



## GLOBAL ENERGY BALANCE AND TRENDS

Where does the world stand in its endeavor to harness climate-friendly energy?

Guessing challenge:



Is there hope for the future?



They've known  
it for 60 years

Fossil Energy  
Consumption  
since 1962

+ 430%

Advertisement in *Life* magazine February 2, 1962



**Esso**

**EACH DAY SUPPLIES ENOUGH ENERGY TO MELT 7 MILLION TONS OF GLACIER!**

THIS GIANT GLACIER HAS REMAINED UNMELTED FOR CENTURIES. YET, THE PETROLEUM ENERGY HUMBLE SUPPLIES—IF CONVERTED INTO HEAT—COULD MELT IT AT THE RATE OF 80 TONS EACH SECOND! TO MEET THE NATION'S GROWING NEEDS FOR ENERGY, HUMBLE HAS APPLIED SCIENCE TO NATURE'S RESOURCES TO BECOME AMERICA'S LEADING ENERGY COMPANY. WORKING WONDERS WITH OIL THROUGH RESEARCH, HUMBLE PROVIDES ENERGY IN MANY FORMS—TO HELP HEAT OUR HOMES, POWER OUR TRANSPORTATION, AND TO FURNISH INDUSTRY WITH A GREAT VARIETY OF VERSATILE CHEMICALS. STOP AT A HUMBLE STATION FOR FAMOUS ESSO Extra GASOLINE, AND SEE WHY THE "HAPPY MOTORING" SIGN IS THE WORLD'S FIRST CHOICE!

**HUMBLE**  
OIL & REFINING COMPANY  
America's Leading Energy Company



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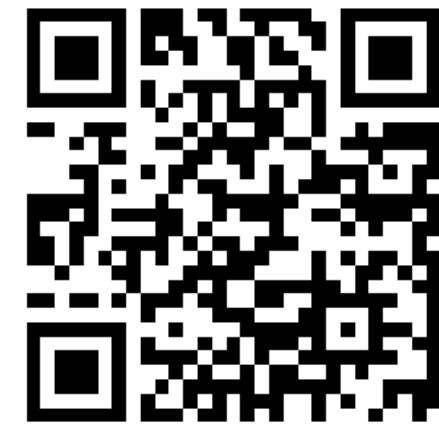
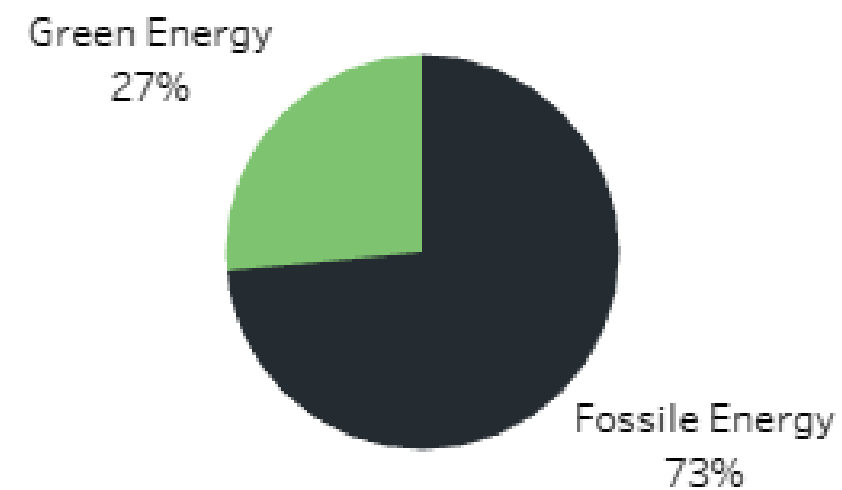


# Global Energy Balance

Yearly energy consumption

26.515 Terawatt hours

Fossile vs. Green Energy



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What is the most frequently used energy source?

