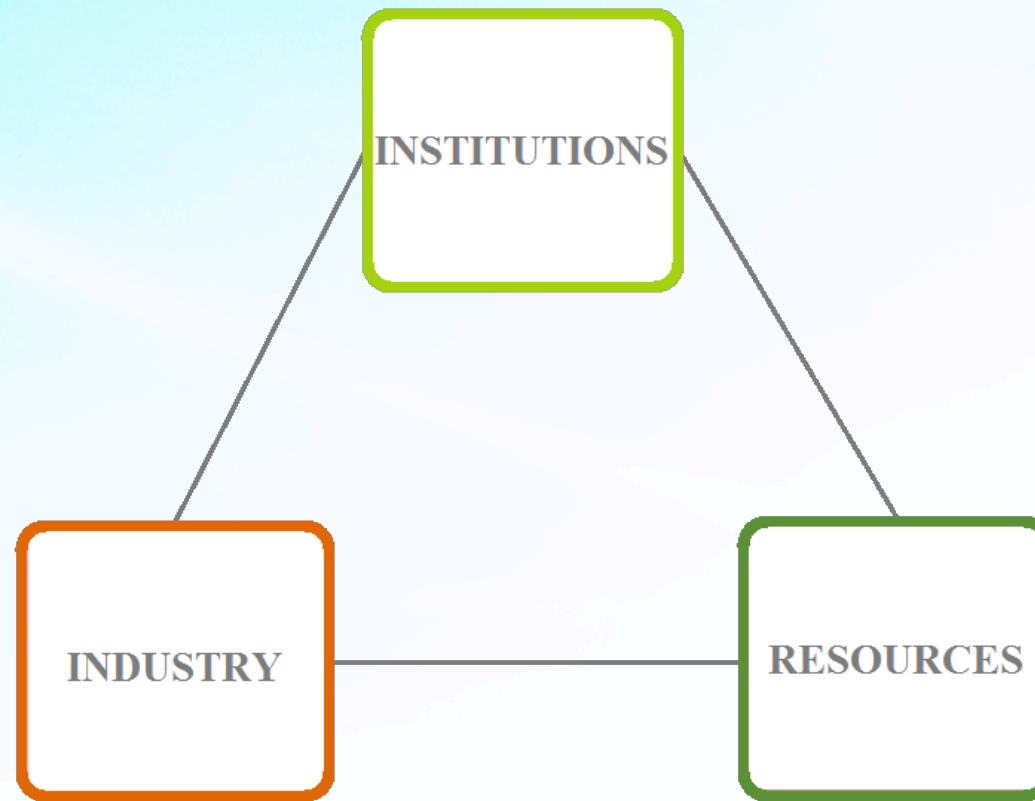
1. How has the number of jobs in the PV industry in Norway developed from 2001-2015?
2. How can we explain this development? What can we learn from the past and from mirroring the Norwegian development with that of Germany?

- Jobs in the solar cell industry in Norway (main case)
- Jobs in the solar cell industry in Germany (testing case)
 - Definition of the solar cell industry:



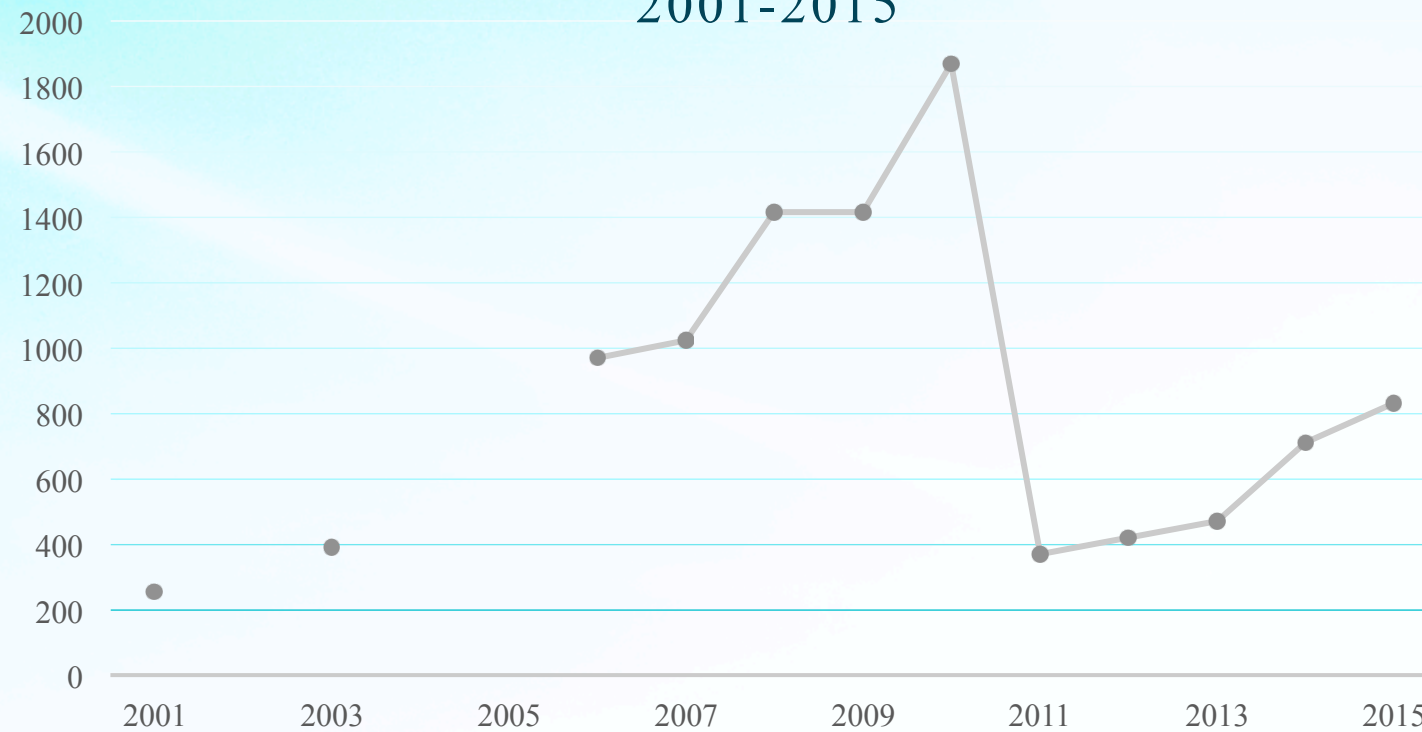
- Text analysis, with two supplementing expert interviews and meta-analysis

