Climate_change_proj

Who rules the world? Oil

Climate change, a study of sources and consequences

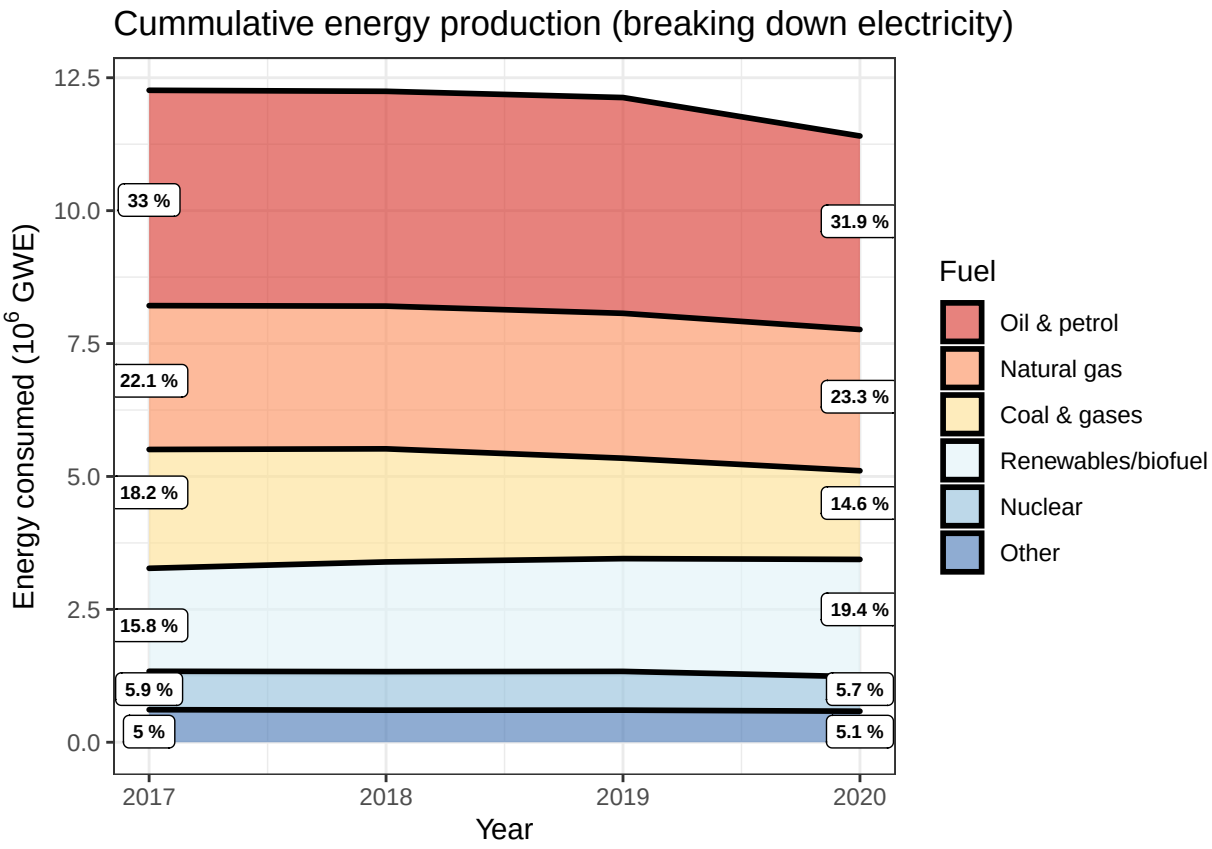
Introduction:

