

THE NEED FOR ACCESS TO NUCLEAR TECHNOLOGY FOR PEACEFUL PURPOSES IN DEVELOPING COUNTRIES

Dr Nortin Titus

the namibian
Seeking to take it all

SPOTLIGHT ON HEALTH SERVICES 2022

The Namibian newspaper will be publishing a special publication focusing on the very important Medical and Healthcare Industry, on 28 July 2022.

Clarens Ladwe Sales Consultant Special Publications
Photo: Ntshona Sales Consultant Special Publications

Sport

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2022-07-07

Kenya, Namibia vie for World Cup berth



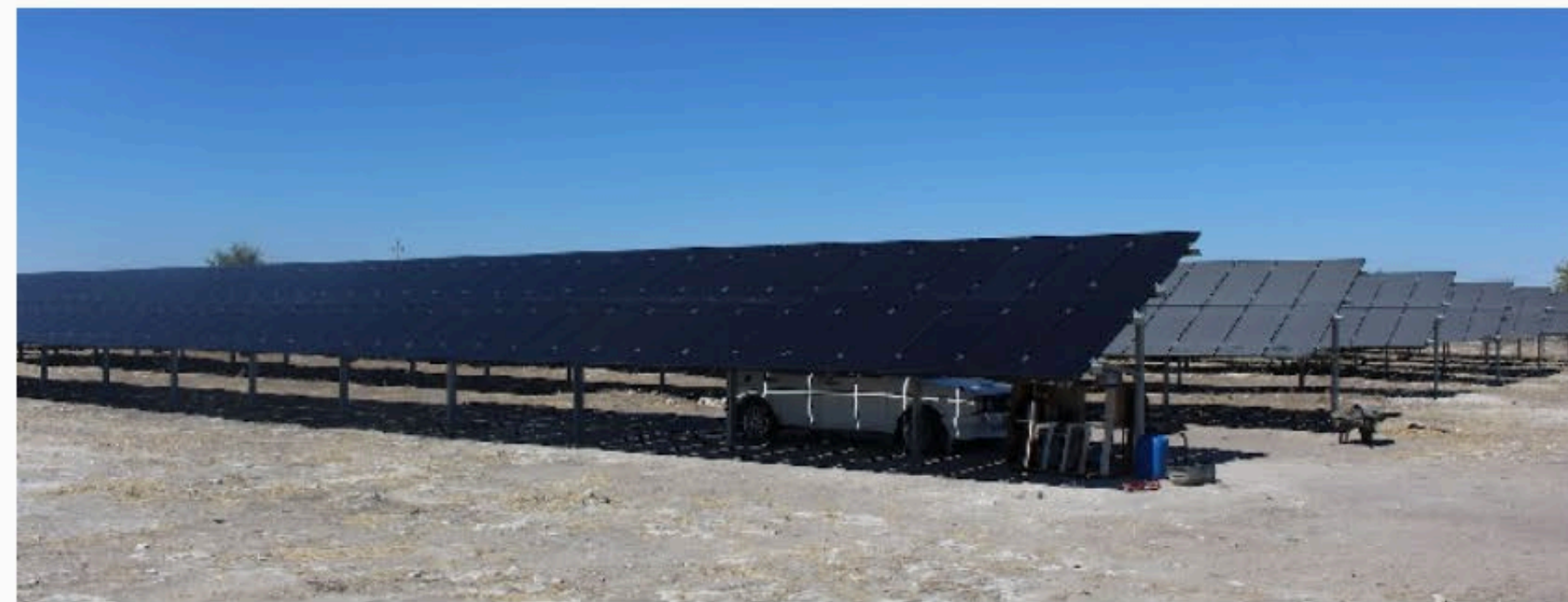
NAMIBIA and Kenya will contest the Rugby Africa