2 : What methods and theories were applied?

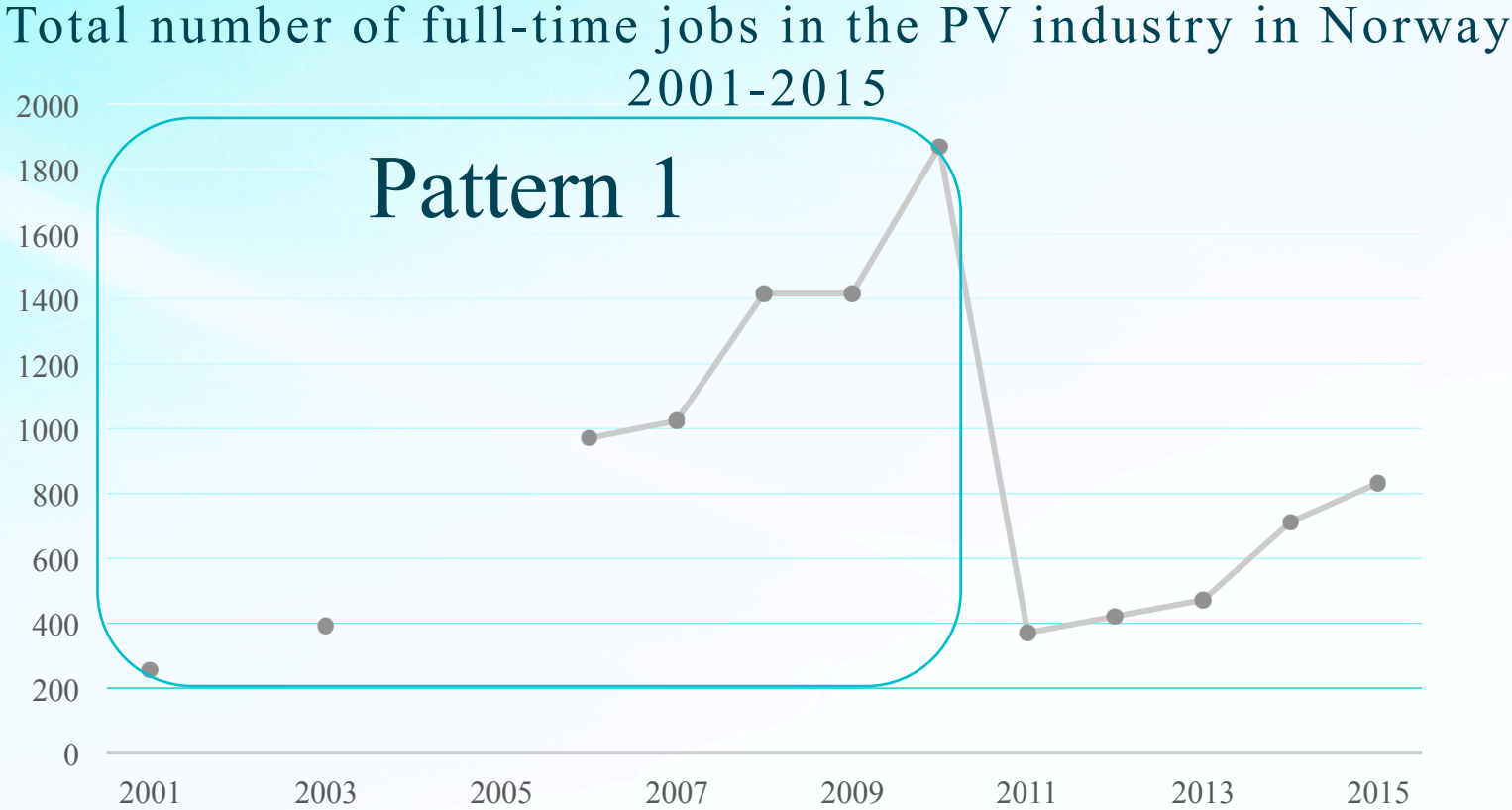


Q1: How has the number of jobs in the PV industry in Norway developed from 2001-2015?

