Career paths in the energy sector in transition
Some glimpses from my experience
About myself

Ambra Sannino

M.Sc. Electrical Engineering, 1997
Ph.D. Power Systems, 2000

2001-2004: Post-doc > Assistant Professor > Associate Professor

2004 – 2018:
Corporate R&D: Project Manager > Team Manager
R&D / Technology Manager, for FACTS, Substations,
Product Manager for Power Quality Solutions

2019 – 2023:
Business Director, Power System Analysis
Head of Department Power Systems, Northern Europe

VATTENFALL

Since August 2023:
Vice President, Research and Development

IEEE Senior Member
Member since 1999

Cigré Member

Board member of Kraftkvinnorna and Power Circle

DNV

POWER CIRCLE
Electricity for sustainable energy
The energy transition

The 3 D’s

• **Decarbonization** through *Electrification*
  • New generation → renewables
  • New load → electric vehicles, heat pumps, etc
• **Decentralization**
  • Distributed generation (rooftop PV), storage and flexibility
  • From consumer to *prosumer*
• **Digitalization**
  • Higher volatility, higher complexity, “more events with less time to react”*
  • Decisions to be taken automatically

*cit. Sonja Berlijn*
The energy transition

... the 4th D is... Diversity

It is a global challenge

Time is running out!

A successful energy transition needs to be: interdisciplinary, global, equal

#1 reason: You must understand your customer!

#2 reason: We need MANY more engineers!
Evolution

Academia = produce knowledge

Industrial R&D = produce concepts and prototypes

Complexity / responsibility

Professor
Plan / organize others’ research

Researcher
Plan / organize own research

R&D PM
Lead a project team to successful delivery

R&D local team lead
Lead R&D team to successful deliveries


time
ABB business units

- Small R&D team in SE
  From 5 to 10 people
  Part of Engineering
  Counterpart for CRC and Uni

- Building up R&D dept, 10 >> 30 people in SE
  As a separate dept organized in 3 teams
  Running own projects

- Integrating unit from other division / country
  Global R&D team of ca 75-80 people
  SE / CH / IN

- FACTS R&D team
- FACTS R&D Dept
- PSSS R&D Dept

- 2009
- 2012
- 2014
- 2016
Evolution

Complexity / responsibility

1998
Researcher
Plan / organize own research

2001
Professor
Plan / organize others’ research

2005
R&D PM
Lead a project team to successful delivery

2008
R&D local team lead
Lead R&D team to successful deliveries

2010
Product group R&D manager
Lead R&D team to successful product launch

2013
Business unit Technology Manager
Broader area (multiple products)
Global teams (multi-geo)
Higher HC and budget
Global market

2017
Business unit Product Management Manager
Broad area (multiple products)
Small but diverse and global team
Product positioning
Between sales and R&D

2019
Business Director
Power Systems
No people management
Customer facing role
Direct sales responsibility
Service development

Academia = produce knowledge
Industrial R&D = produce concepts and prototypes
Industrial development = develop products and systems
Advisory = develop and sell services

Management experience >10 years

Next step

Management experience >10 years

Next step

?
Reflections & Recommendations

A highly personal, non-exhaustive list (1)

• Moving around to accumulate experience, get new challenges is easier in big organizations. Lower threshold to test something new.
• Important to have a manager that gives you new challenges...
• Career is not only management!
  • Today there are structured career paths with advancements in project management and specialist tracks too!
Reflections & Recommendations

A highly personal, non-exhaustive list (2)

• Is it always bad to be different? “Who remembers Lars?”*
• Get a mentor – and remember it is a 2-way relationship
• Know your worth
  • Dare to use a negotiation position (still being realistic of course!)
• APPLY FOR JOBS! You do not need to fulfil ALL requirements 100%
  • Get experience in writing a CV, doing interviews, ...
  • Show what you go for! In worst case... you raise your hand for the next time

*cit. Lars Nordström, KTH
AOB

Any Questions?
My academic experience

- M.Sc. and Ph.D. in Power Engineering to go for academic career
- Intern at ABB Corporate Research (DE)
- Research visit at Chalmers, 10 wks (!)
- Post-doc at Chalmers, 2001-2003
- “Docent” (D.Sc.) in Dec 2003, topic “Sustainable Power Systems”
  - + teaching and exchange with the students
  - - internal politics / “primadonnas”

Academia: “product” is papers/knowledge/students
Early days

• in between a University and the “real ABB” (Cit.G.Asplund)
• Researcher / Project Manager
• Highlight: Vindforsk project
• From Feb 2008: first manager position for the newly formed Electric Power Systems group
  • Manager of my former colleagues
  • Of course, I was the only woman (…)
• What is special with CRC:
  • Working with different Business Units in ABB gives a fantastic overview and contact network
  • Developing technology / prototypes that are handed over to BUs to become products / systems

The “product” is prototypes and reports