Cup final on Sunday after both

Solar plant at Gam risks damage

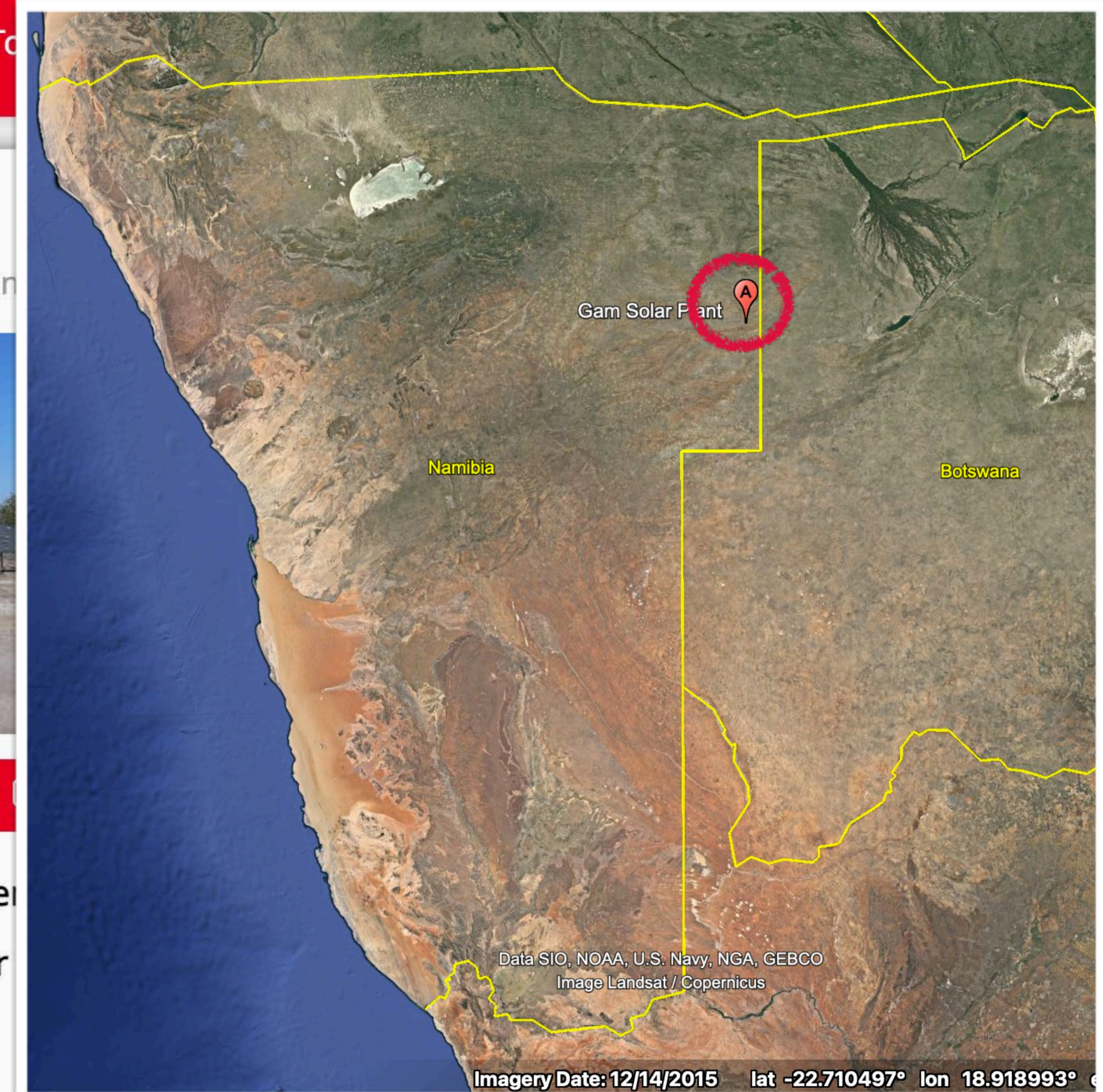
News - National | 2016-06-03

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THE lifespan of a solar power plant installed at the Gam settlement in the Otjozondjupa Region could be shortened due to a number of challenges.

The plant is an initiative of government as part of its rural electrification efforts. The solar plant allows for the provision of



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MINING

bottomline

Why is the Price of Cement High in Africa?

"Ompata" Headed to Big Screen



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Sport

2022-07-07

**Kenya, Namibia v
 Cup berth**



