

# **Nuclear disarmament and nonproliferation: Fissile materials and ethics**

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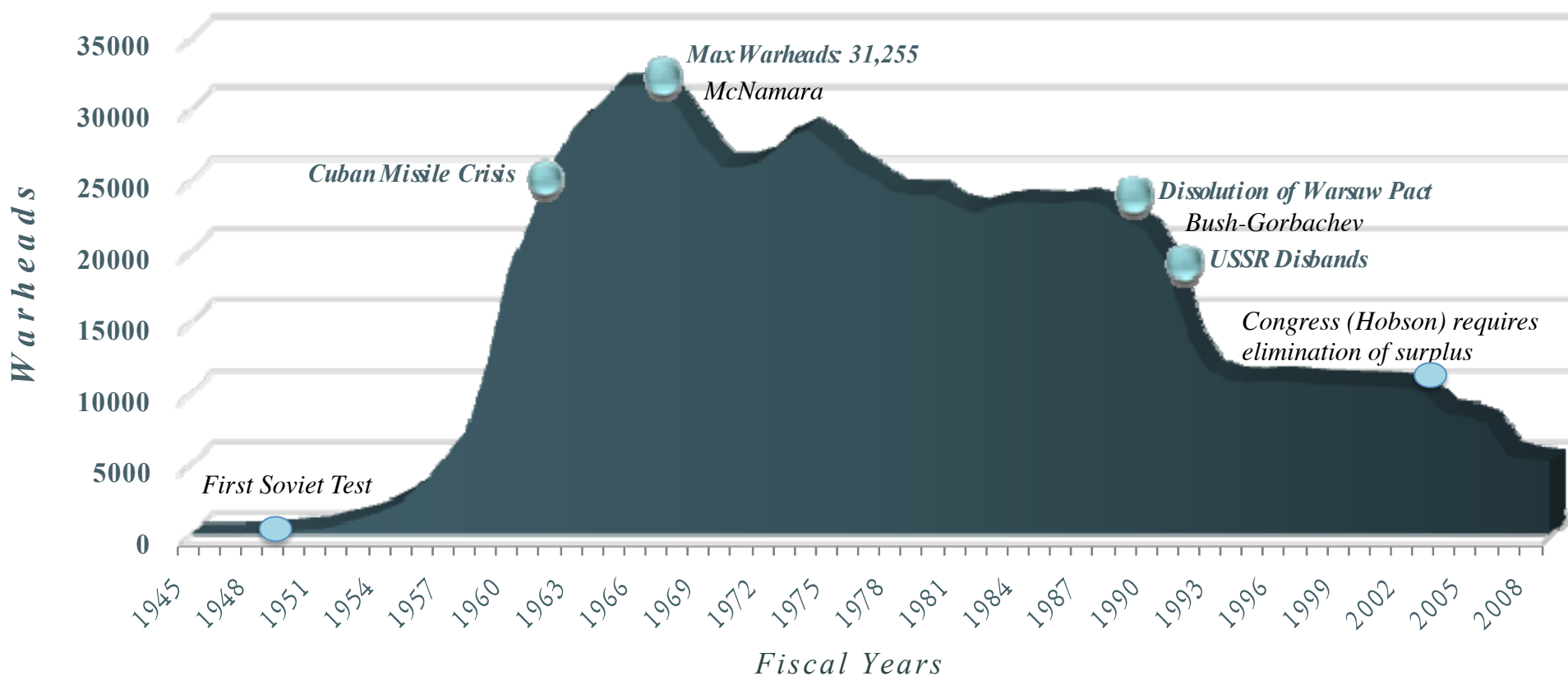
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Carnegie Council for Ethics in International Affairs

