



POLLUTION AND RENEWABLE ENERGY



Agnelli Marco
Canclini Alessandro

**“La nazione che
distrugge il
proprio suolo
distrugge se stessa”**

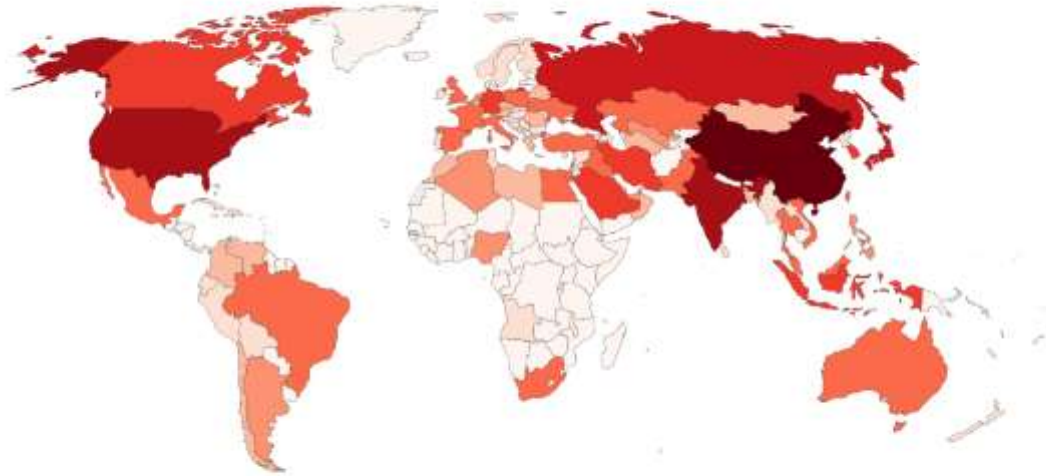
FRANKLIN DELANO ROOSEVELT

Inquiniamo davvero così tanto?

Annual CO₂ emissions, 2020

Carbon dioxide (CO₂) emissions from the burning of fossil fuels for energy and cement production. Land use change is not included.