NA
 Kenya will contest
 the Rugby Africa

Cup final on Sunday after both

Uapimbi fumed at promises made towards the residents, such as the second phase of the project which was intended to expand electrification to nearby households and villages.

"This electricity cannot be used to cook or iron, and these are the primary reasons why we wanted electricity. We are not happy, and we also want the electricity to be distributed to the villages," he stated.

- Nampa

electrification error

SMSes the police. What were his or her intentions? We are becoming a sick society. Why not rather

Week, 22.18°



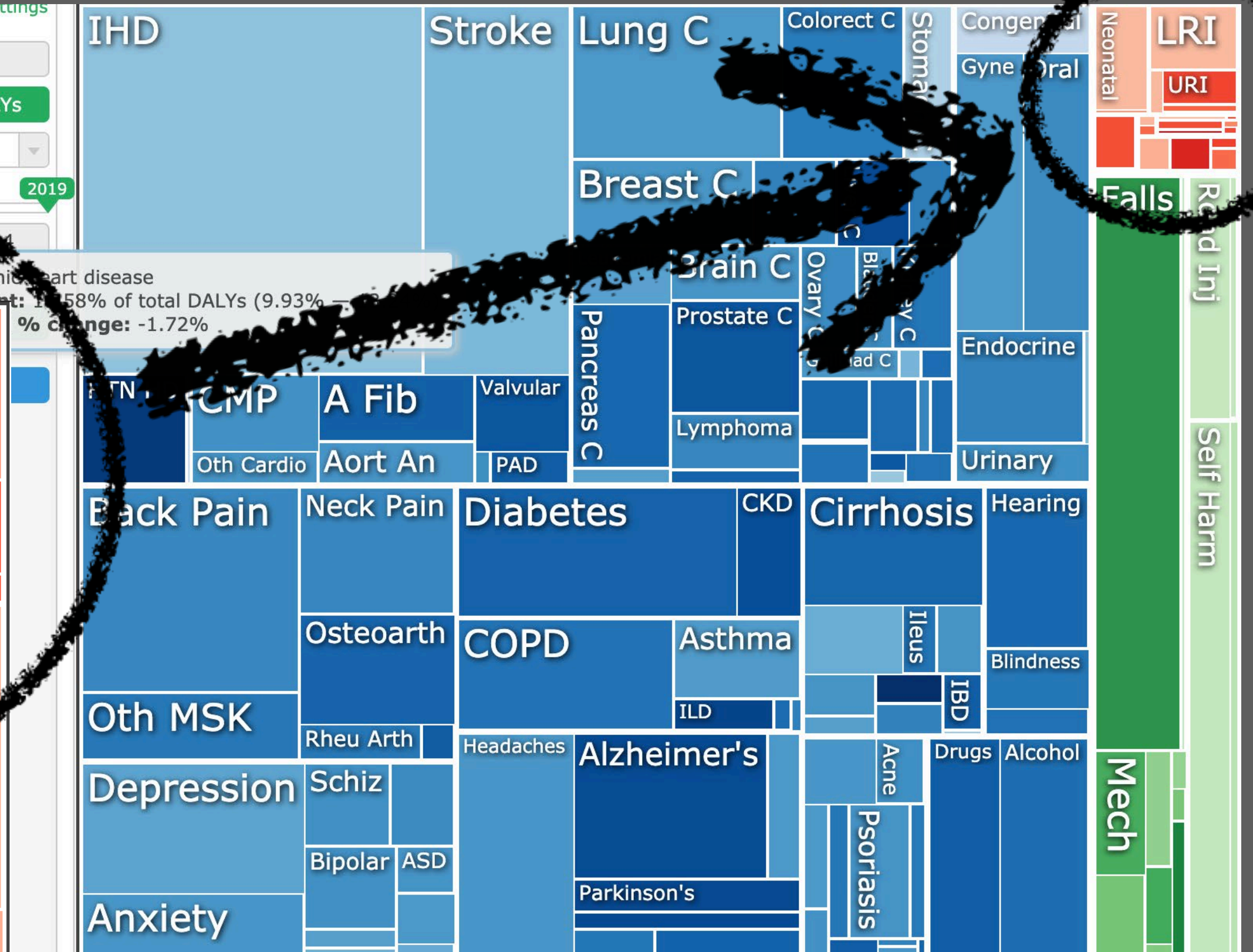
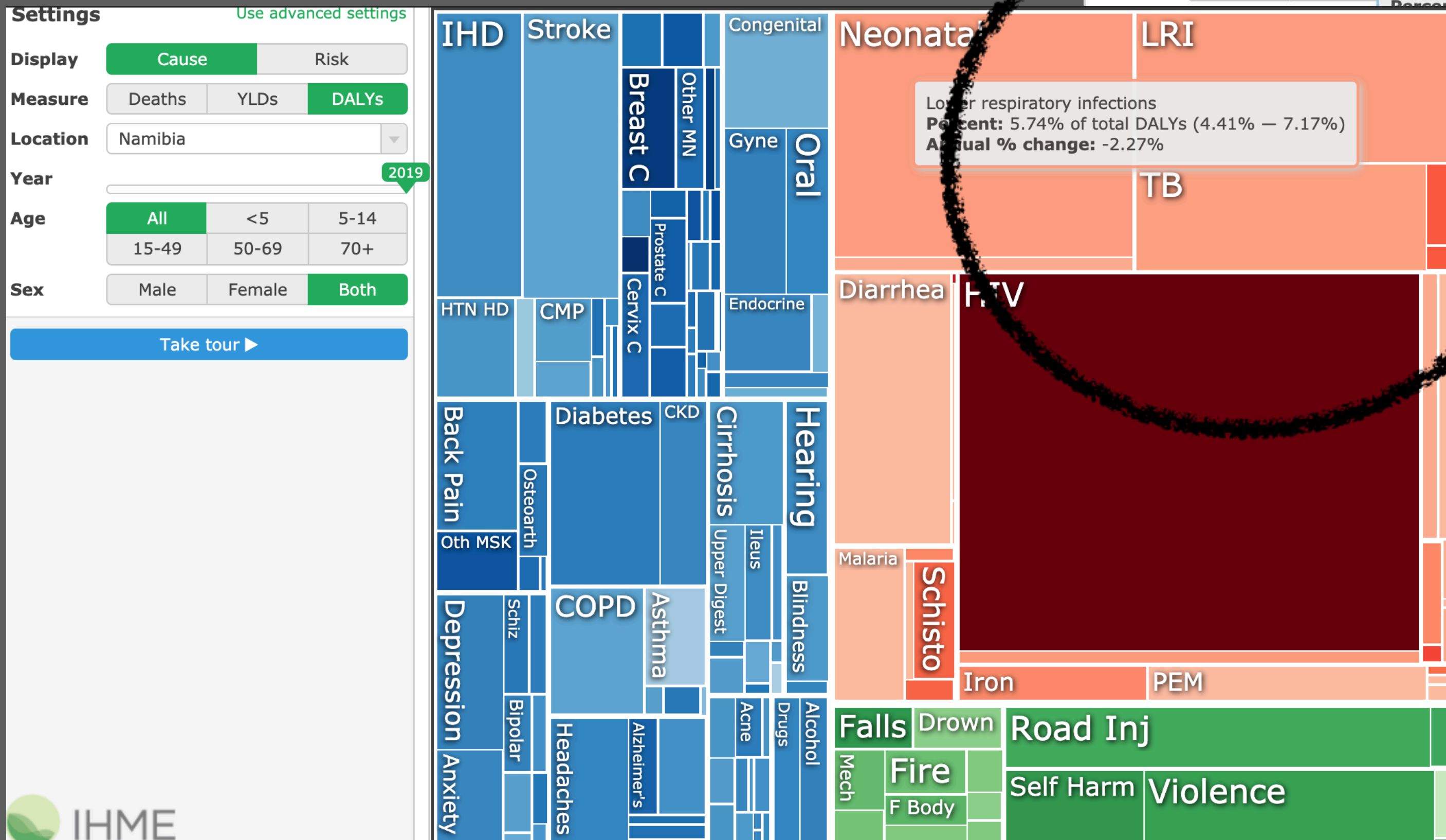
Exchange Rates