Total number of full-time jobs in the PV industry in Norway
2001-2015

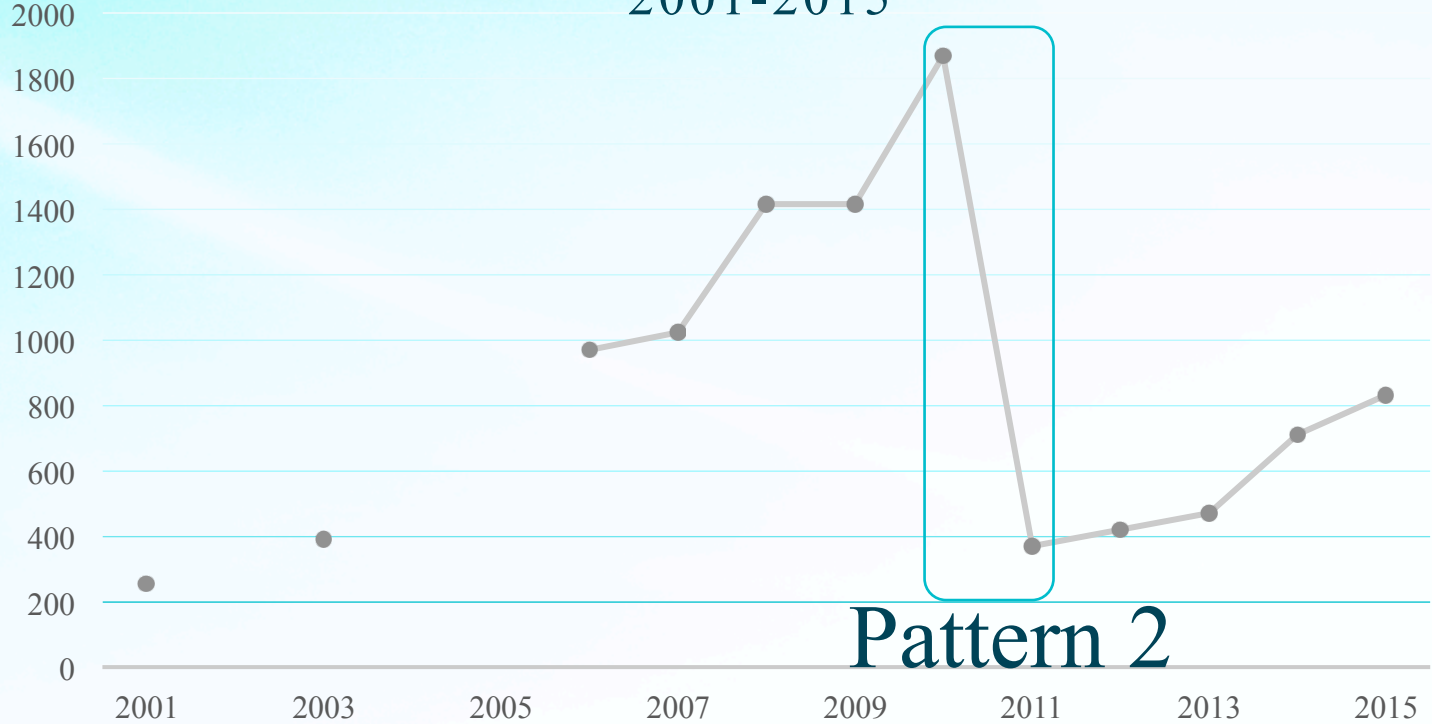


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