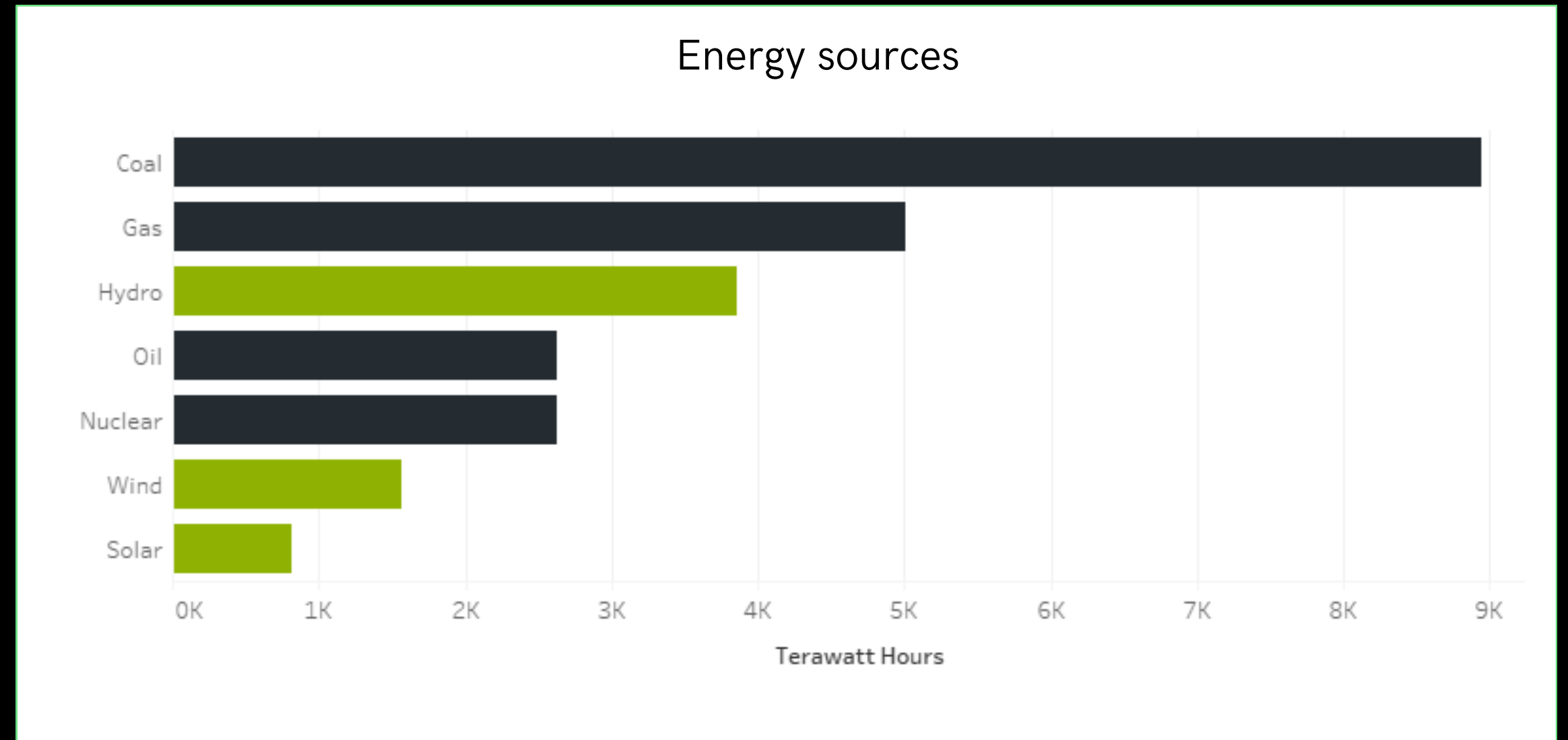
Nuclear  
☐ 0%

Gas  
☐ 0%

Coal  
