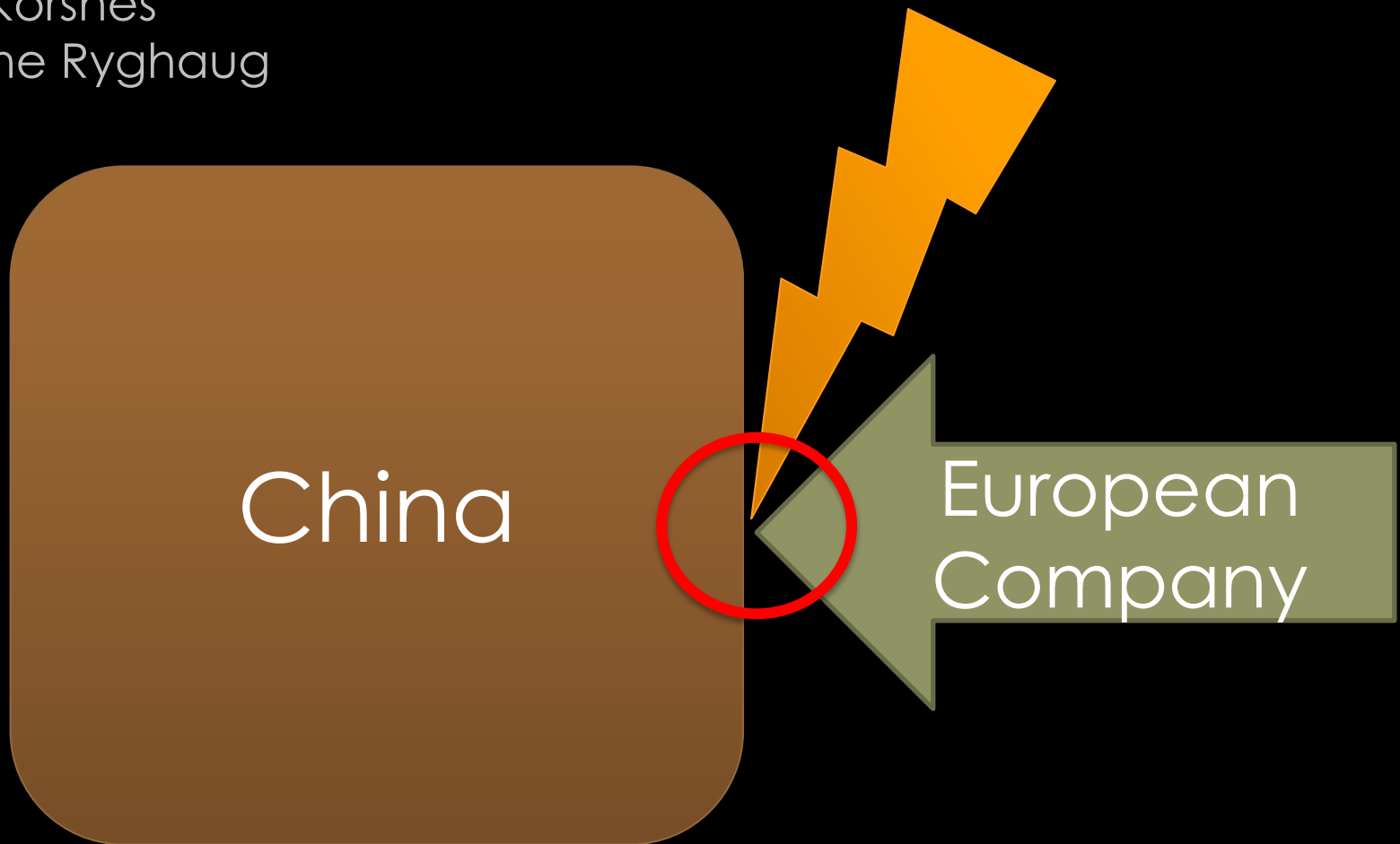




# Globalising Standards? A Narrative Analysis of Offshore Wind Standardisation in China

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# Research questions

- Technology transfer and the role of standards
  - How do standards impact technology transfer?
  - How do standards developed in Europe spread to China?
  - Why are standards rejected?