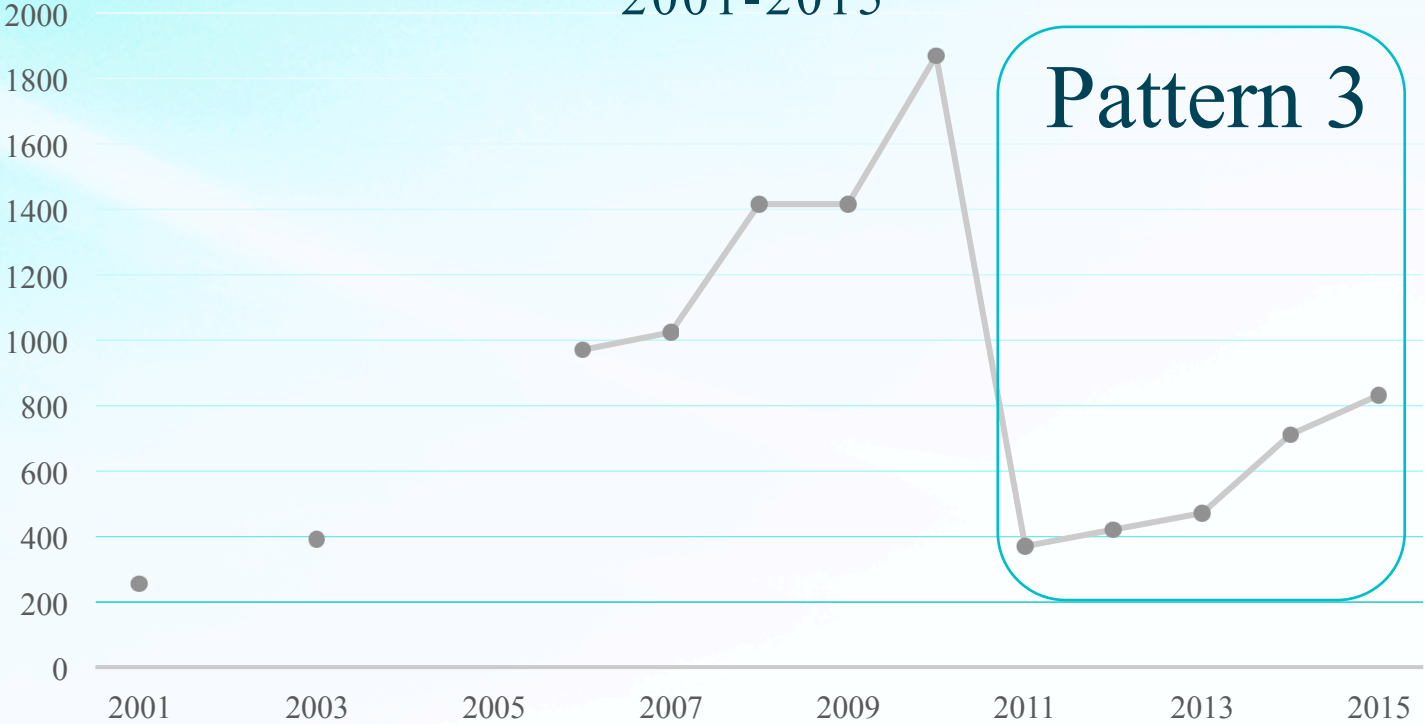
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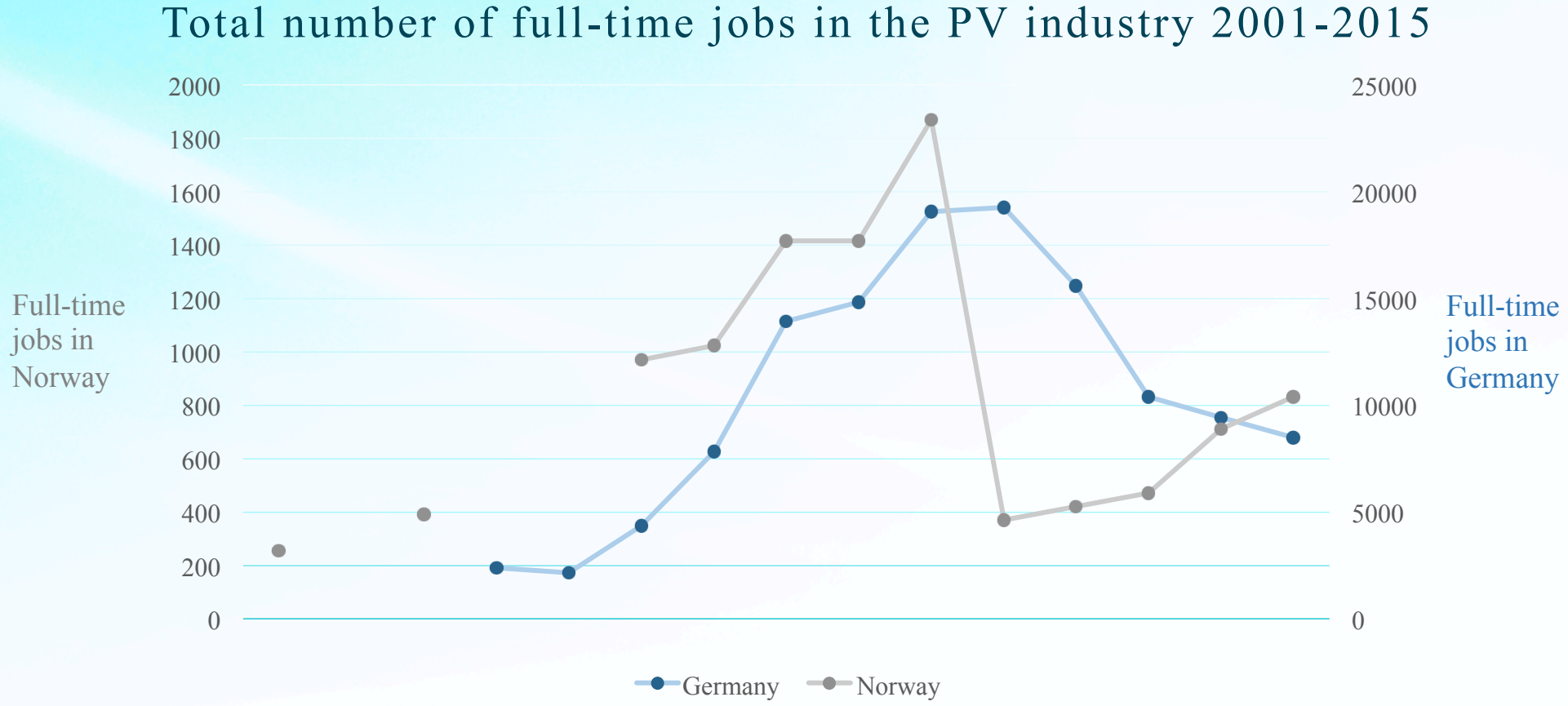