170 E. 64<sup>th</sup> St, New York City, 21 June 2010

# Disarmament: Trend is down – but too gradually

*U.S. Nuclear Weapons Stockpile, 1945-2009\**



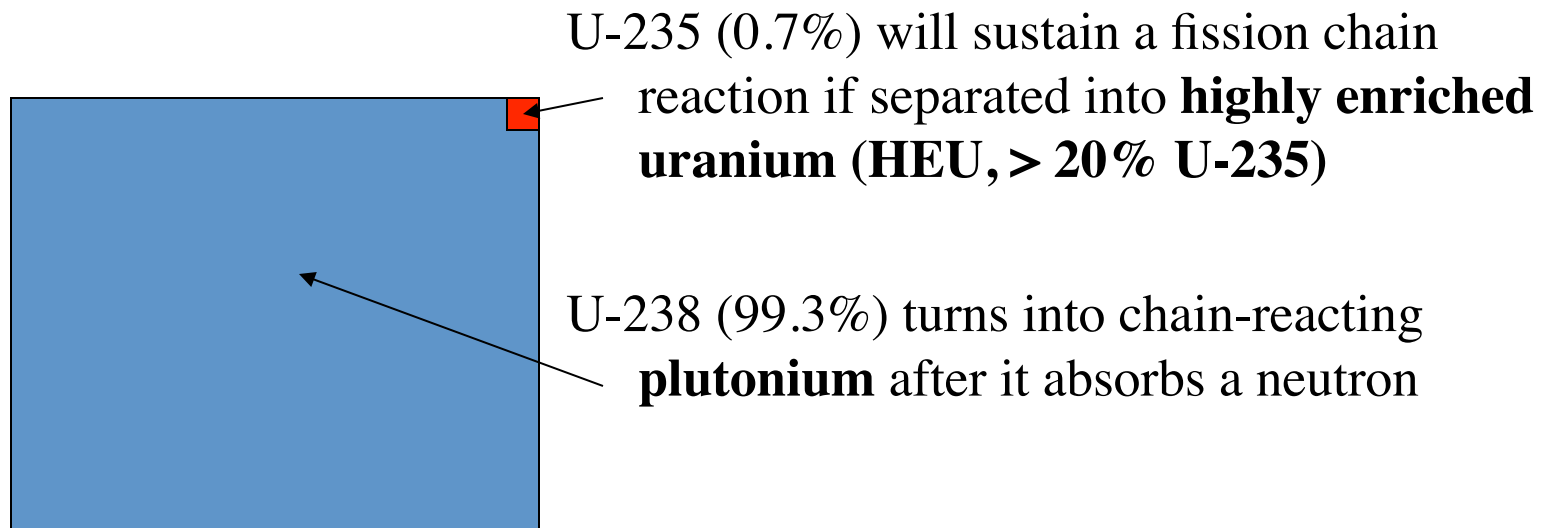
*\*Includes active and inactive warheads. Several thousand additional nuclear warheads are retired and awaiting dismantlement.*

