



IPPNW

International Physicians  
for the Prevention  
of Nuclear War

# Interdependencies between civil and military nuclear industries

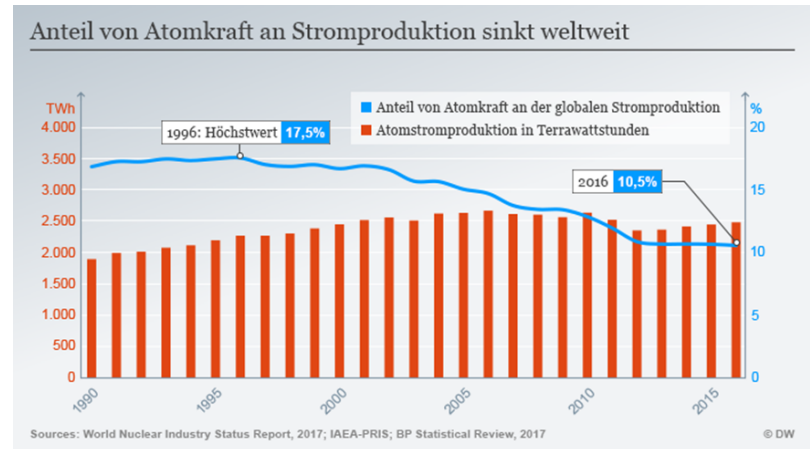


## How Nuclear Power powers the Bomb

Dr. med. Angelika Claußen  
European Vice-President, IPPNW  
Vienna, 07.10.2019

# Civil military interdependencies

- Civil nuclear energy industry in decline since Fukushima accident, it loses ground to renewables
- Renewables energy production world-wide 6 times greater than nuclear power: 2,351 GW vs. 398 GW –Res. V. Quaschnig)

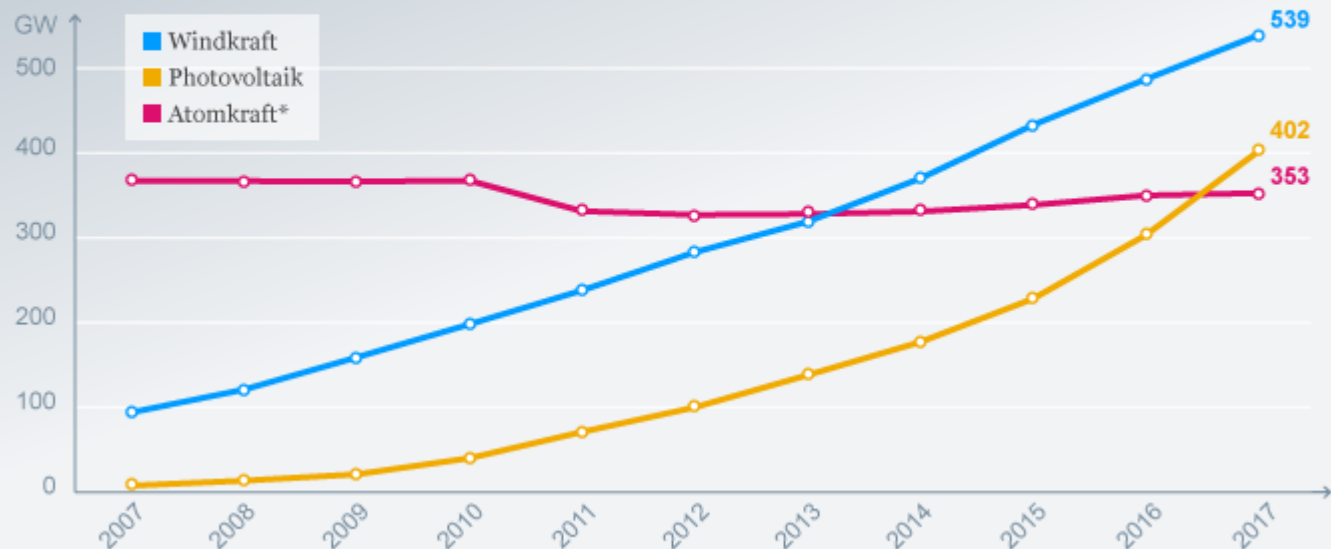




# Civil military interdependencies

## Atomkraft von Wind- und Solarenergie weltweit überholt

Installierte Kapazität in Gigawatt (GW)



Quellen: Ren21, Mycle Schneider Consulting, WWEA, IHS | \* In Betrieb

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## Is it possible to build nuclear weapons without having an existing civil nuclear industry?