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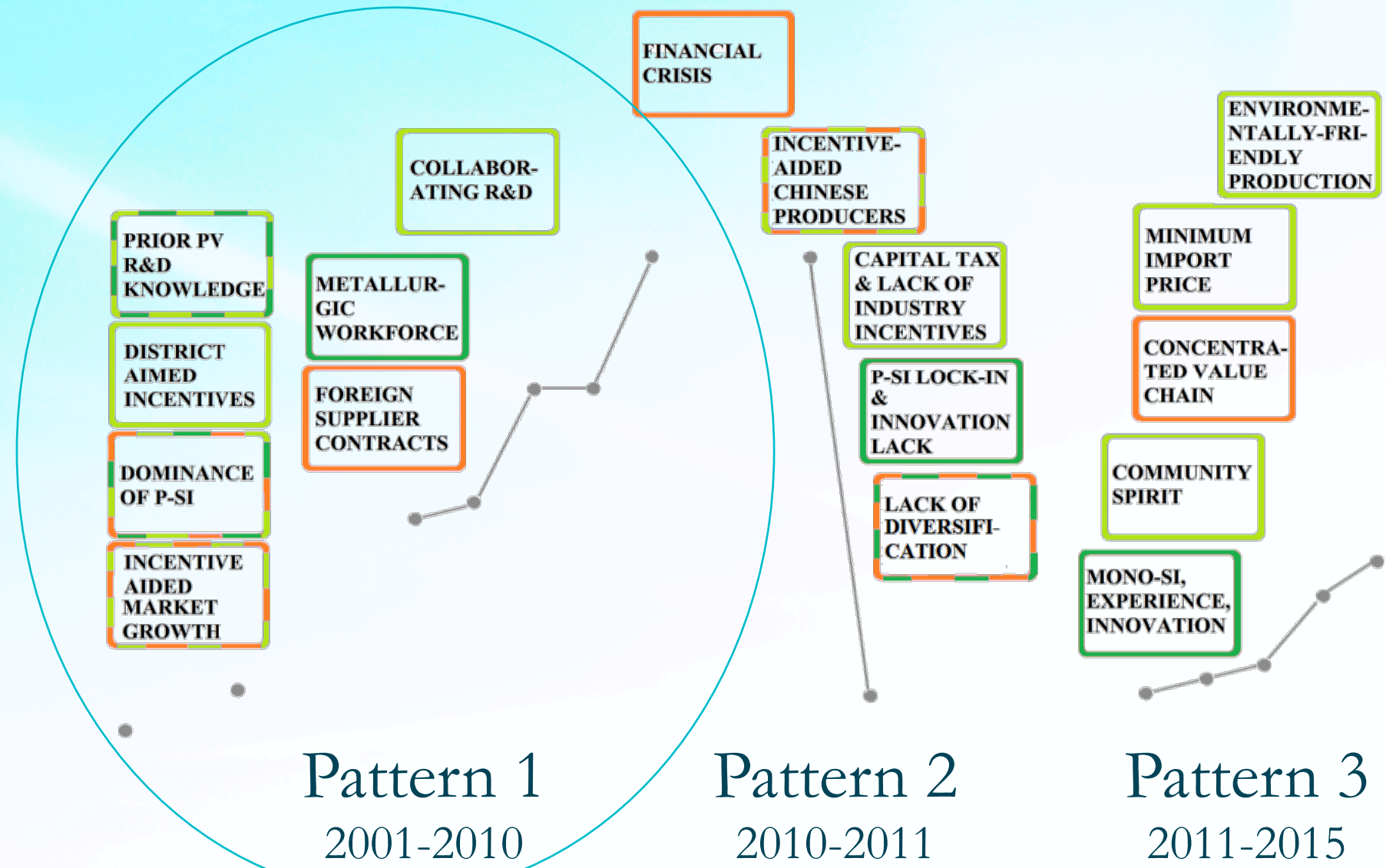
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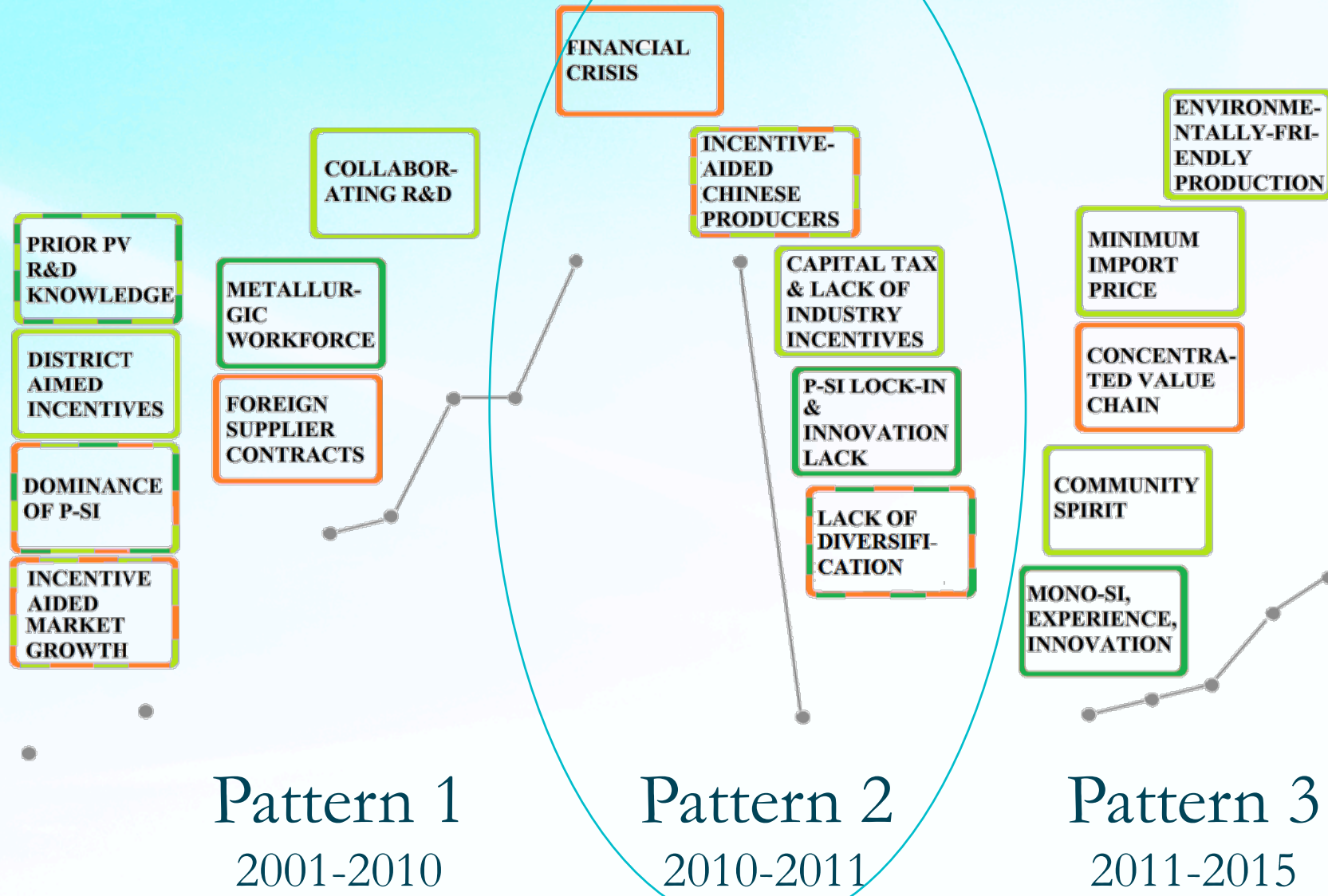
What about Germany?