☐ 0%

Hydro  
☐ 0%

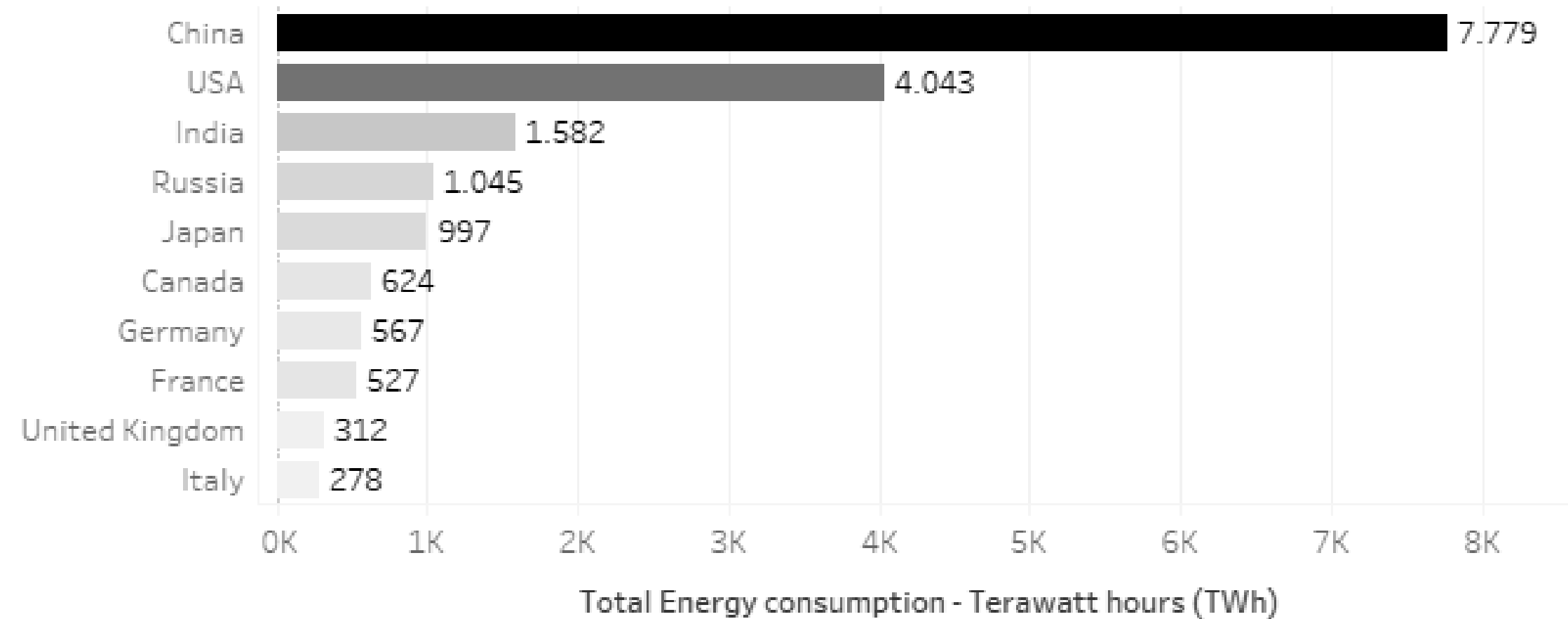
# Global Energy