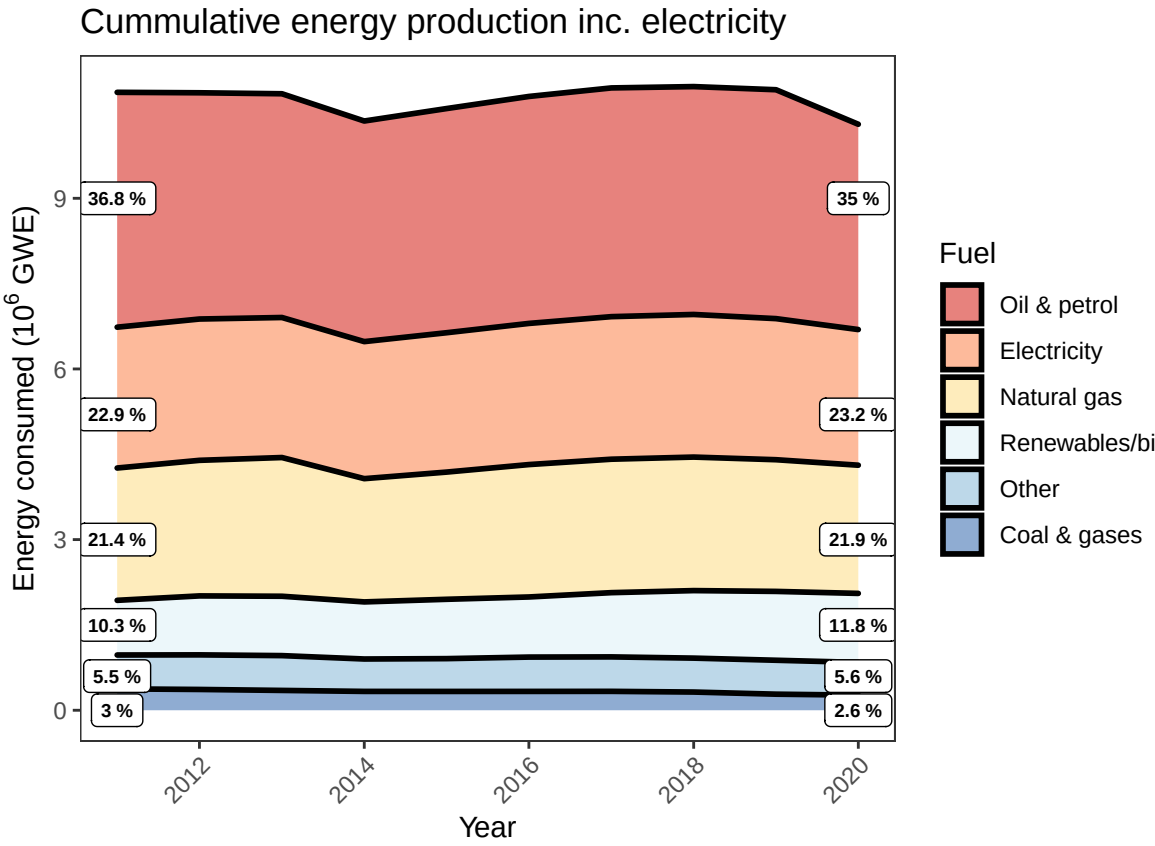
The aim of this piece is to detail the energy sources in the European countries, while also looking at how much emissions are generated. Furthermore, in an ambitious attempt to contextualize it the background will be enhanced with a detail of the production and consumption of energy by different sectors and industries.

"order the data do more natural don't cite as in usual"

1- Energy production in Europe - which type is the most used/which is the trend?