50%

Cooking

Impact



TB and respiratory ailments strain our public health systems

Source: IHME - <http://www.healthdata.org/>



Did this device do more towards liberating women?



Hans Roslink

Impact



\$9

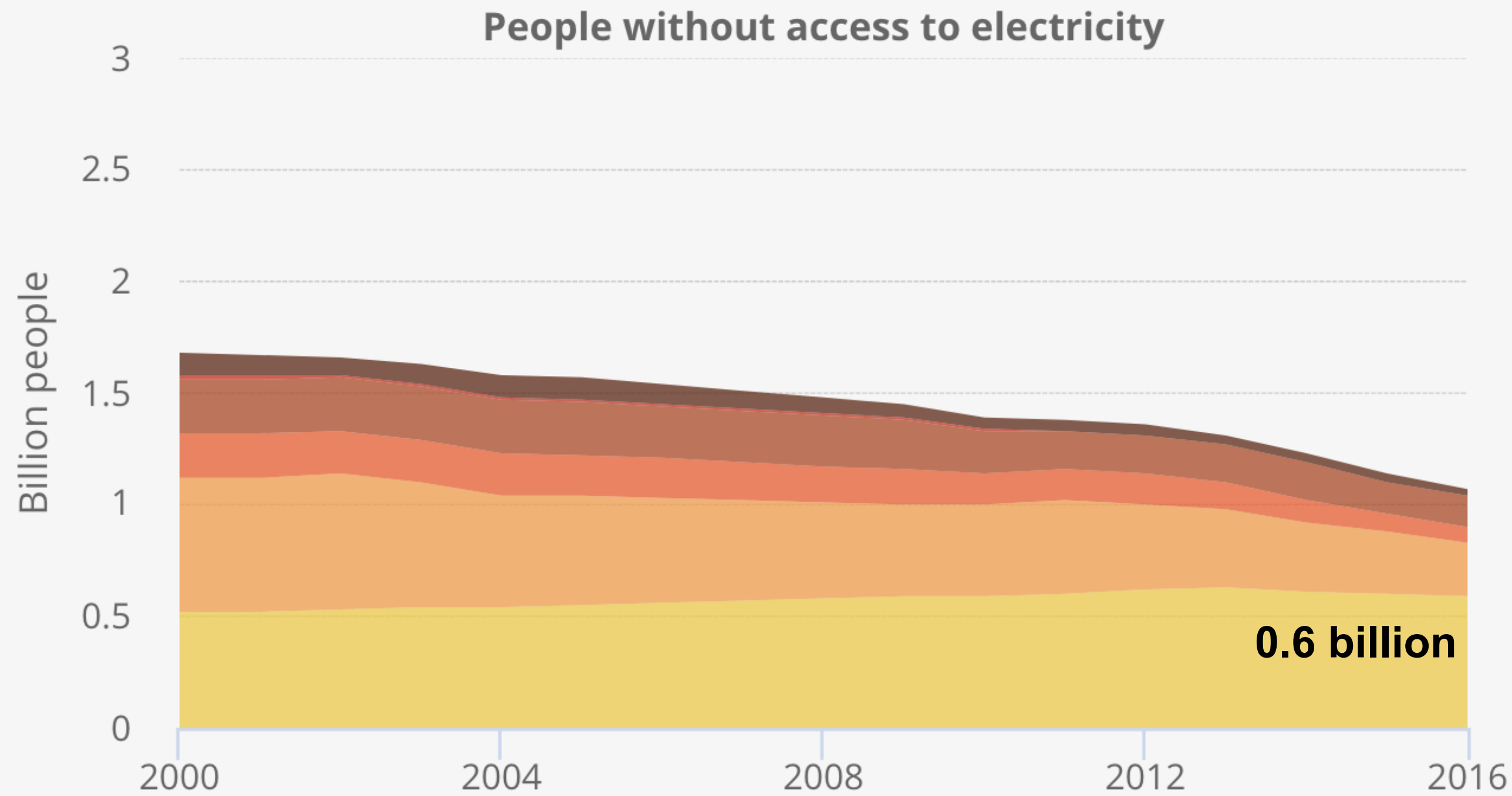
Impact



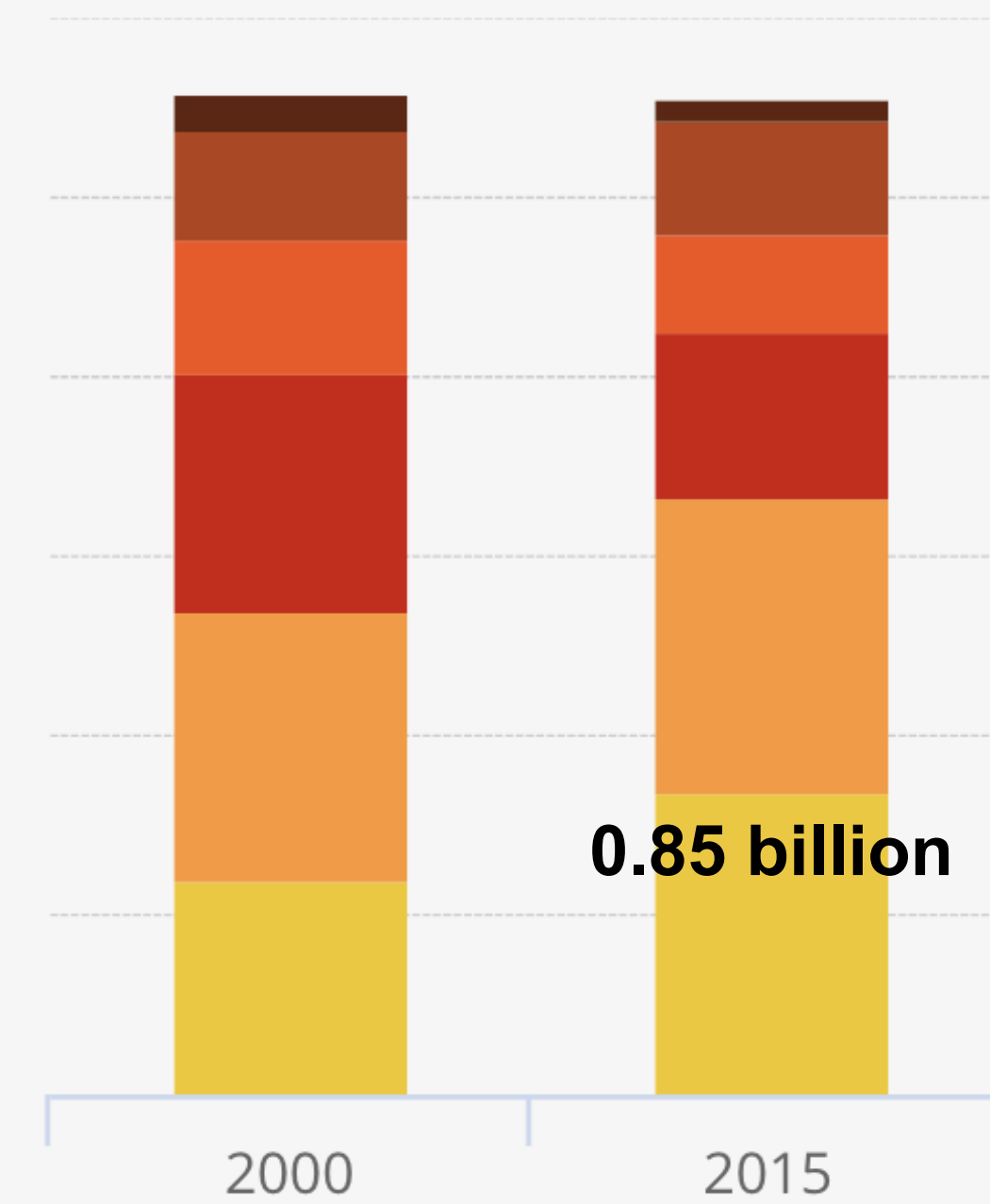
\$9

\$4

People without access to electricity and clean cooking facilities



People without clean cooking access



- Sub-Saharan Africa
- India
- Southeast Asia
- Other Developing Asia
- China
- Other developing economies

The fundamental laws of thermodynamics

1. Energy can't be created nor destroyed; it can only change form.
2. Every energy transformation comes at a cost (and the universe takes its share).