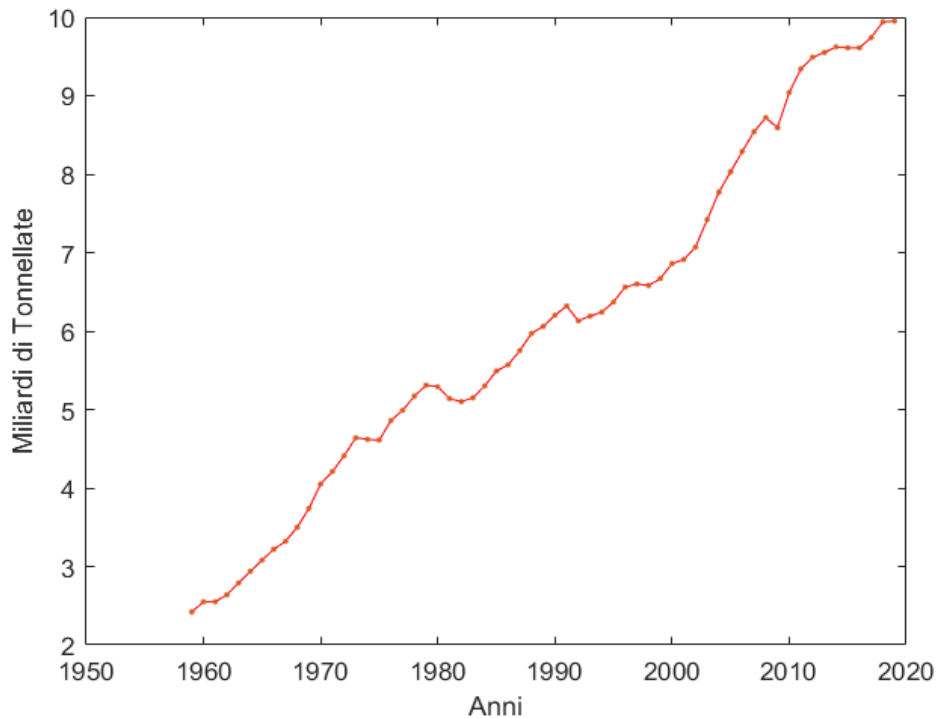
Our World
in Data



Source: Global Carbon Project

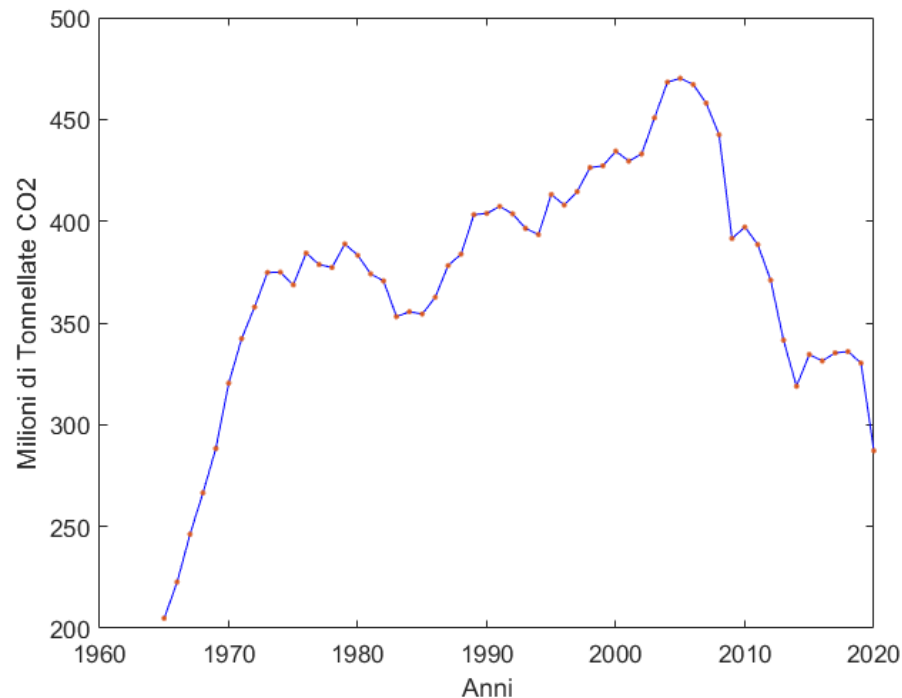
OurWorldInData.org/co2-and-other-greenhouse-gas-emissions/ • CC BY

Emissioni di CO2 nel mondo

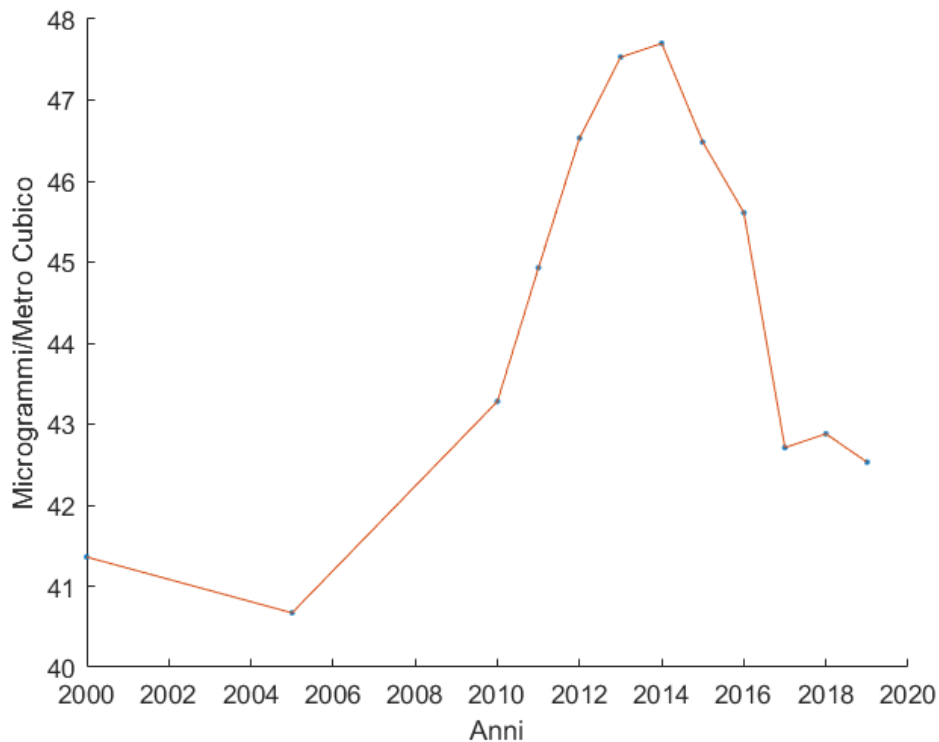


E in Italia?