Balance



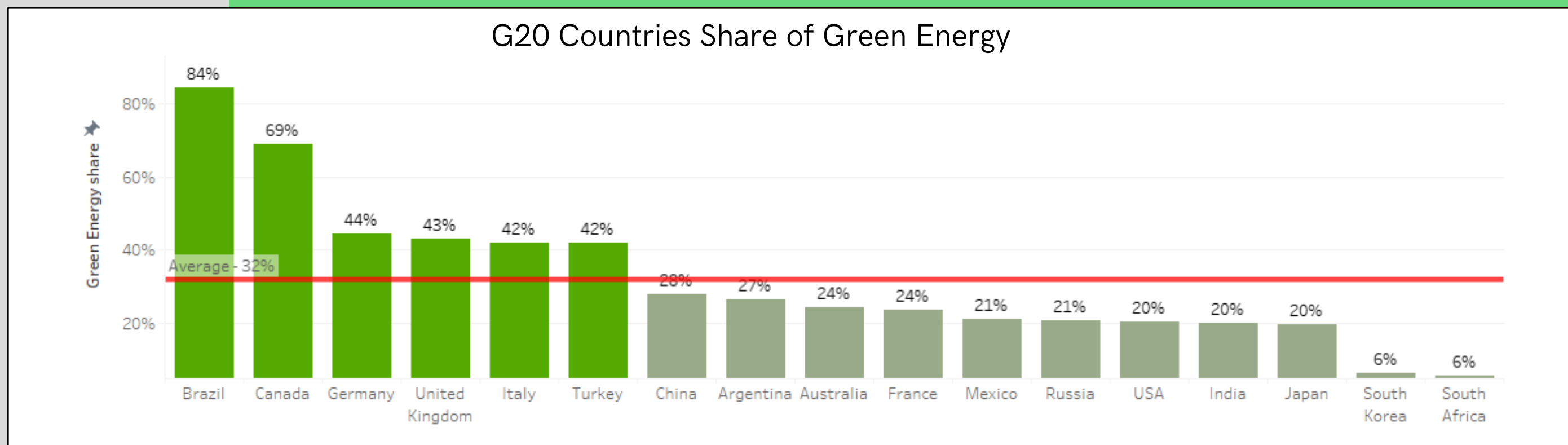
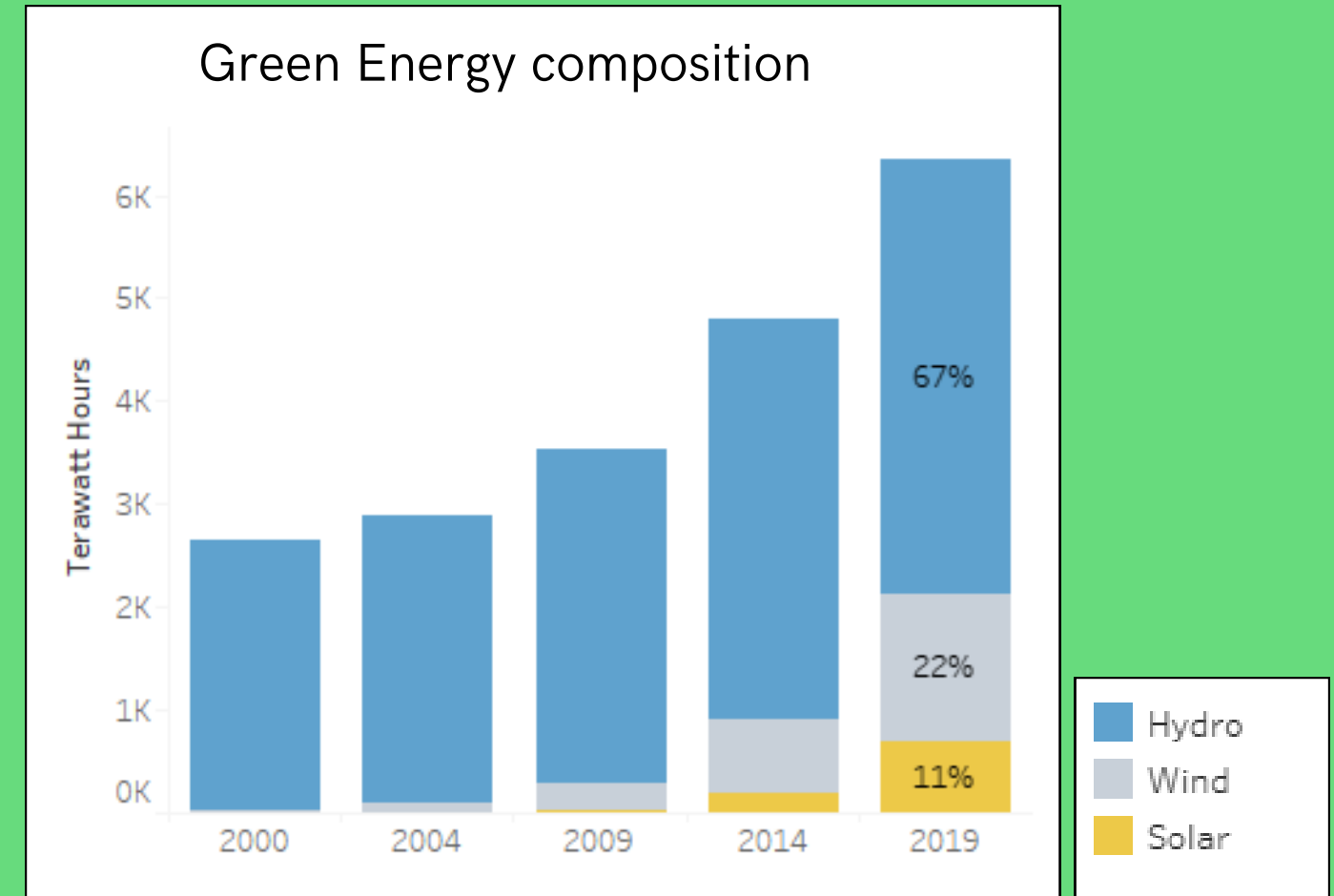