**(1) All energy is
free.**



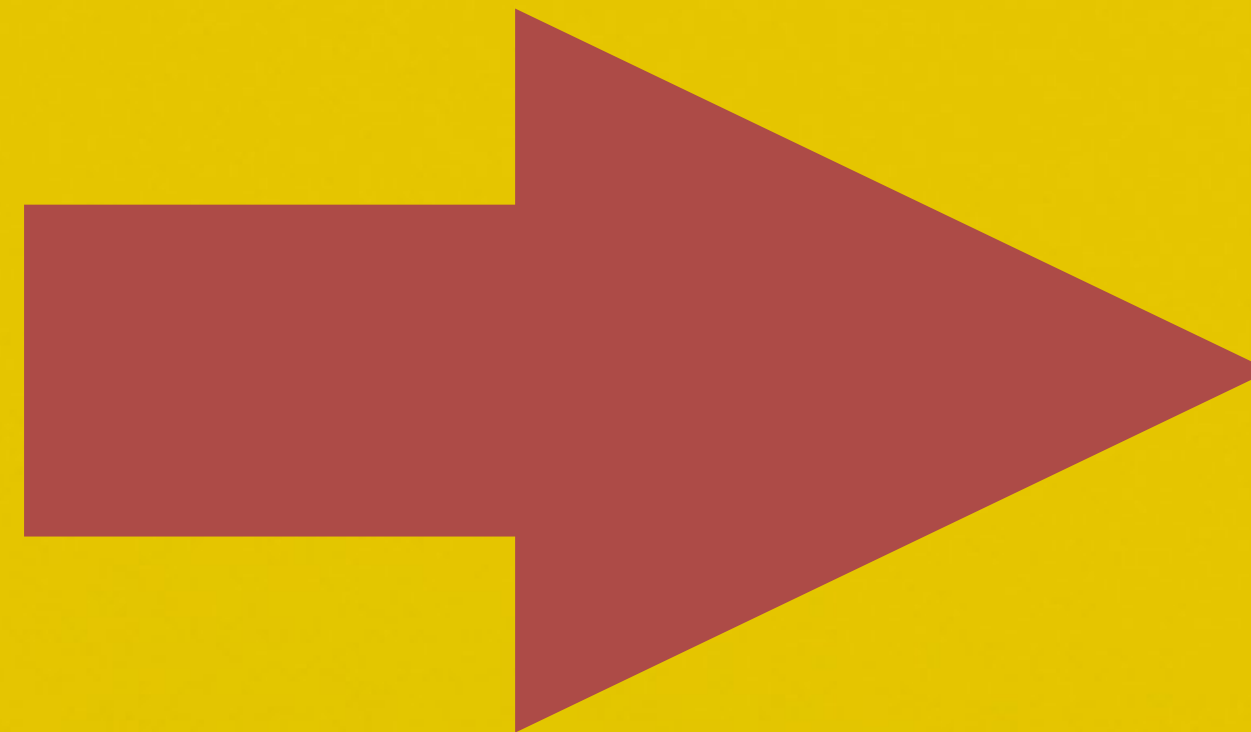
**(2) making it useful
is not!**



wood



5 kWh per day
for a warm meal

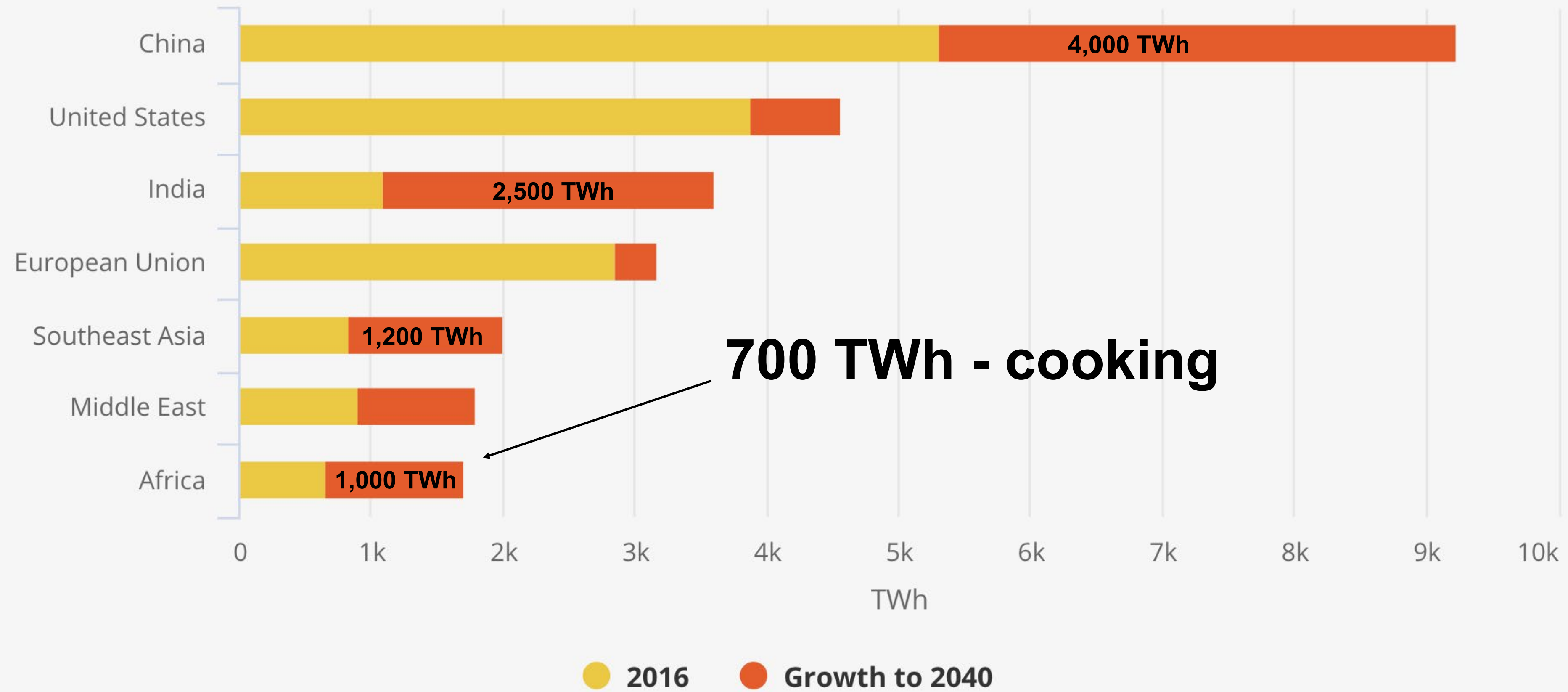


1,5 TWh
/year

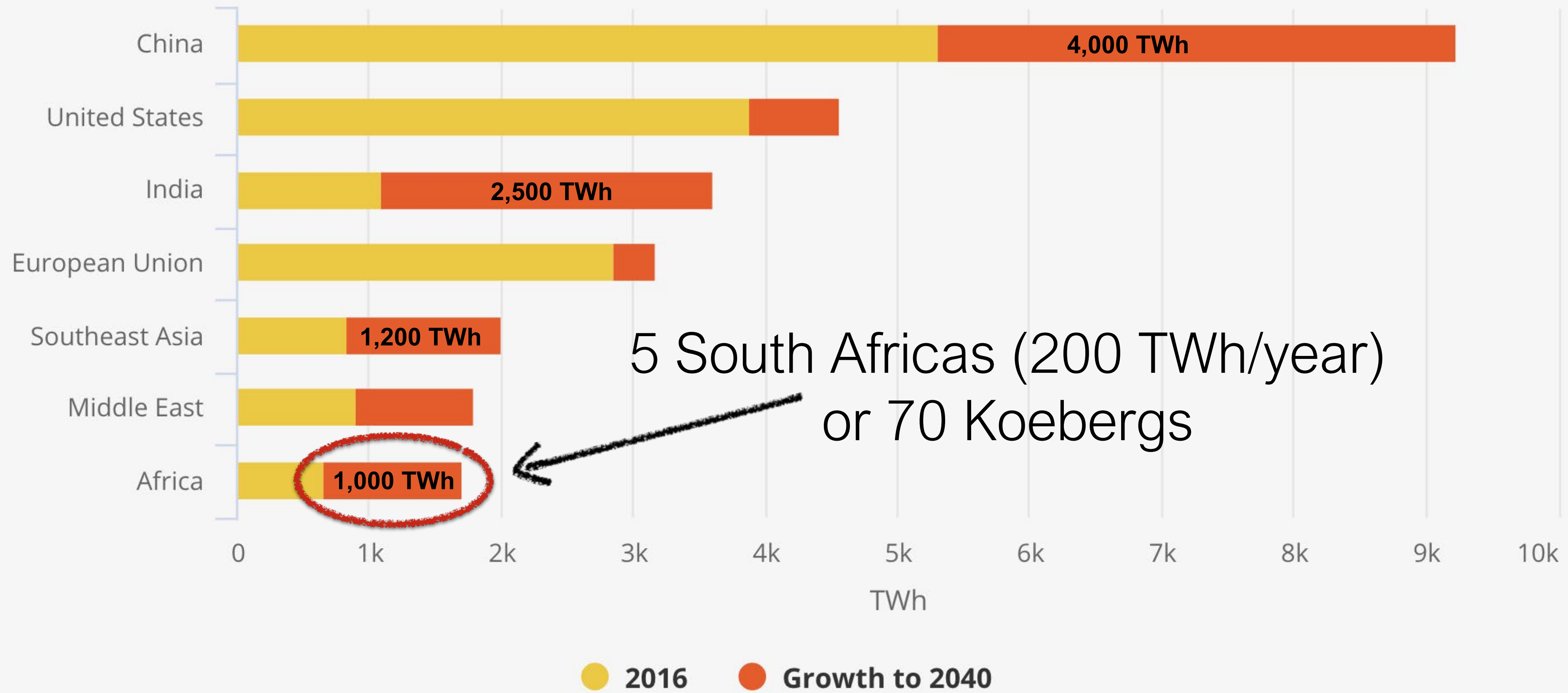
How long will it take?