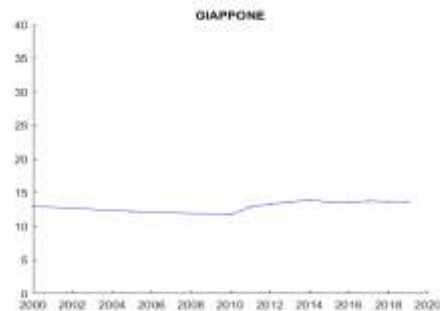
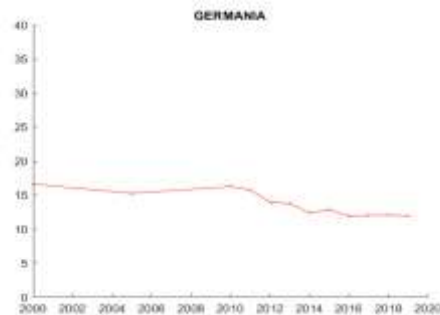
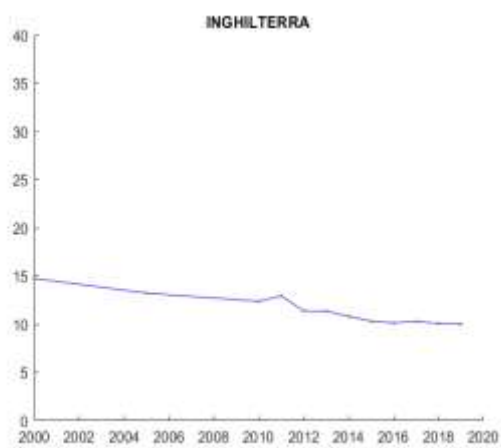
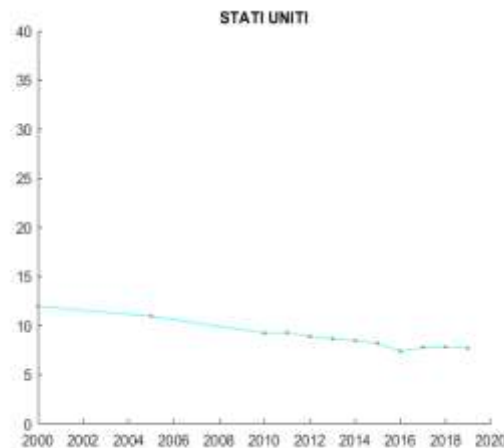
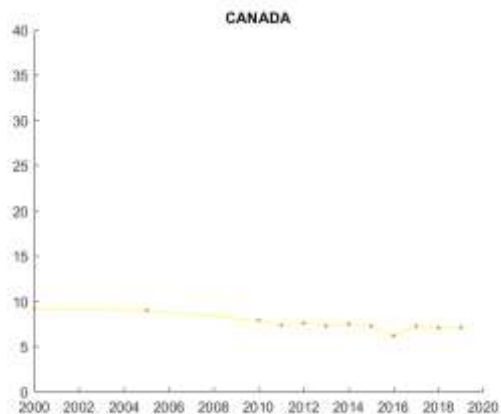
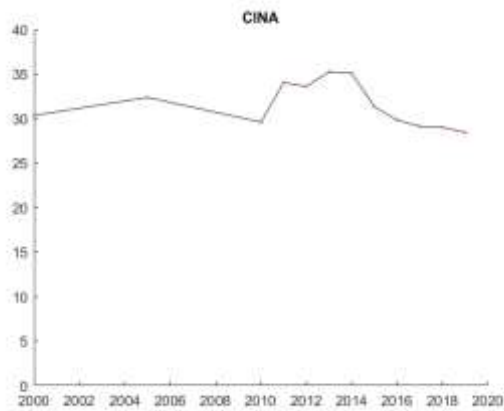
Emissioni di CO2 in Italia



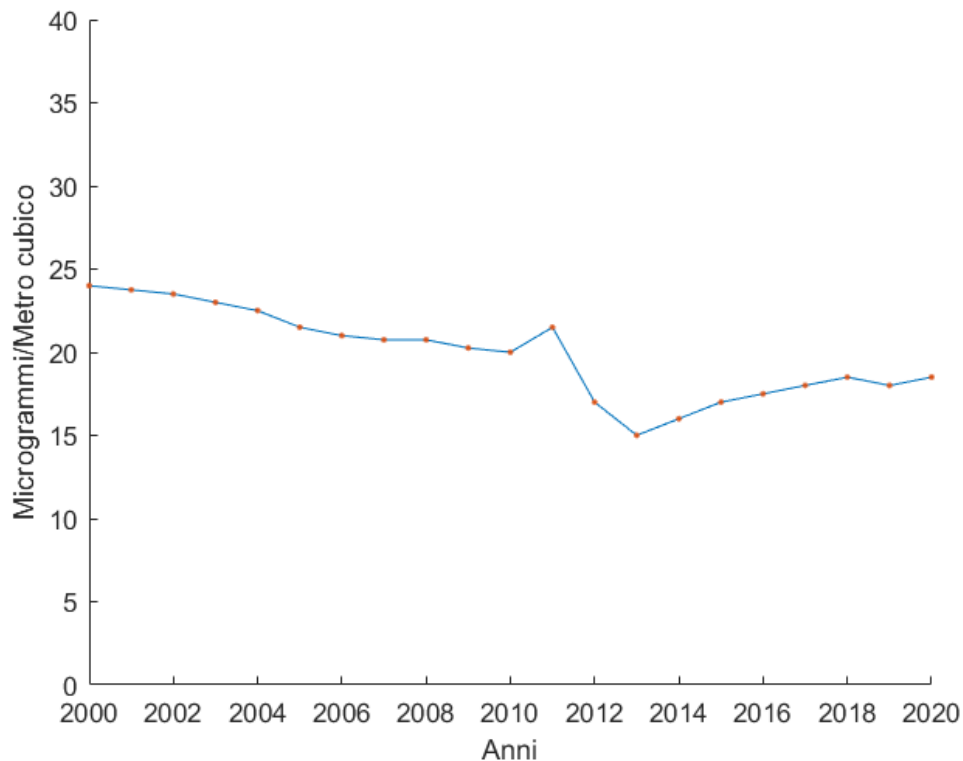
Esposizione al particolato PM2.5 nel mondo