# Thesis

- Certification and advisory agencies **actively spread** standards
- A standard comes with a methodology and accepting it goes against **developing your own know-how**
- Standards are **rejected** in China, because the Chinese want hands on experience
- Rejection is not necessarily bad: can be good for **diversity**

## China

## Entering companies

### What?

Wants to build an offshore wind industry

Want to expand existing industry

### Why?

Needs the extra competencies

Have experience from Europe

### How?

Pay money for advice

Help a bit, but not give away too much knowledge

# Offshore Wind in Europe and China

- Europe: **7,343 megawatt** of installed offshore wind power in 73 wind farms
  - First wind turbine in 1991 in Denmark
- China: **400 megawatt** of installed offshore wind power in mainly two wind farms
  - First wind turbine in 2006 in Bohai Bay

# One year **fieldwork** in Shanghai

- 31 **interviews** in China
  - 12 interviews with six European certification and advisory agencies
  - 19 with Chinese industry and governmental actors
- 2-month **participant observation** at an European certification and advisory company in Shanghai
- Participated in several workshops, conferences and industry exhibitions in China



# Technology enrolment

- Instead of technology 'diffusion': the spokespeople of a technology actively seek to **enrol** new people
- Technology **adoption = adaptation**: constantly negotiated between the spokespeople of a technology and the surrounding community



# The role of standards

- standards valorise some points of view and silence others
- they are not neutral: They are implemented by *someone*
- may facilitate technology development, as things become more compatible and streamlined, and they may hamper the same development by hindering variety and new ideas
- international standards: ISO and IEC

# Certification and advisory agencies as **intermediaries**

- **intermediaries**: 'middlemen' between a technology and a potential market
- Certification and advisory companies:
  - maintain standards (Howells 2006)
  - transmit standards to users
  - assess whether or not something is according to a standard
  - contribute to developing international standards, ISO/IEC (Tamm Hallström 2000)

# Six certification and advisory agencies (CAA) in China

- CAA are service providers:
  - Large MNCs doing **classification / certification**, but also **engineering consulting**
  - Offer services in many industries: energy, maritime and O&G
  - for offshore wind in Europe they have provided:
    - Project certification
    - Type certification
    - Advisory and project management

# The difference between Europe and China

China

Government approval

Design  
Institute

Developer

Construction

# The difference between Europe and China

## Europe

Finance

Regulations

Insurance

Certification and advisory

Design  
Institute

Developer

Construction

# Three competing narratives

- Domestic industry: “We don’t need your help, we can do it ourselves”
- CAA: “They need our service, but don’t know it yet”
- Chinese employee of CAA: “These services cannot be offered here, they must be reframed”

# Narratives of the host milieu

- Active resistance to European certification practices:  
“We **don't need** them”
- Certificates are not needed in the domestic market
- “Only for some very important projects we will hire foreign consultant companies during the construction process”
- a need to spend some time on their own to try and fail to develop offshore wind projects

# Narratives of the entering company

- “We have the experience, and **they need it**”
  - The Chinese are arrogant in thinking they can do everything on their own. It would be good for us if they experience a first big fail, and they realise how important our experience and service is.
  - Europe is risk averse, the Chinese are “just get on and do it”
- Thus far not very successful in enrolling the Chinese customers of their services. “Waiting” is their main strategy



# Narratives of the Chinese employees of entering companies

- Act as mediators between the narrative of entering company and local 'reality'
- “We need to **adapt** to a Chinese way”
- Example: Project certification
  - Disagreement with European employees as to what was the best strategy
  - “I tried several times to advertise the project certificate (to Chinese clients) and they were not really interested”
  - Similar service with a different name: “Risk management”
- Local employees were adapting the narrative, but this was not really acknowledged by the entering company

# Conclusions

- European advisory and certification companies have been relatively unsuccessful so far in enrolling Chinese clients
- the Chinese want to develop the industry on its own, limiting the usage of foreign help that can make the dependent
- Establishing standards is a battle, and experience is commodified: We have it and we want to sell it: “you are not allowed to try and fail on your own”
- Chinese industry wants to get more hands-on experience with the industry