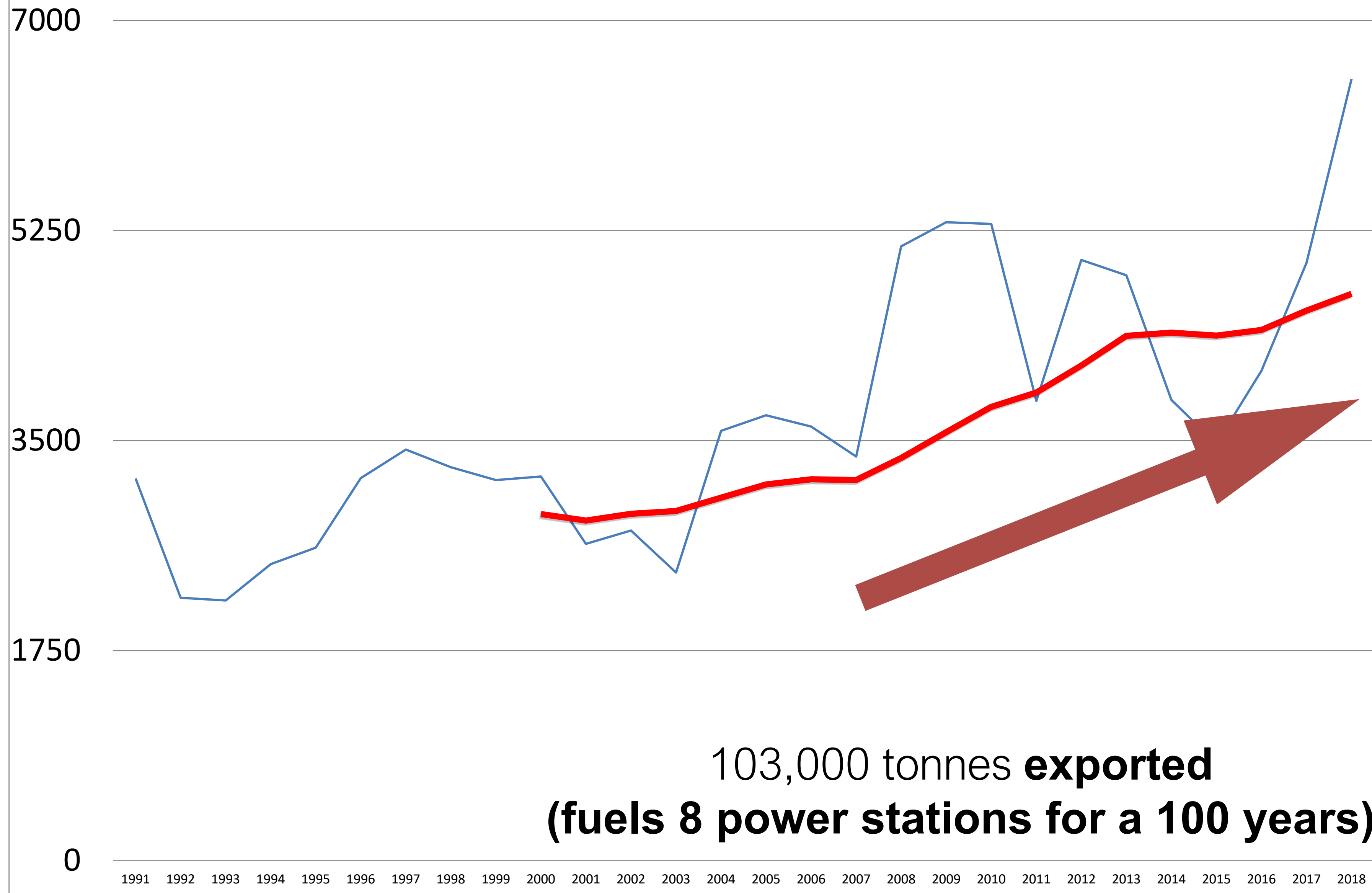
Electricity demand by selected region



Electricity demand by selected region



U3O8 Production and Exports



2020



6,500 t produced

1,000 MW reactor

100t initial load

25t refuelling (every 18-24 months)

10kg natural = 1 kg enriched (5%)

Assume 100 years operation:
Initial load + refuelling (50x) = 1,350t

103,000 tonnes **exported**
(fuels 8 power stations for a 100 years)