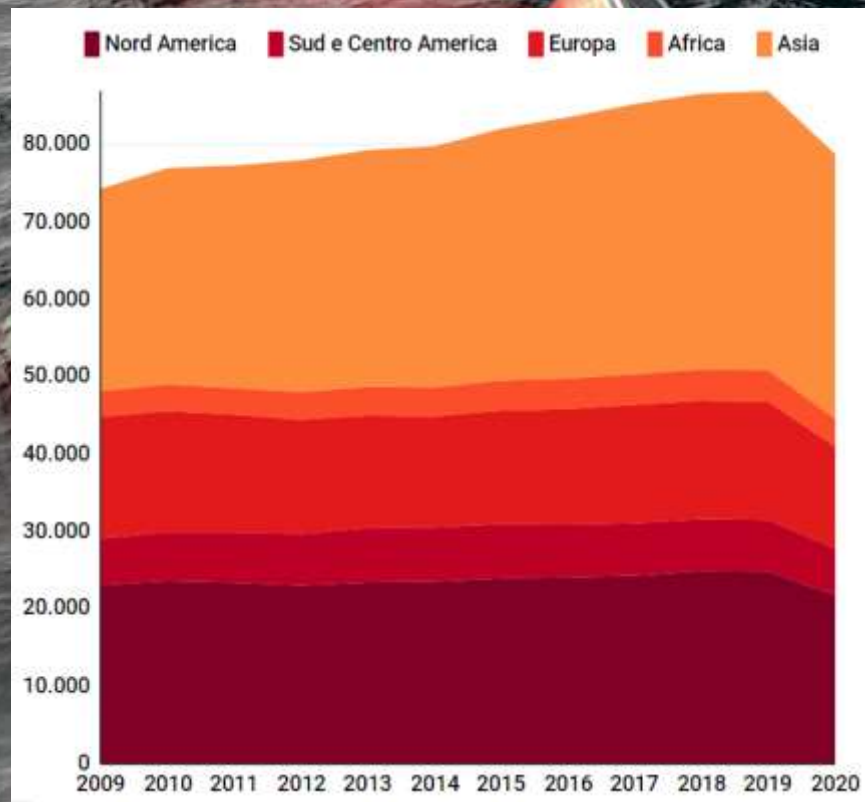
Facendo un confronto



Esposizione al particolato PM2.5 in Italia



Consumo in barili di petrolio annui

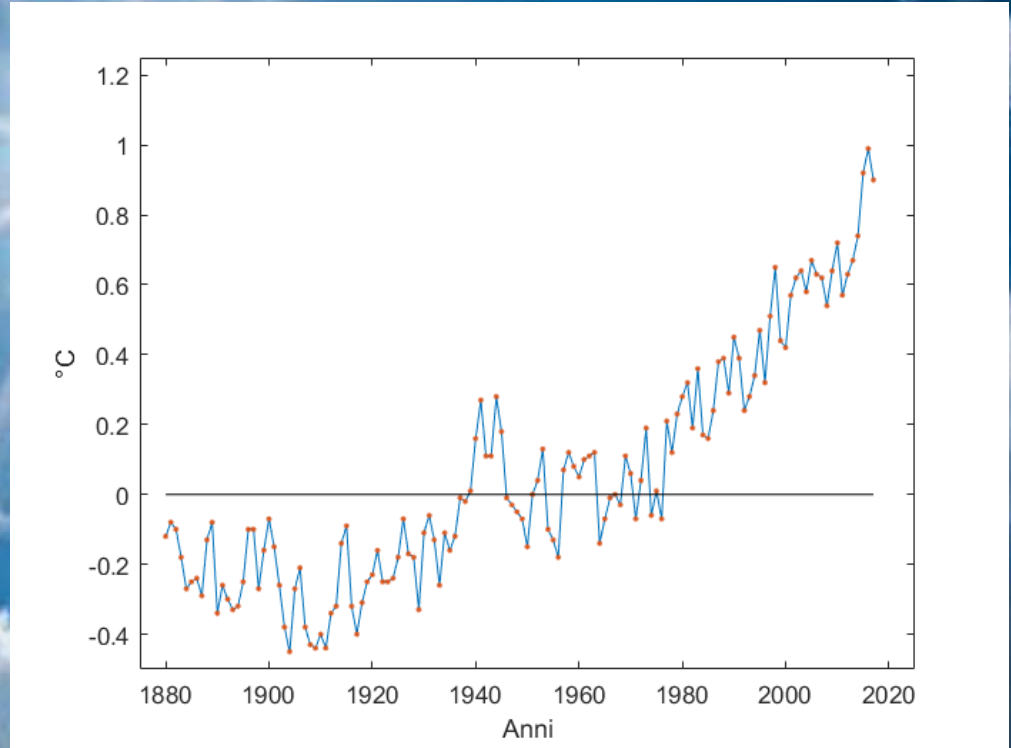


Ma gli effetti di tutto
questo inquinamento si
vedono davvero?



Siamo a temperatura?