- Striking fact: Nuclear weapon states are currently investing in new NPP: China (leading country), Russia, India, Pakistan, France, Great Britain, USA
- High interest to build NPP: Saudi Arabia, United Emirates, Turkey, Egypt
- Saudi Arabia: *“If Iran developed a nuclear bomb, we will follow it as soon as possible”*

## Civil-military interdependencies

Is it possible to build nuclear weapons without having a civil nuclear industry?

Leading persons from the US industry and US- politics answer: „**The entire US nuclear enterprise – weapons, naval propulsion, non-proliferation, enrichment, fuel services and negotiations with international partners – depends on a robust civilian nuclear industry.**“

## **Civilian cross subsidies for military nuclear programs build the fundamental link:**

Nuclear expert Mycle Schneider: “The civil military overlap is primarily about mutual dependence of the military-civil nuclear complex. The military uses the same pool of engineers, specialists as the civil nuclear industry. The competencies at stake, security and concept studies, material and ageing problems are the same.” (WNISR 2018)

## Role of nuclear driven submarines in warfare

“The stealth, range, speed and endurance of nuclear-propelled ballistic missile submarines (SSBNs) has led them to become central to the strategic military doctrines of all five formally-recognized nuclear weapons states (U.S., Russia, U.K., France and China) as well as an unofficial nuclear weapons state, India.”

Resource: Gavin Ireland, “Beyond Artful: Government and Industry Roles in Britain’s Future Submarine Design, Build and Support”, 2007



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# Civil military interdependencies

## Trident nuclear system





# Trident submarine

Trident a submarine-launched inter-continental ballistic nuclear weapons system.

Trident a US nuclear System.

The UK has access to 58 missiles from the US pool of Trident II D5 missiles.



# Civil-military interdependencies

“The UK nuclear  
‘submarine industrial  
base’ would not be  
sustainable, if a  
decision were taken to  
discontinue civil  
nuclear power“

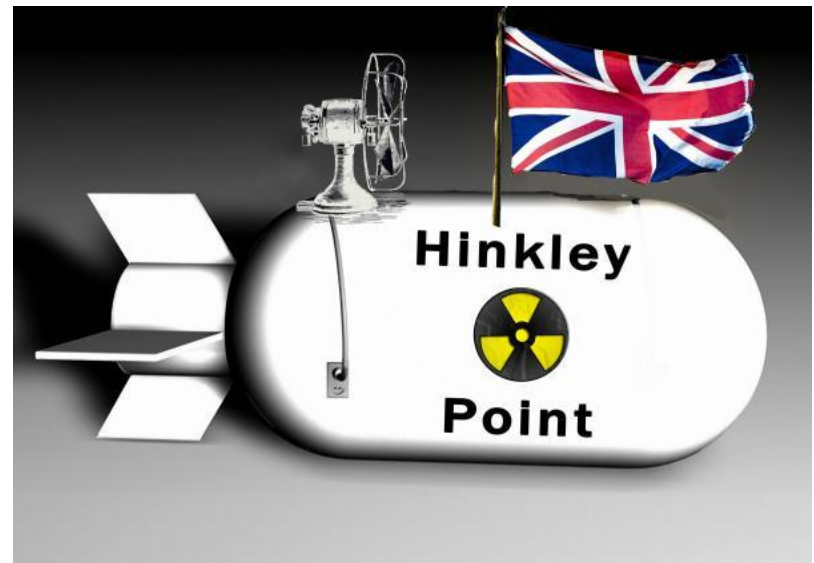
Ressource: House of Commons Defence  
Committee, “The Future of the UK’s Strategic  
Nuclear Deterrent: the strategic context”, 30  
June 2006