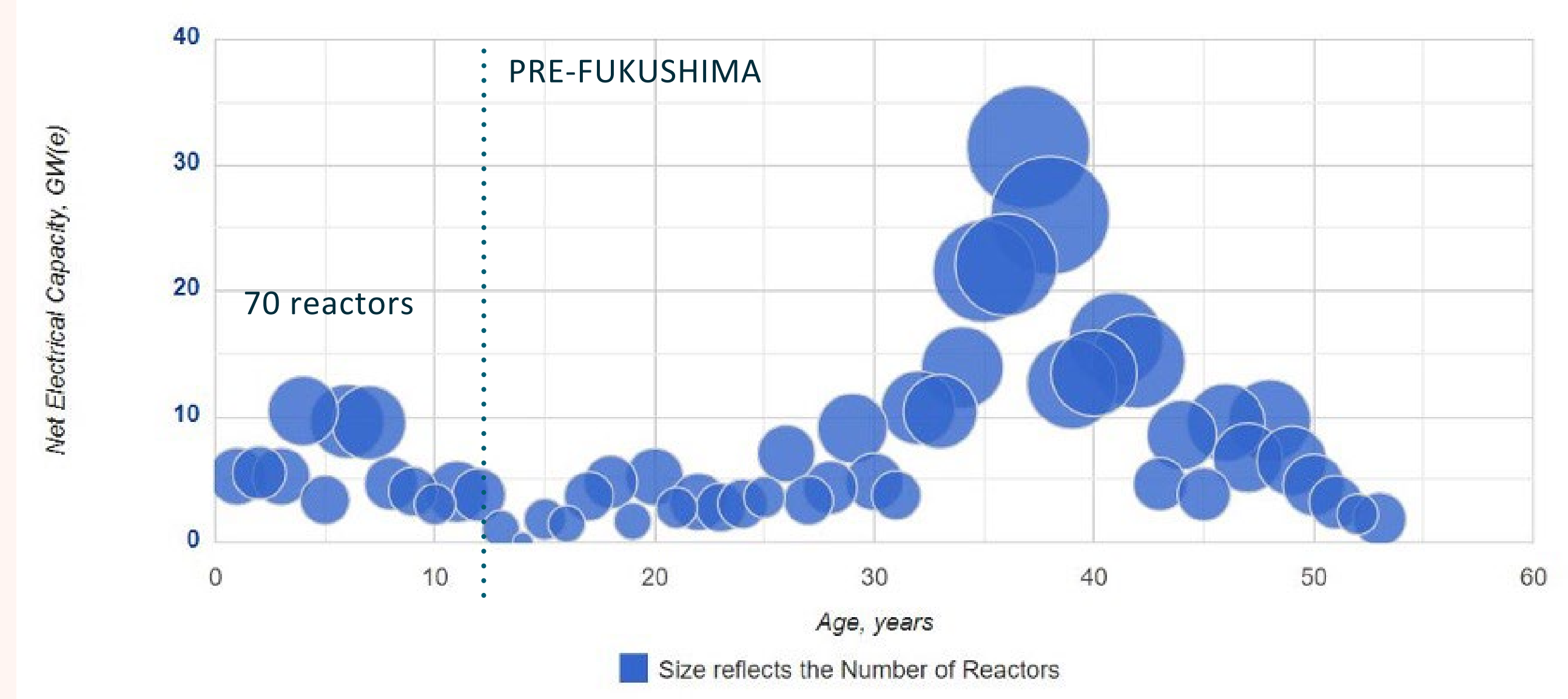
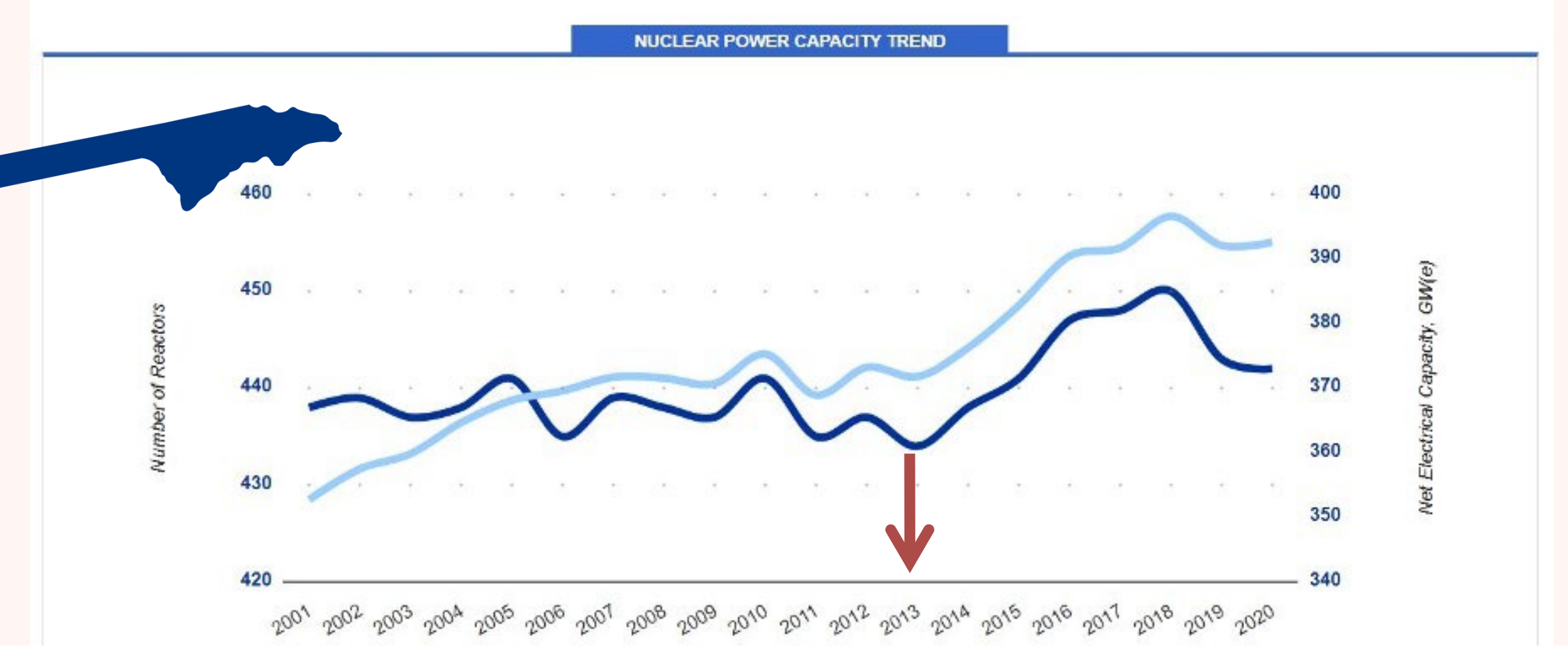
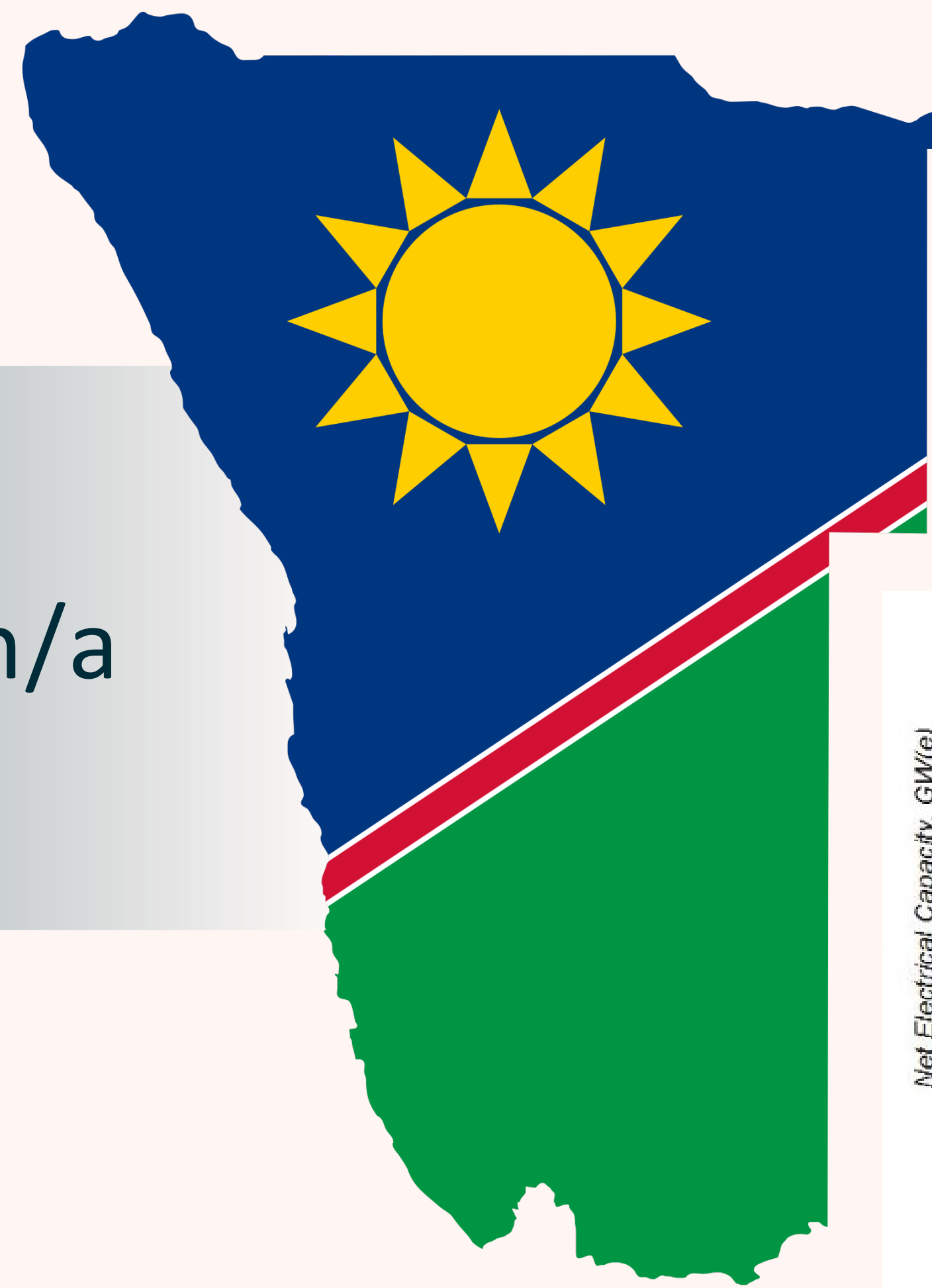
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1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018