Scostamento
temperatura
annuale dalla
media 20esimo
secolo



**QUINDI,COME E'
POSSIBILE
MIGLIORARE
LA SITUAZIONE?**

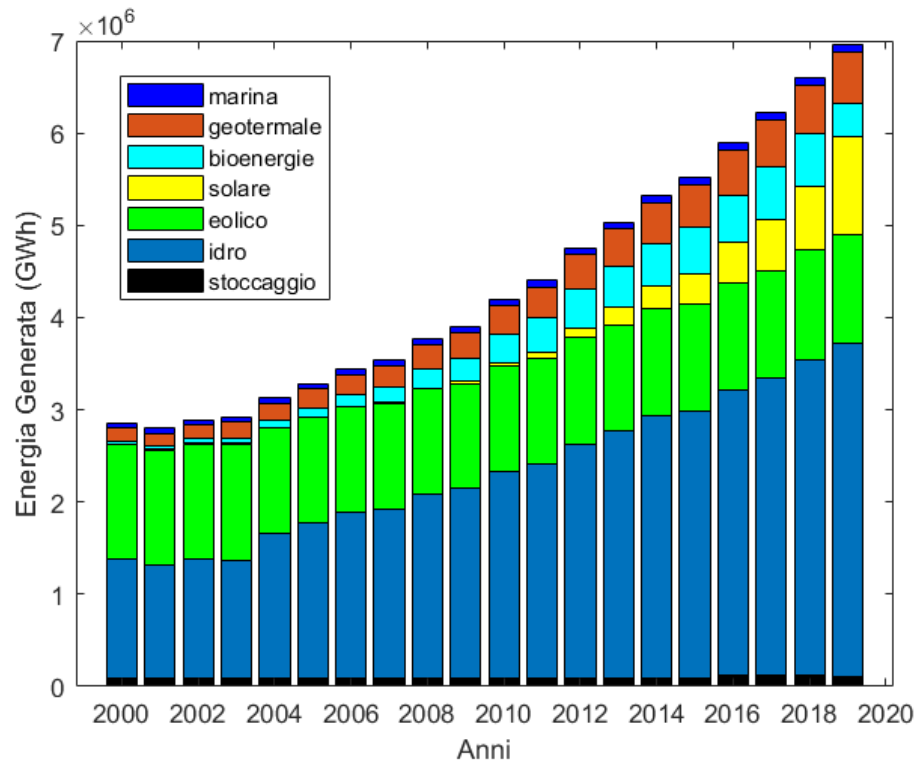


SEMPLICE :

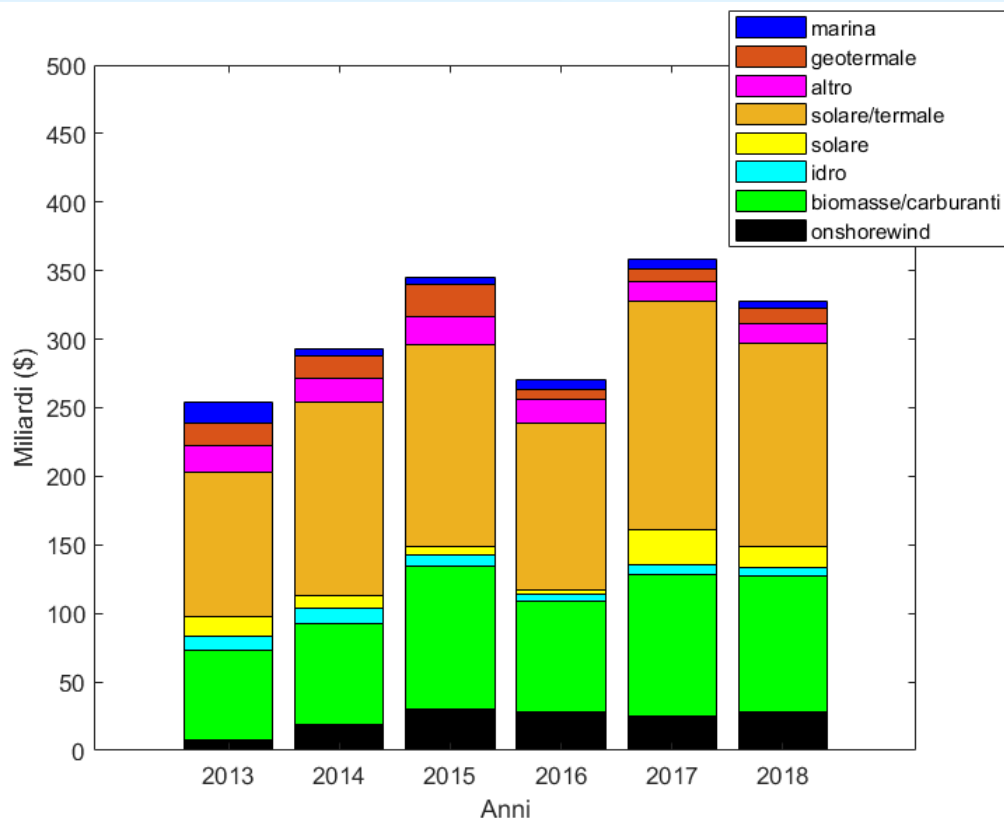
**ENERGIA
RINNOVABILE!**



Anzitutto, quanta energia producono?



Quanto siamo disposti ad investire per il futuro?