## UK: Hinckley Point C

Hidden subsidies by  
the tax payer to rearm  
Britain's nuclear-  
powered submarines  
with **Trident system**  
(Intercontinental ballistic  
nuclear weapons)

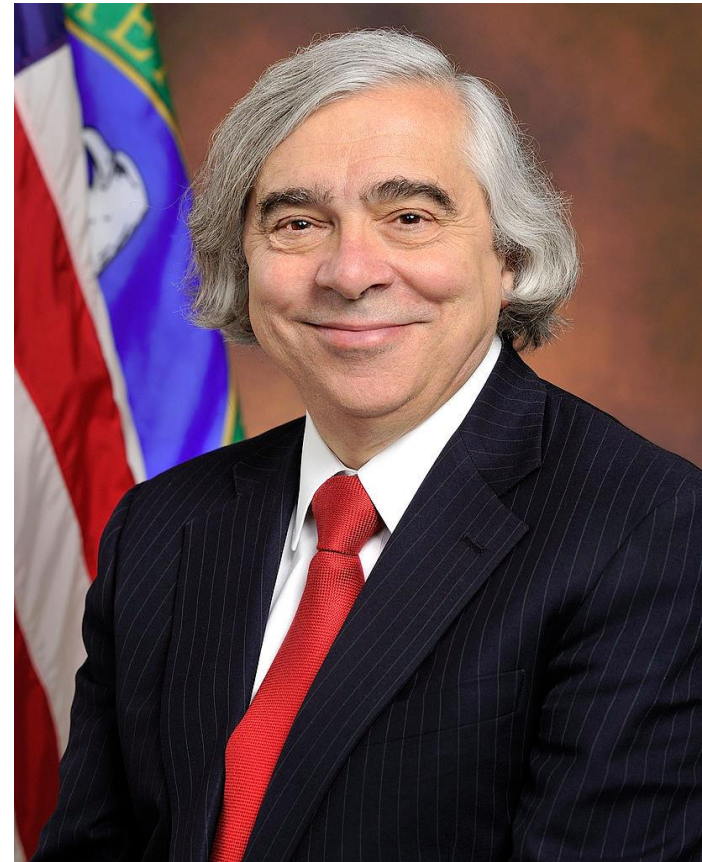
Resource: Stirling,A; Johnstone,P. 2018)



# Civil military interdependencies

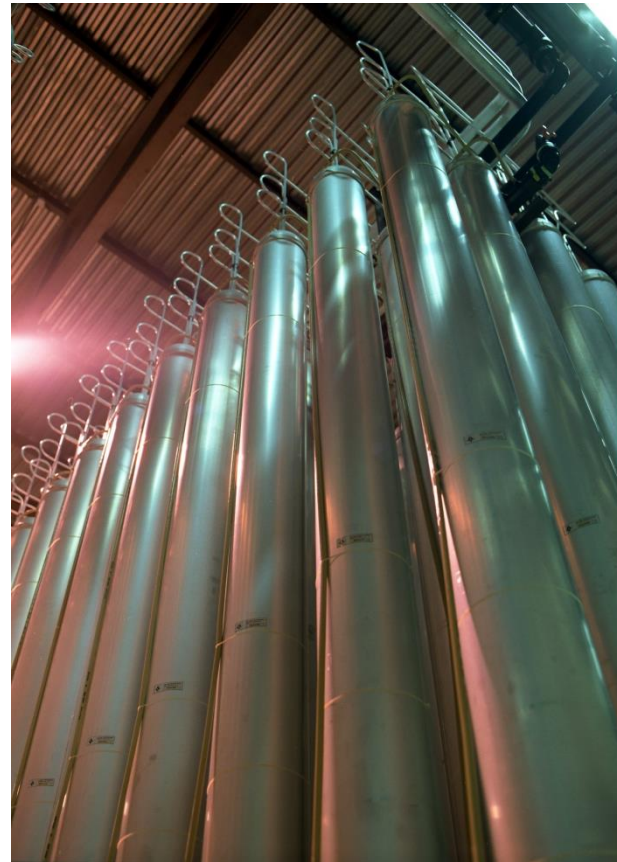
## Nuclear weapons state USA:

