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► **To cite this version:**

Arnaud Delebarre, Guanghua Wei. Analysis of a Controversy for Education to Sustainable and Acceptable Processes, Products and Services. 13 th Society And Materials International Conference, May 2019, Pisa, France. hal-04031162

**HAL Id: hal-04031162**

**<https://hal.science/hal-04031162>**

Submitted on 15 Mar 2023

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# ANALYSIS OF A CONTROVERSY FOR EDUCATION TO SUSTAINABLE AND ACCEPTABLE PROCESSES, PRODUCTS AND SERVICES

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## CONTEXT

- The Ecole des Mines de Paris (MINES ParisTech) introduced an exercise for the training of its engineering students about 25 years ago: Description of Controversies
- The Engineering and Environmental Management Mastère (IGE) led by the ISIGE and the CSI of the same school, offers its students the exercise "Analysis of an environmental controversy"
- These exercises are about 40 hours of work per student for 4 months in teams of 3 to 5. The evaluated deliverables are a website, a report, and/or an oral defense
- Chinese students enrolled in a "French-style" engineering school at the Shanghai Jiao Tong University trained to the same exercise

## SKILLS TO BE LEARNT

### • Energy and Environment and Management:

- Being scientifically right and rationally is not enough
- New technology development for energy production or use
- Difficulty to disseminate a technology or to make a project acceptable

### Human and Social Sciences:

- Assess the society acceptability
- Identification of stakeholders and their arguments

### Project Life:

- Team Building and Organization
- Brain Storming
- Reporting and Communication

## CONTROVERSY SUBJECTS SELECTED DURING SPEIT SESSIONS

### Three sessions of Controversy at SPEIT since 2017

- Session 2017 :
  - Taishan Nuclear Power Project (3 students)
  - Does the development of electrical satisfy Chinese market (3 students)
  - Electrical Vehicle, a solution ? (3 students)
- Session 2018 :
  - Ordures ménagères : un projet de centre d'enfouissement technique à jeter ? (4 students)
  - OFO : des vélos pas si écolos ? (4 students)
- Session 2019 :
  - La voiture électrique en Chine, pas si propre ? (3 students)
  - L'acier de Tangshan est-il le Bon, la Brute ou le Truand ? (2 students)

## SOME CONTROVERSY SUBJECTS AT MASTÈRE IGE

The image shows a presentation slide with the title "ANALYSER UNE CONTROVERSE ENVIRONNEMENTALE". It includes logos for MINES ParisTech, PSL, ISIGE, and CSI. The text on the slide discusses environmental controversies and mentions a date of 29 janvier 2019. There are also smaller images and text blocks on the slide, including a section titled "PLANNING DES SOUTENANCES" with a list of dates and topics.

## SOME CONTROVERSY SUBJECTS IN ENGINEER CURSUS

- Viande artificielle : "Frankenburger" ou produit d'avenir ?
- Travail dominical et emploi
- Ecole et inégalités
- Anonymat du don de gamètes
- Pas d'écrans avant trois ans
- Le catharisme n'a jamais existé

## CONCLUSIONS

- A controversy study is feasible in China with Chinese stakeholders of different opinions and expressions
- Chinese students who may not appreciate Social and Human Sciences at such a ratio of a French style syllabus in Engineering appreciated the exercise

## ACKNOWLEDGEMENTS

- The ROSTOCK-H Project for its funding to SAM13 participation
- V. Lengart and M. Akrich for their help in implementing controversies at SPEIT