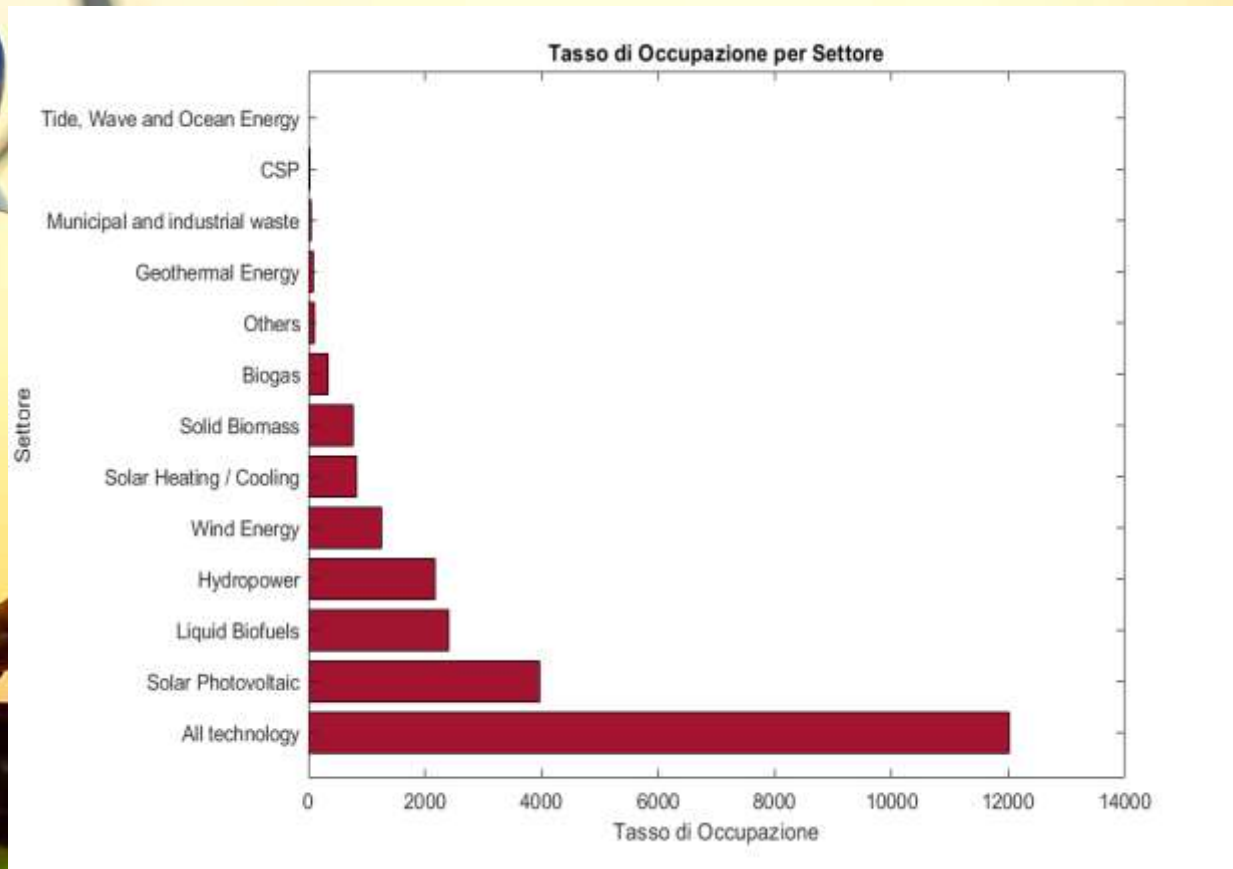


Investimenti in miliardi di dollari per settore

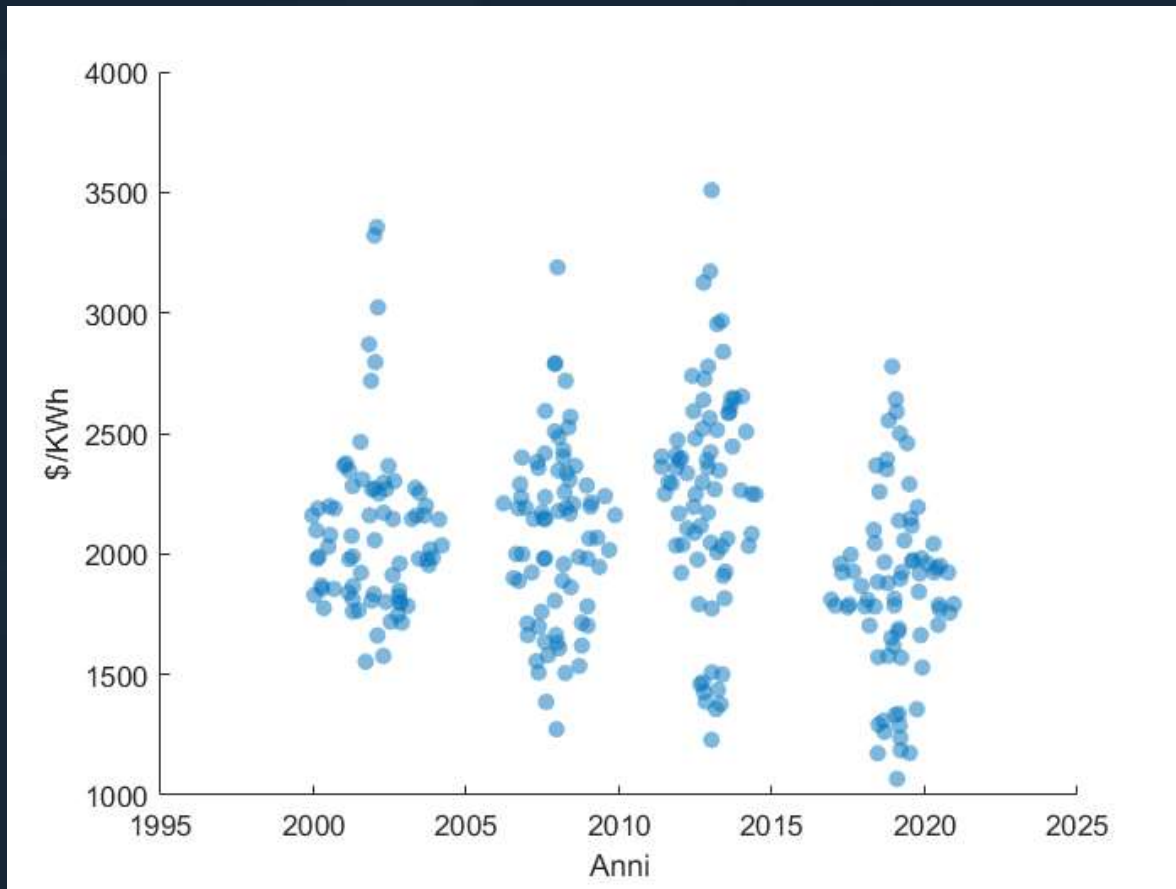
Come ho strutturato il grafico:

```
anno8 = [2013 2014 2015 2016 2017 2018];  
onshorewind = [7.97349 19.18155 30.05657 28.50084  
24.55427 27.99614];  
HG = bar(anno8,onshorewind,'facecolor','k');  
hold on  
  
ylim([0 500])  
xlabel('Anni')  
ylabel('Miliardi ($)')  
legend('marina','geotermale','altro','solare/termale','solare',  
'idro','biomasse/carburanti','onshorewind')
```