1.1 - Plots of production in Europe





electricity as factor-1.pdf

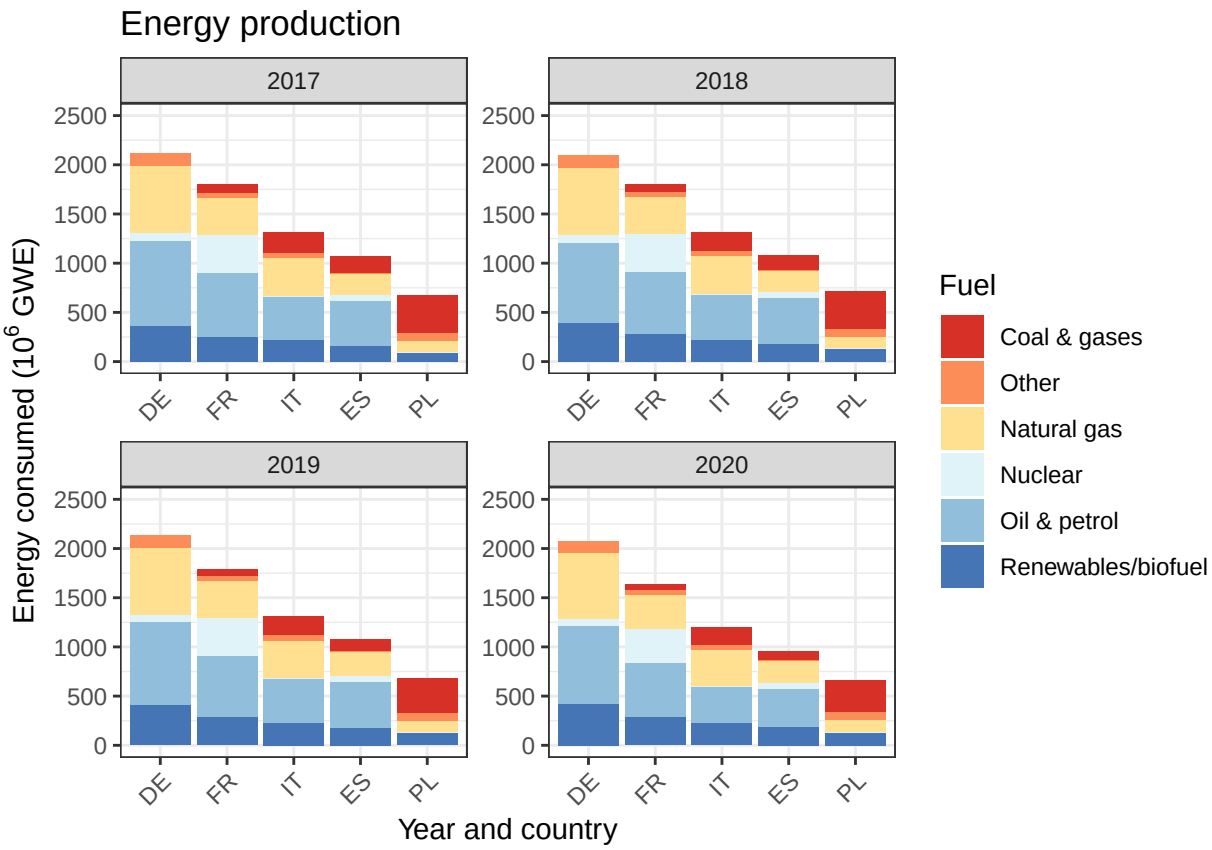
```
countries <- dictionary_countries %>%
            transmute(Country=ifelse(Country=="United Kingdom (Convention)","United
                                     Kingdom",Country),
                      geo=ifelse(Country_codes=="GE","EL",Country_codes),
                      geo=ifelse(Country_codes=="EUX","EU27_2020",Country_codes))

european_data<-right_join(data_prod,countries,by="geo")

server <- function(input, output) {

  prod_clean_shiny<- reactive({data.frame(european_data) %>%
  filter(Country== input$region,!Fuel%in%c("Total","Nuclear")) %>%
  select(-c(geo,Country))%>%
  group_by(TIME_PERIOD,Fuel) %>%
  summarise(Consumed = sum(OBS_VALUE))%>%
      arrange(desc(Consumed)) %>%
  mutate( Fuel=factor(Fuel,levels=Fuel),
          Fuel = fct_collapse(Fuel,"Other"=c("Non-ren waste","Other","Peat","Heat")))%>%
  group_by(TIME_PERIOD,Fuel) %>%
  summarise(Consumed = sum(Consumed)) %>% ungroup(TIME_PERIOD,Fuel)
    })

  # Fill in the spot we created for a plot
  output$energyplot <- renderPlot({
    # Render a barplot
    ggplot(prod_clean_shiny(),aes(x=TIME_PERIOD, y=Consumed/10**6, fill=Fuel)) +
              geom_area(alpha=0.6 , size=1, colour="black") +
```

```
            labs(x="Year",
                 y=expression(paste('Energy consumed (',10^6,' GWE)')),
                 title="Cummulative energy production inc. electricity") +
            theme_bw() +
            scale_fill_brewer(palette = "RdYlBu") +
            theme(axis.text.x = element_text(angle = 45,hjust=1),panel.grid = element_blank())
  })
}

ui <- fluidPage(
  # Give the page a title
  titlePanel("Energy production by region"),
  # Generate a row with a sidebar
  sidebarLayout(
    # Define the sidebar with one input
    sidebarPanel(
      selectInput("region", "Region:",
                  choices=unique(european_data$Country)),
      hr(),
      helpText("Data obtained from ()")
    ),
    # Create a spot for the barplot
    mainPanel(
      plotOutput("energyplot")
    )

  )
)
shinyApp(ui,server)
```

```
## PhantomJS not found. You can install it with webshot::install_phantomjs(). If it is installed, pleas
```