**Even a single low-yield nuclear explosion is catastrophic.**



# Nuclear proliferation

## A tale of two isotopes: Two routes to the bomb

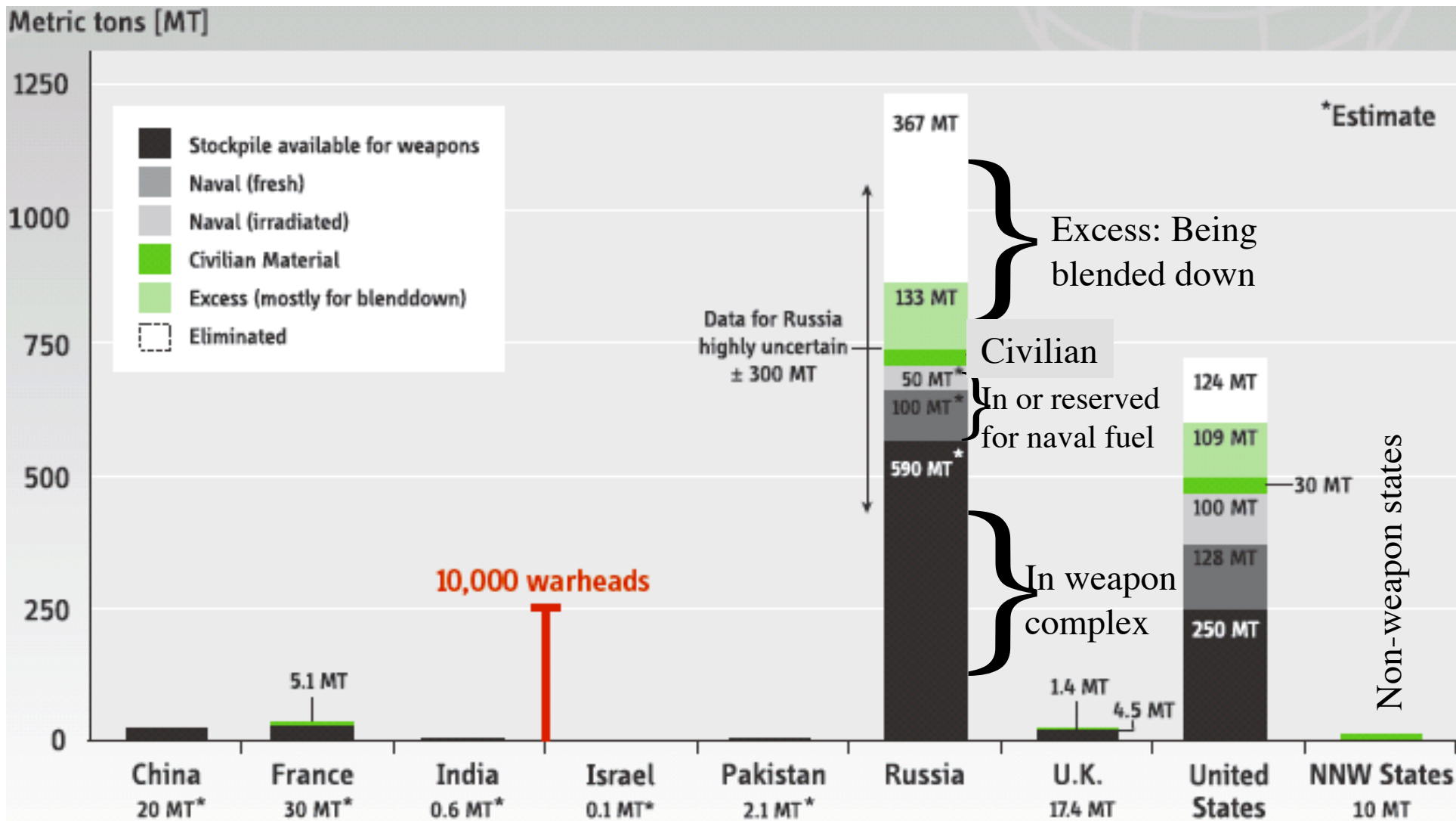


Not all HEU and plutonium is in weapons but  
all is potential weapons material

# Global HEU Stockpiles, 2009

Fear of nuclear terrorism, has made a major focus of elimination HEU research-reactor fuel. But what about HEU use for naval-reactor fuel?