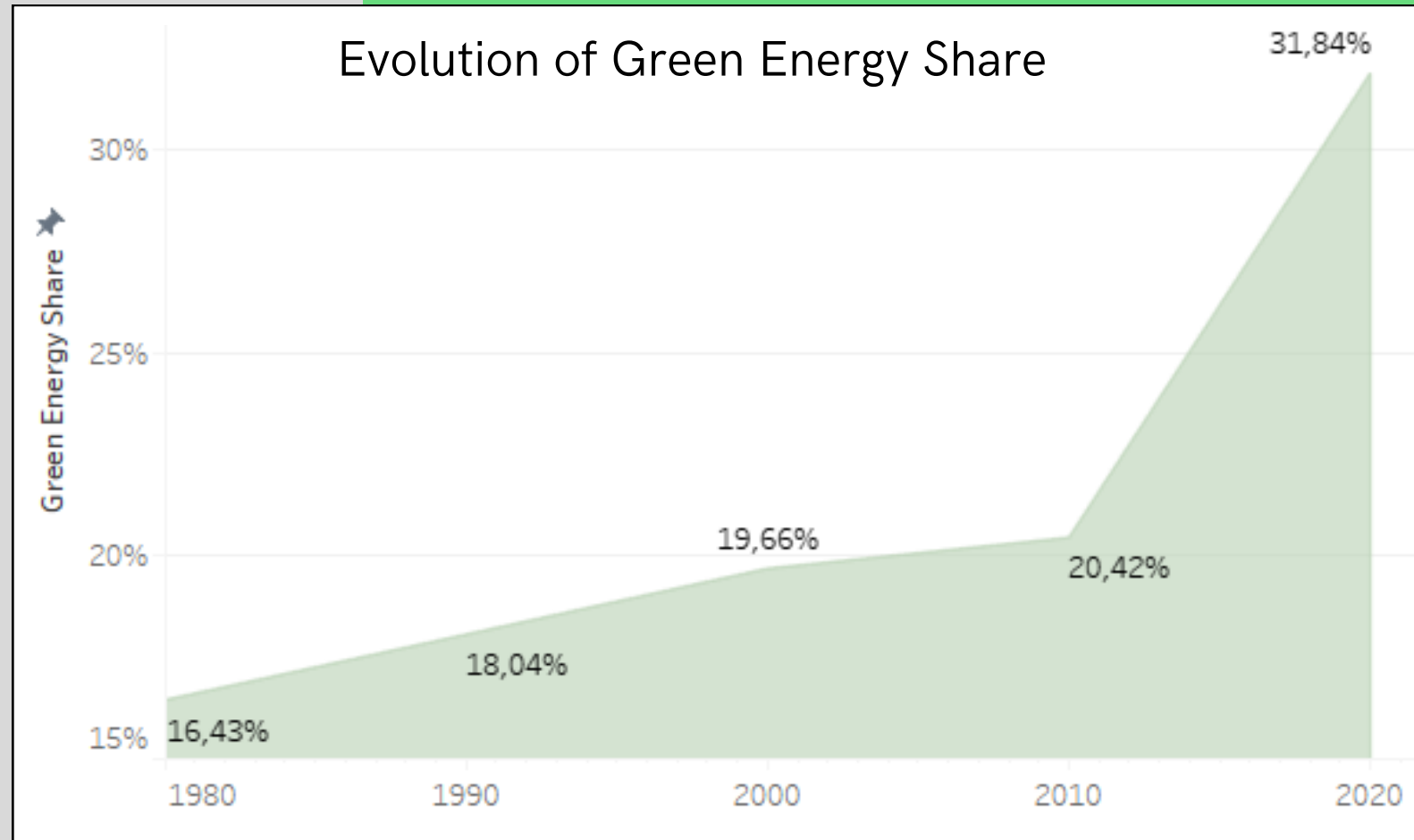
# Global Energy Balance