Former US Energy Secretary Ernest Moniz: „A strong domestic supply chain is needed to provide for nuclear Navy requirements. This supply chain has an inherent and very strong overlap with the commercial nuclear energy”.



# Civil-military interdependencies

- **Uranium enrichment**
- main difference between civil and military nuclear programs: the degree of U - enrichment
- 3 - 5% for civil use
- 90 % for a nuclear warhead



## **Letter to U.S. Energy Secretary Rick Perry**

- **“for recognizing the important role our civil nuclear energy sector plays in bolstering America’s national security**
- **to continue to take concrete steps to ensure the national security attributes of U.S. nuclear powerplants are properly recognized by policymakers and are valued in U.S. electricity markets”.**



## **Hidden Subsidies:**

### **Nuclear weapons state Great Britain**

- „Nuclear skills strategic plan“ calls for an increase in the number of people employed in the nuclear industry from 78,000 (2015) to 111,000 (2021).

# Civil military interdependencies

Nuclear weapons state France:

The never ending promise of closing NPP

Fessenheim

Comment of a French nuclear expert:

„What about the credibility of France’s nuclear weapons program and out seat in the security council if France would close down NPP

Fessenheim and other NPP’s?“

Ressource: A. Stirling, P. Johnston: A Global picture of the industrial interdependencies between civil and military nuclear infrastructures, October 2018

[www.ippnw.de](http://www.ippnw.de)



## **Nuclear Weapon State Russia:**

Rosatom:

A reliable provision of Russia's defense capability is the main priority of the nuclear industry in Russia".

Ressource: A. Stirling, P. Johnston: A Global picture of the industrial interdependencies between civil and military nuclear infrastructures, October 2018

# Civil - military interdependencies

## The role of the SMR

**“We power the UK Royal Navy's nuclear submarine fleet”**

We've worked on the development of the SMR programme since the 1990's, and are the only private western reactor designer that has experience of operating reactor plant. In the UK we have operated the onshore test reactor at Dounreay (a nuclear plant prototype test facility for naval reactors), and we're the largest employer of nuclear engineers.

Resource: website Rolls Royce

## SMR for nuclear submarines



# Civil-military interdependencies

## Uranium enrichment URENCO:

- Global player in uranium enrichment
- Four locations: Gronau, Almelo (NL), Capenhurst (GB) and Eunice (USA)
- Supplies 10% of the world market
- Gronau facility jointly owned by RWE and EON
- RWE Boss Wiegand member of Urenco board of directors





# Uranium enrichment, HALEU: civil – military link

**05.02.19:Urenco USA  
Inc. announces:  
next-step: HALEU  
(19,75 % enrichment )**

“HALEU will be used  
for civil, peaceful  
applications in existing  
and new power plants  
as well as for research,  
test and medical  
isotopes facilities.”

## **FACT SHEET-Centrus:**

- National Security  
Importance of U.S.  
Enrichment Capability
- Maintaining the  
nuclear deterrent.
- Meeting the long-term  
fuel needs of the U.S.  
Navy (submarines)

## Recommendation and vision:

- Climate movement and peace movement, ICAN and the antinuclear movement connect for suitable campaigns to build awareness in the connection between civil and military nuclear industries.
- We ask for transparency, getting the Co2 footprint of the military worldwide. (No data in UNFCCC studies)
- „Together against fossile fuels, against nuclear energy and nuclear arms
- Together for climate justice and disarmament“





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