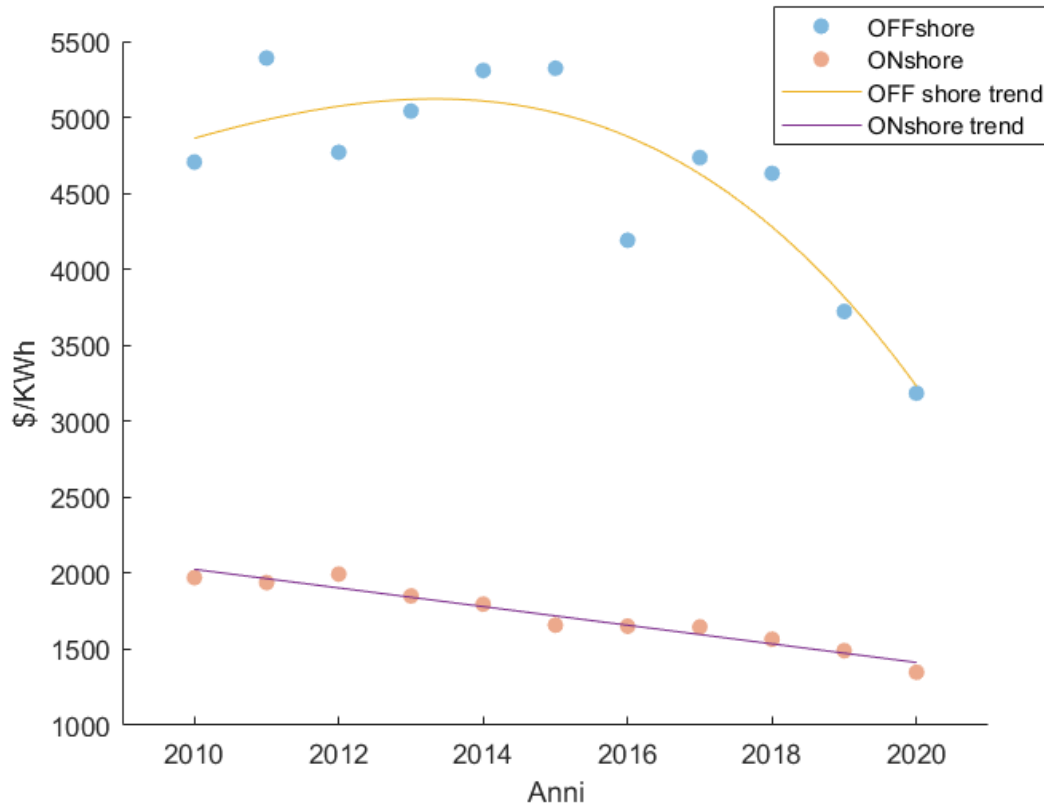
Creiamo nuovi posti di lavoro



Costo installazione negli anni Onshore in \$/KWh



Confronto costi KWh Onshore & OFFshore

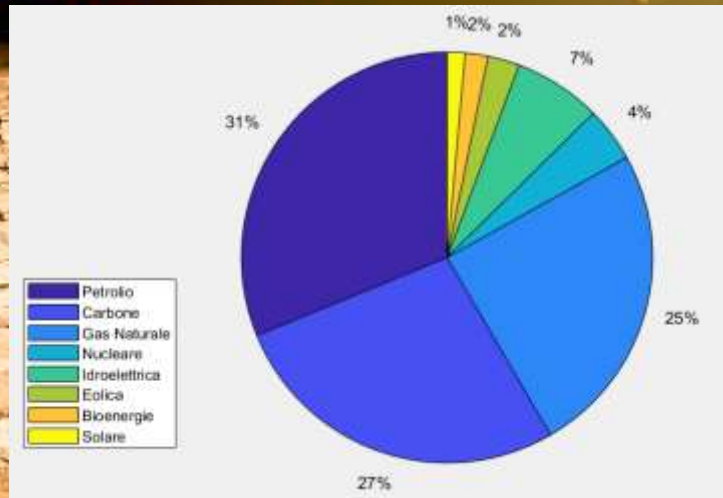


Costruzione del grafico:

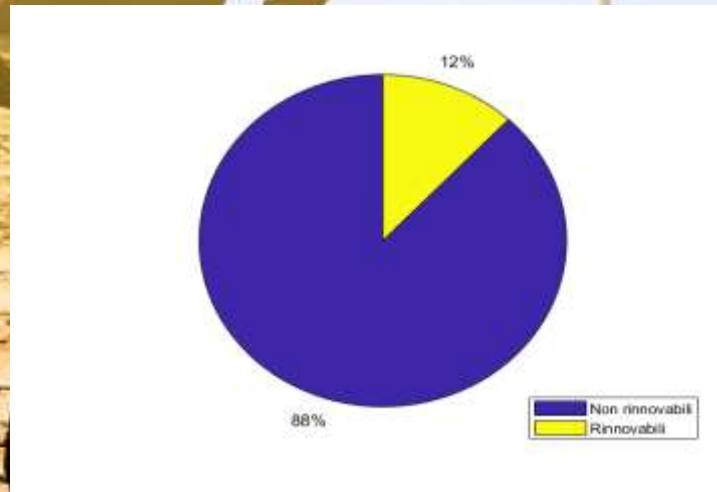
```
year = [2010 2011 2012 2013 2014 2015 2016 2017 2018
2019 2020];
OFFshore = [4706 5390 4770 5041 5308 5323 4191 4735
4631 3723 3185];
ONshore = [1971 1939 1995 1851 1797 1659 1652 1647 1566
1491 1349];
scatter
(year,OFFshore,'filled','MarkerFaceAlpha',0.5,'MarkerEdgeAlp
ha',0.5);
hold on;
scatter
(year,ONshore,'filled','MarkerFaceAlpha',0.5,'MarkerEdgeAlph
a',0.5);
hold on;
xx = linspace(min(year), max(year), 100);
trend1 = polyfit (year, OFFshore,3);
trend2 = polyfit (year, ONshore,1);
line1=
trend1(1)*xx.^3+trend1(2)*xx.^2+trend1(3)*xx+trend1(4);
line2= trend2(1)*xx+trend2(2);
plot (xx,line1);
hold on;
plot(xx,line2);
xlim([2009 2021])
xlabel('Anni')
ylabel('$/KWh')
legend('OFFshore','ONshore','OFF shore trend','ONshore
```


Alcuni confronti

Consumo energie 2020

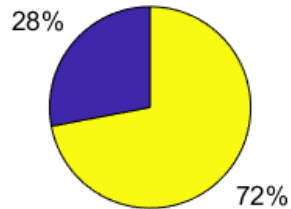


Rapporto energie rinnovabili e non

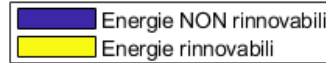