Giants of Energy Consumption: The Top 10



# Trends in Renewable Energy

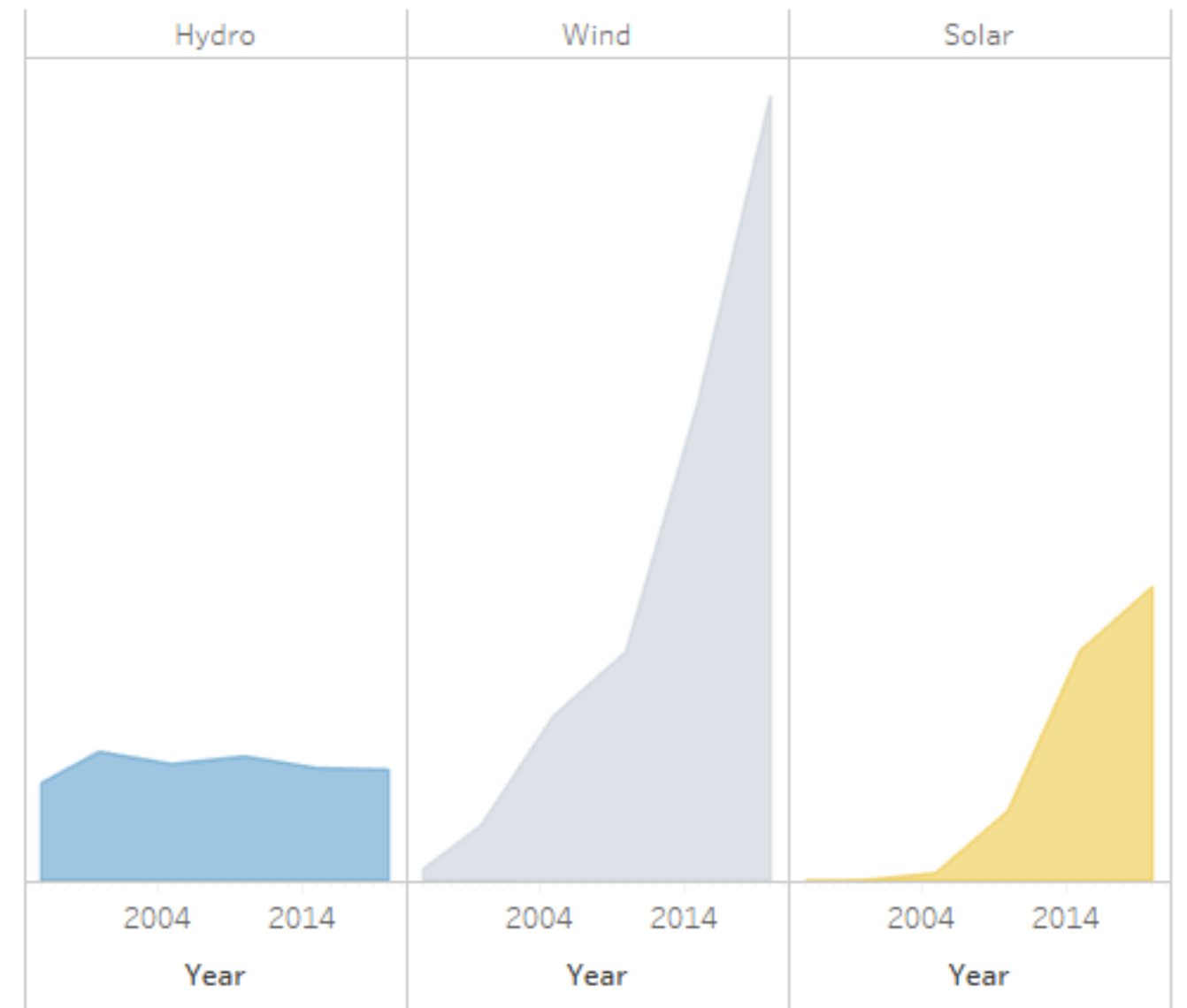


# Renewables in Germany

Flagship countries in green development

	Hydro	Wind	Solar
Brazil	86%	12%	2%
Canada	91%	8%	1%
Germany	9%	66%	25%
United Kingdom	7%	79%	14%
Italy	52%	21%	27%
Turkey	69%	22%	10%