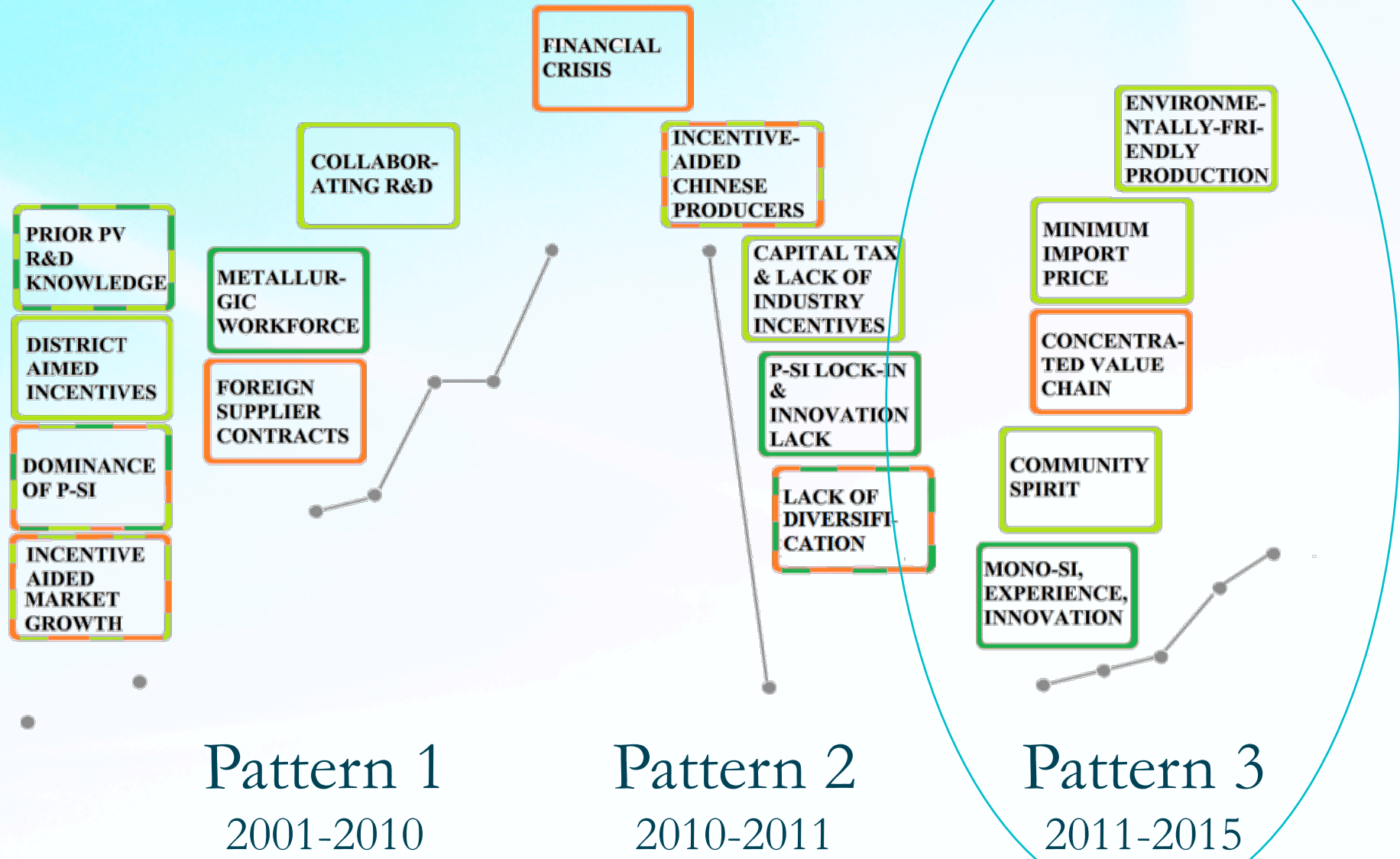
Q2: What can explain this development?