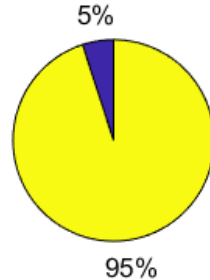


I Progetti per il Futuro

Obiettivi per il 2030



Obiettivi per il 2050



Come ho costruito il grafico:

```
y2030 = [28 72];  
y2050 = [5 95];  
labels = {'Energie NON  
rinnovabili','Energie  
rinnovabili'};  
t= tiledlayout(1,2,'TileSpacing'  
'');  
% Create pie charts  
ax1 = nexttile;  
pie(ax1,y2030)  
ax2 = nexttile;  
pie(ax2,y2050);  
% Create legend
```

Principali dataset ricavati da:

<https://www.irena.org/>



ABOUT

OUR WORK

RENEWABLES

NEWSROOM

PUBLICATIONS

EDUCATION

DATA

EVENTS



Members Login



ETAF Expands IRENA's Role in Global Energy Transition



ETAF Expands IRENA's Role in Global Energy Transition



COVID-19 Slows Progress Towards Universal Energy Access



Renewables Take Lion's Share of Global Power Additions in 2021

The background of the slide features a perspective view of rows of solar panels stretching towards the horizon under a clear blue sky. In the upper right corner, a portion of a white wind turbine is visible.

**GRAZIE
PER
L'ASCOLTO!**

**Disponibili su
Microsoft Teams e
GitHub tutti i
dataset e fonti da
cui abbiamo
ricavato i grafici**