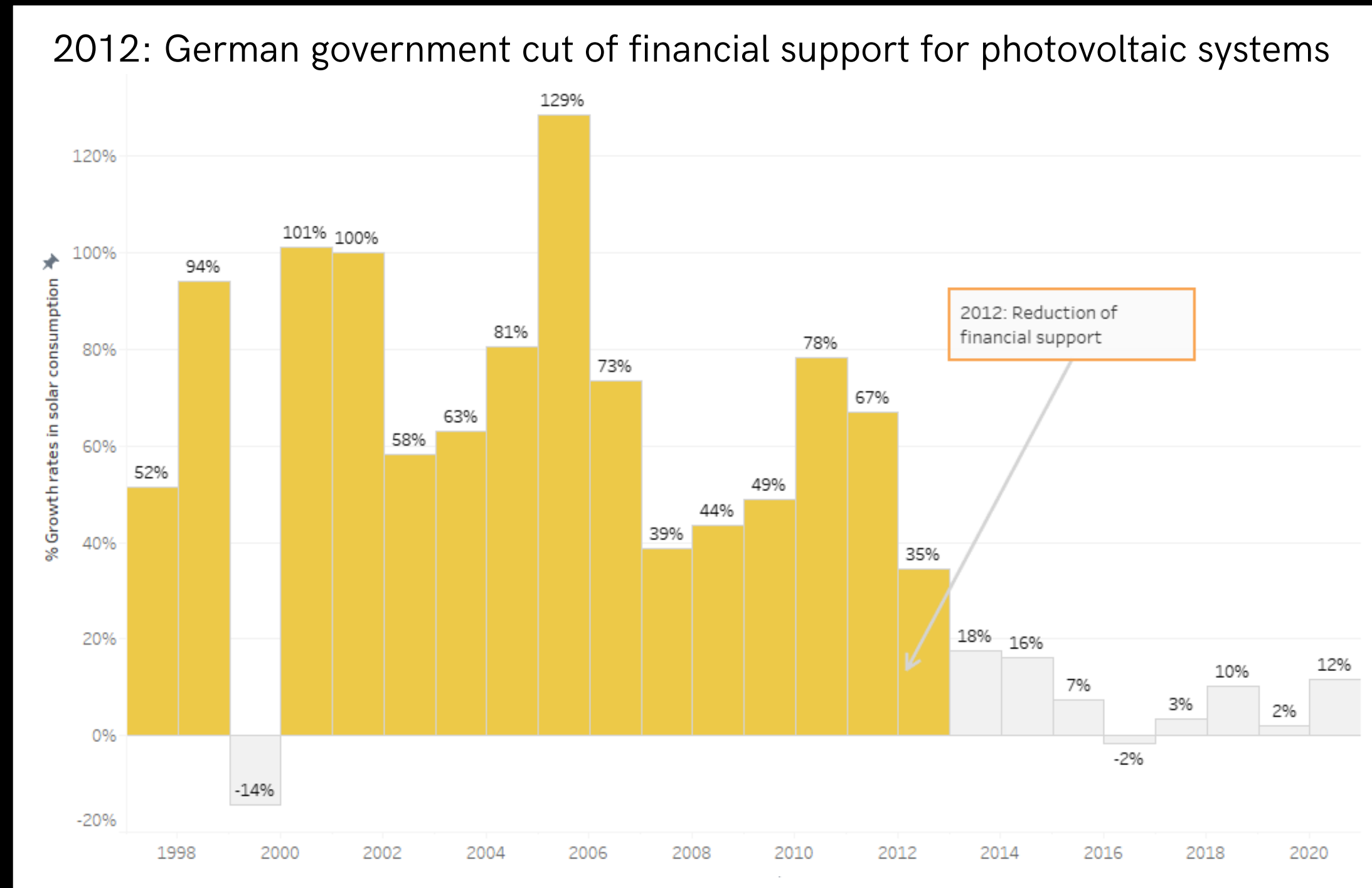
Developments in Renewable Energy Sources  
Germany