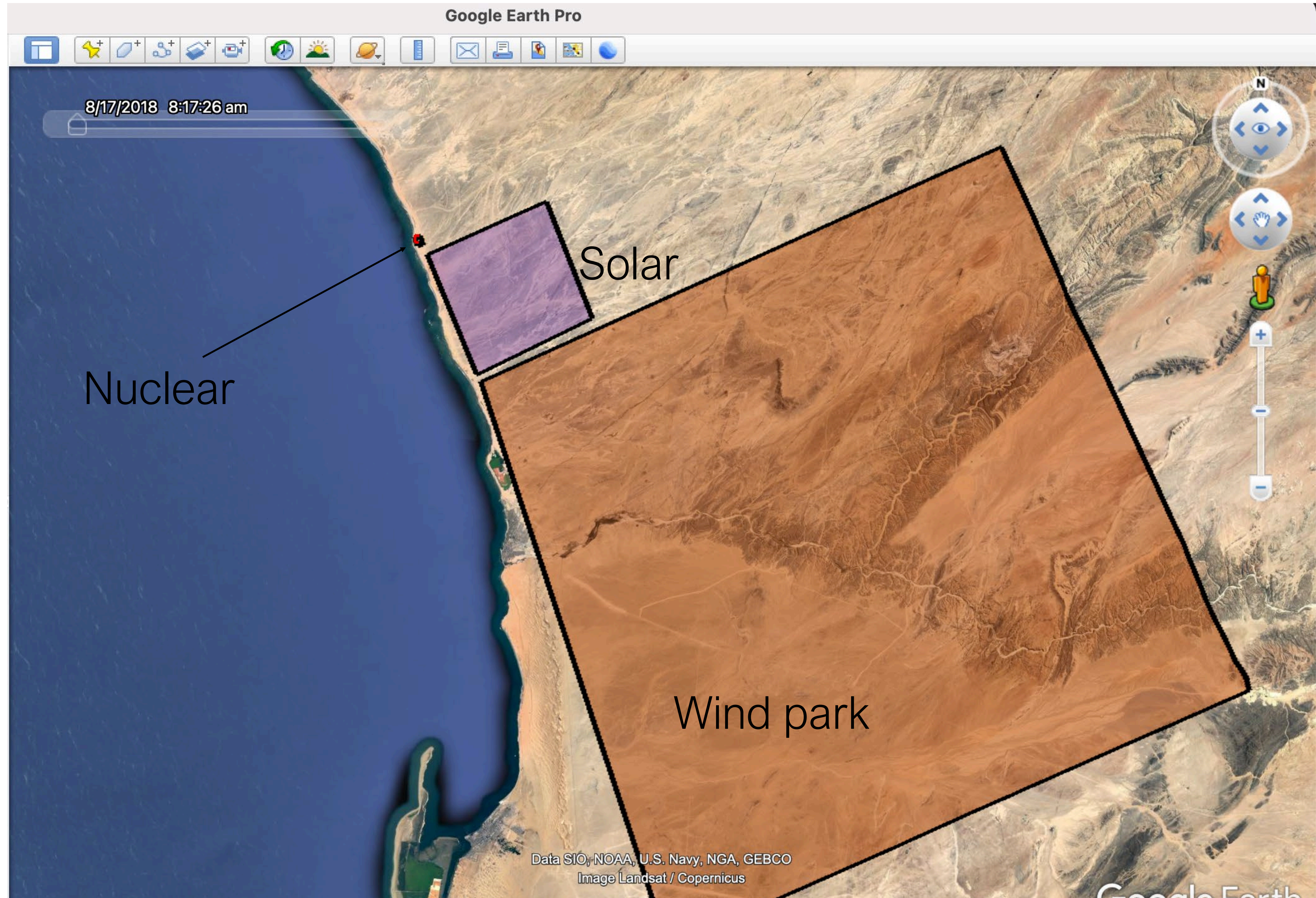
NET ENERGY EXPORTER



70 TWh/a



Land requirements



***THE SOLUTIONS
ARE THERE AND
AVAILABLE***

- **Energy scavenging**
- **Eliminate Energy Poverty**
- **ADD nuclear energy**

NUCLEAR FUTURE



Dr Nortin Titus