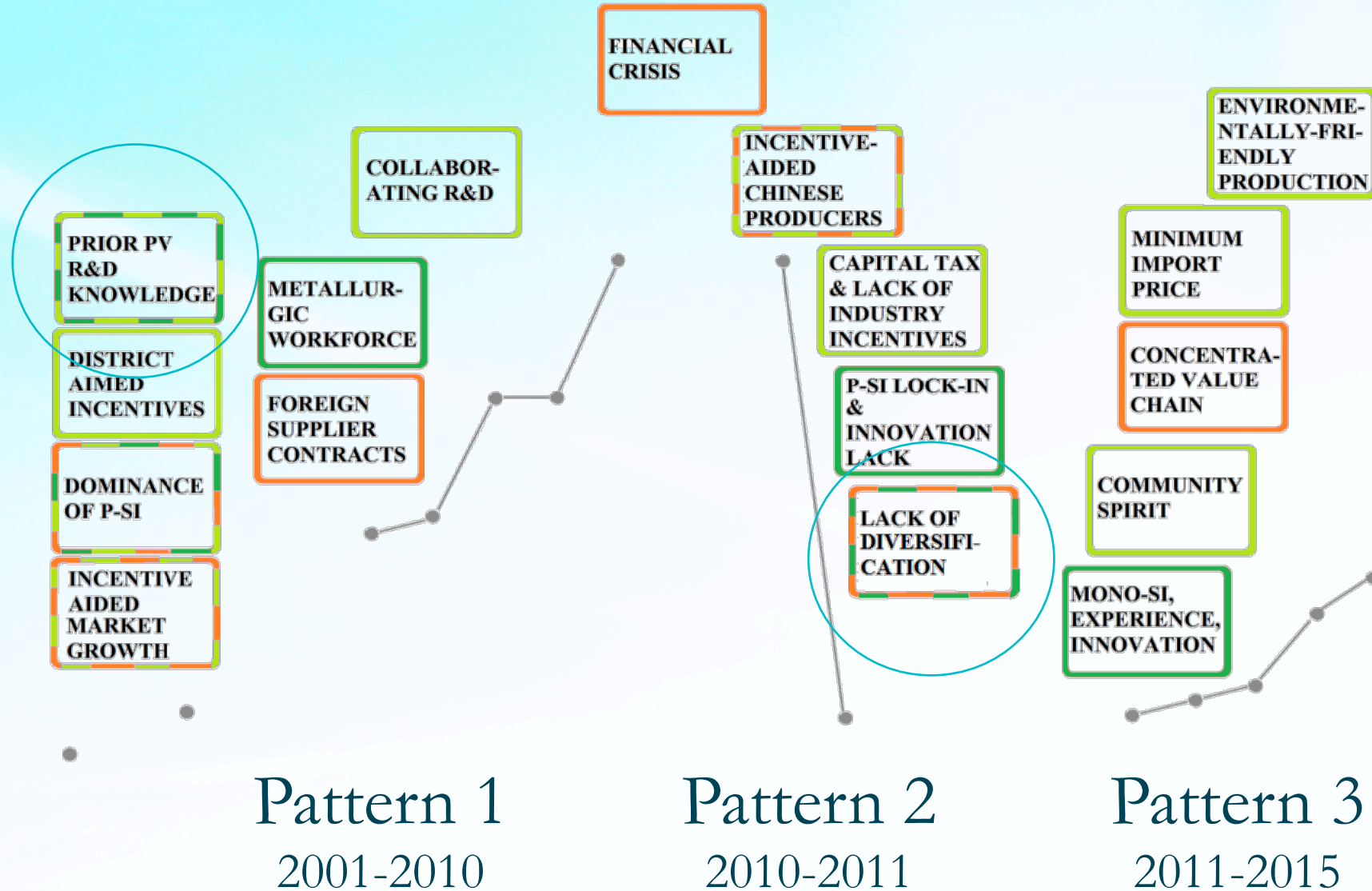
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Policy implications