# Impacts of policy shifts on the energy mix

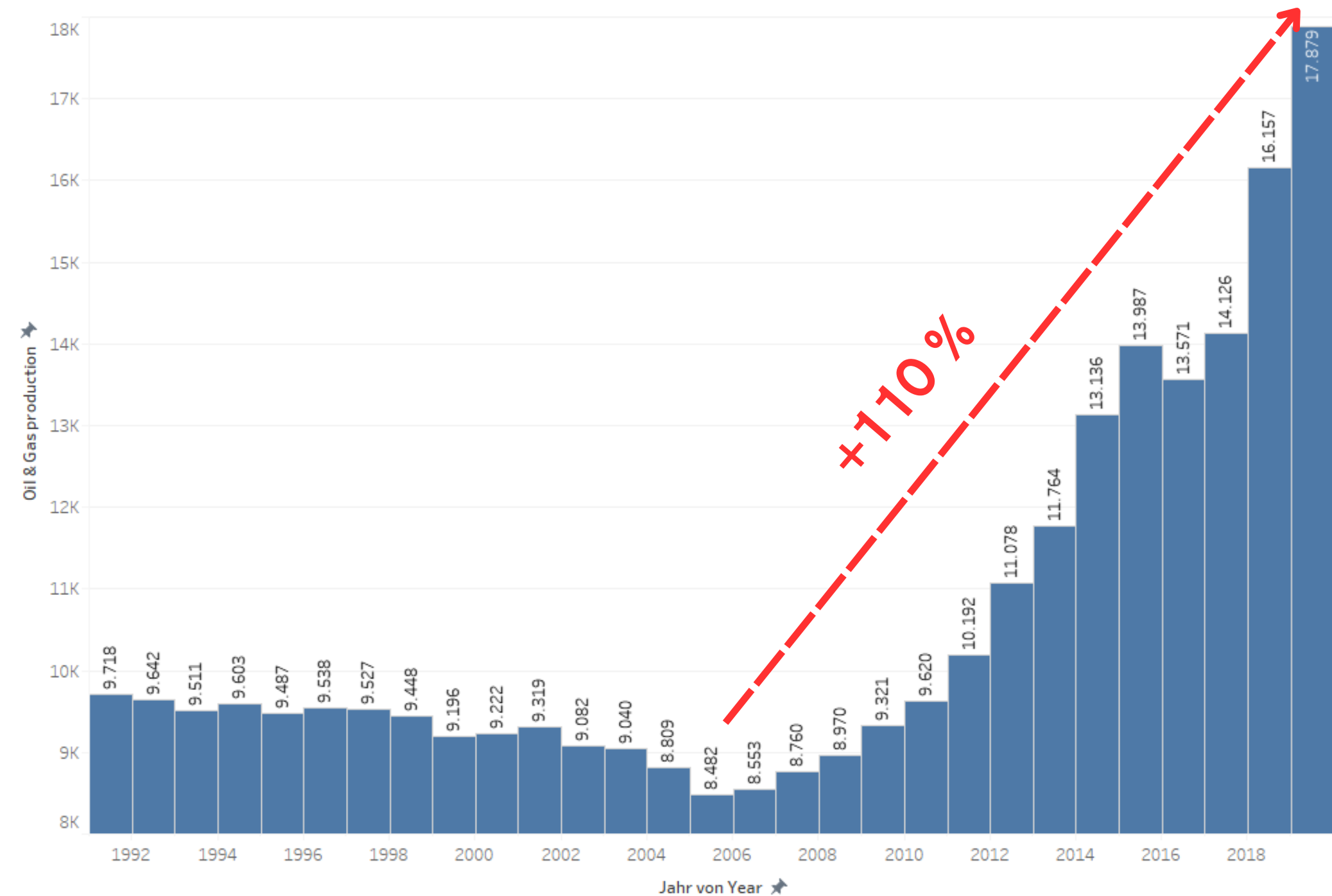


# Impact of policy shifts on renewable energies in Germany



# Impact of policy shifts on fossile energies in USA

2005: US government permit fracking Oil & Gas | Effect on growth rates



# It's up to us!



Sven Deiwick - Data Analytics Graduation

2023-08-14



# Thank you for your attention

Sources:

[kaggle.com](https://www.kaggle.com)

[ember-climate.org](https://ember-climate.org)



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2023-08-14