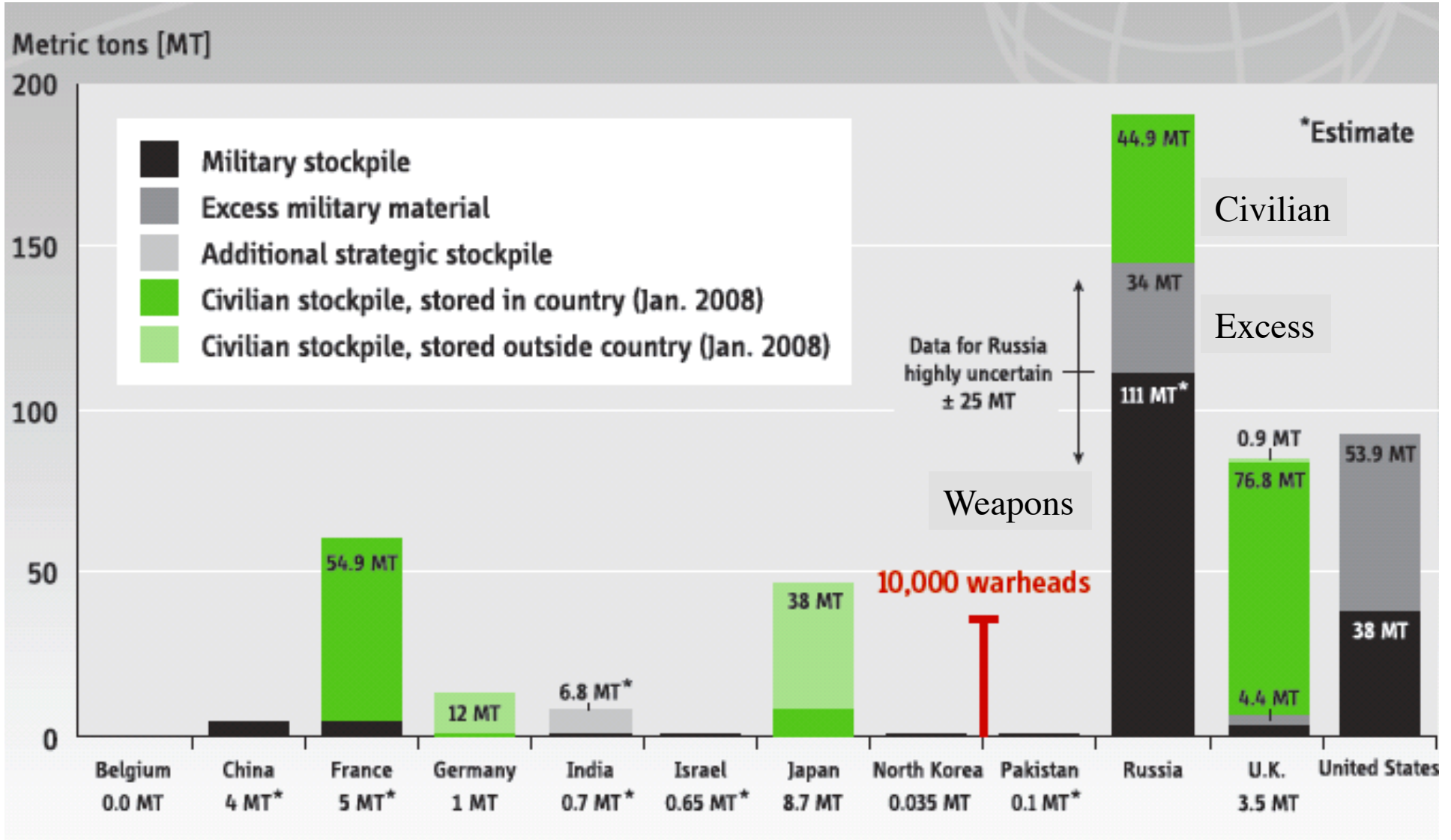
France's nuclear navy has switched to low-enriched uranium.



# Global stockpiles of separated plutonium, 2009

Civilian half originally separated from spent nuclear fuel to start plutonium breeder reactors, which failed (thank God!).

Today reprocessing plants provide off-site destinations for spent fuel



# **An ethical, non-discriminatory approach to nuclear disarmament**

1. As a next step, **Russia and the U.S.** should each reduce to less than 1000 *total* warheads (*including non-deployed and non-strategic*).
2. **Other weapon states** should commit not to build up. (*China is building up modestly. India and Pakistan at full bore.*)

## **And non-proliferation**

- 3. France, the U.K., Japan, India, Russia and China** should end reprocessing. We should come to a political agreement about where and how to store spent nuclear fuel. (*ROK is currently claiming the same right to reprocess as Japan.*)
- 4. Russia, the U.S., France, Germany, the Netherlands, the U.K., China, Japan, Brazil and Iran** should put their uranium enrichment plants under multi-national control. (*The U.S. is building 2 to 4 enrichment plants while we try to persuade Iran not to.*)