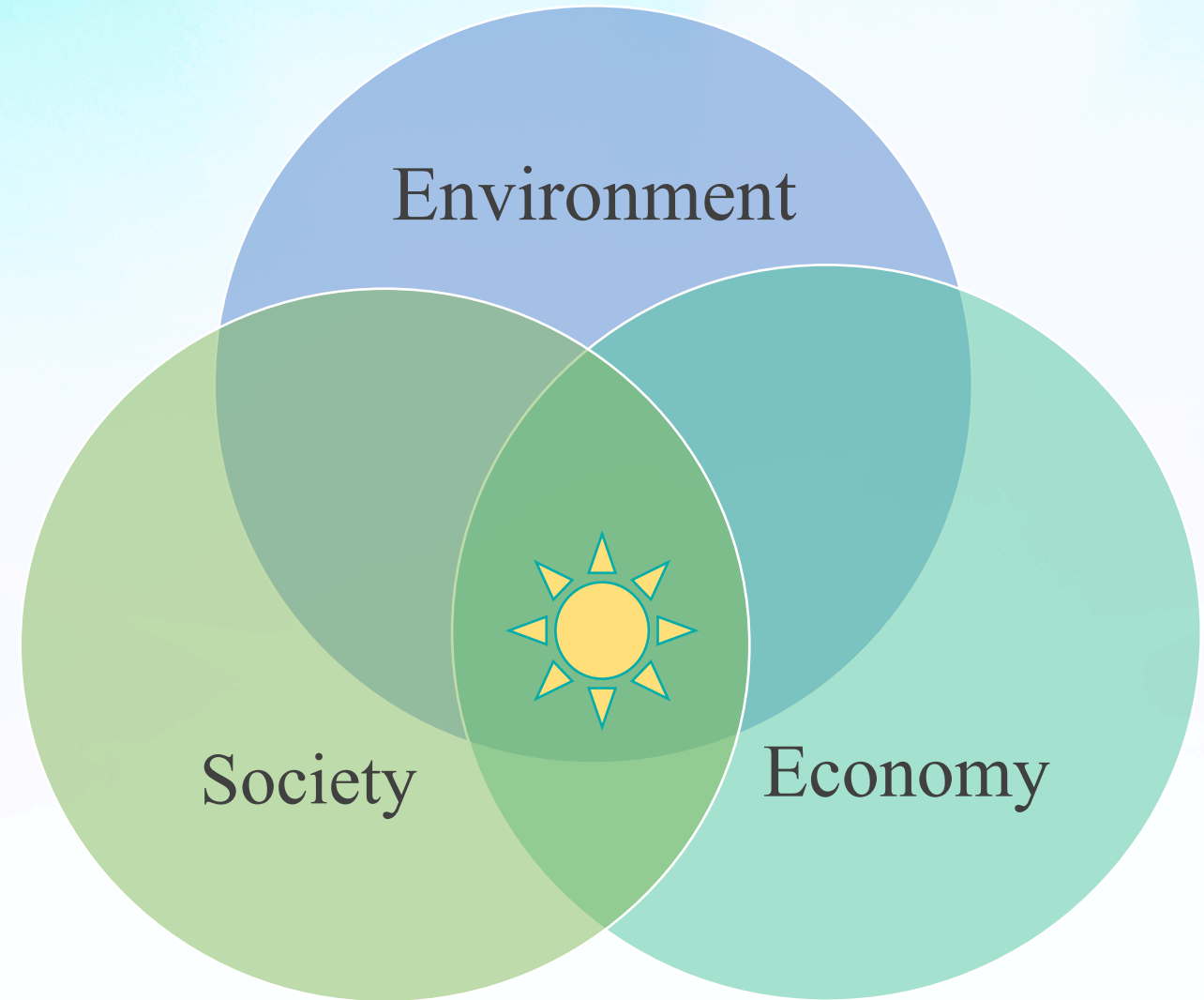
Policy implications

Utilizing a small domestic market, together with the local content rule and early R&D for technology steering and diversification

→ Creating jobs in the downstream and upstream part of the PV value chain

Summary

- Environmental
 - Growing solar industry, heading past oil and gas
- Economic
 - Norway is able to grow even though Germany is not
- Social
 - Creating jobs and improving the unemployment situation



Thank you for your time!
Questions?



hsh@hvl.no

Main data sources:

IEA PVPS' Annual and National reports: iea-pvps.org

GTAI Fact Sheets: gtai.de/GTAI/Navigation/EN/welcome.html#trade

Interview with Alf Bjørseth and Erik Stensrud Marstein

Solar cell industry papers from Norway, Germany, China and Brazil

Newspapers