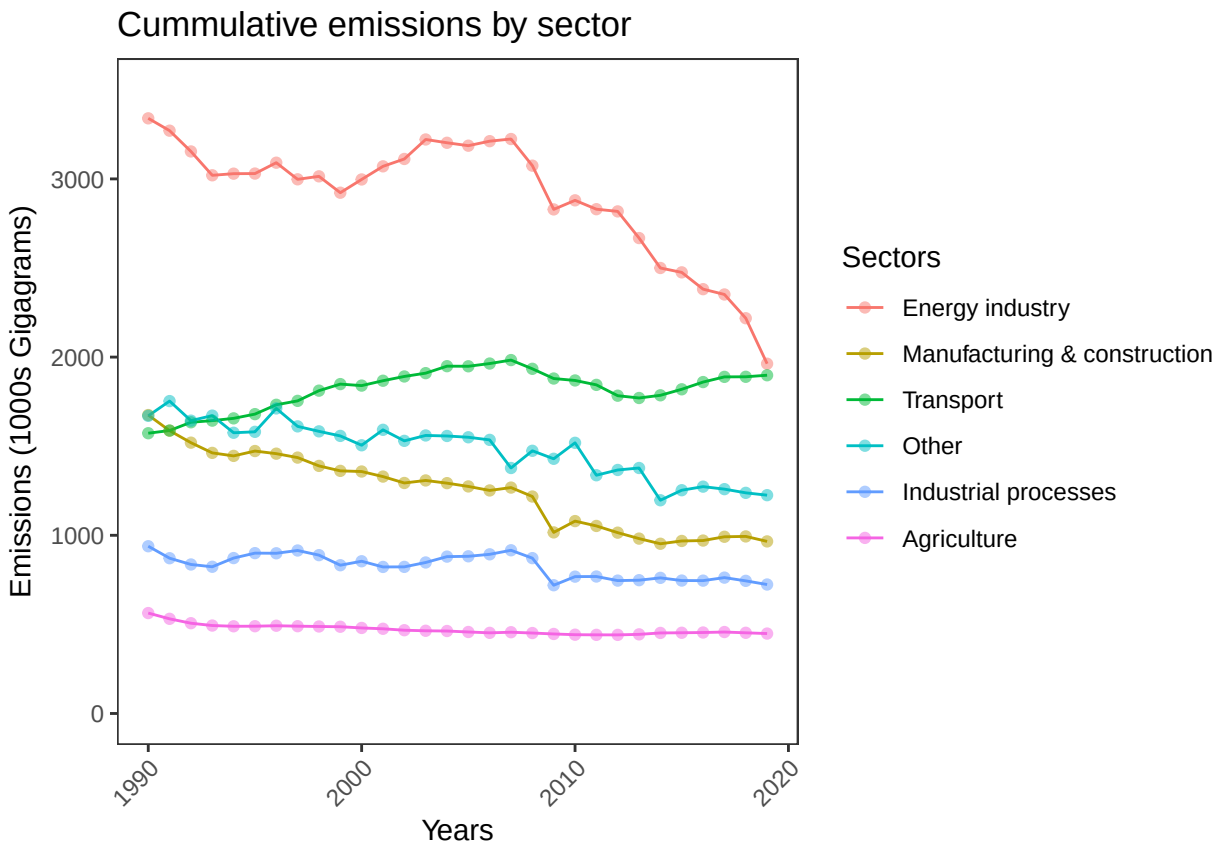
Second Plot:

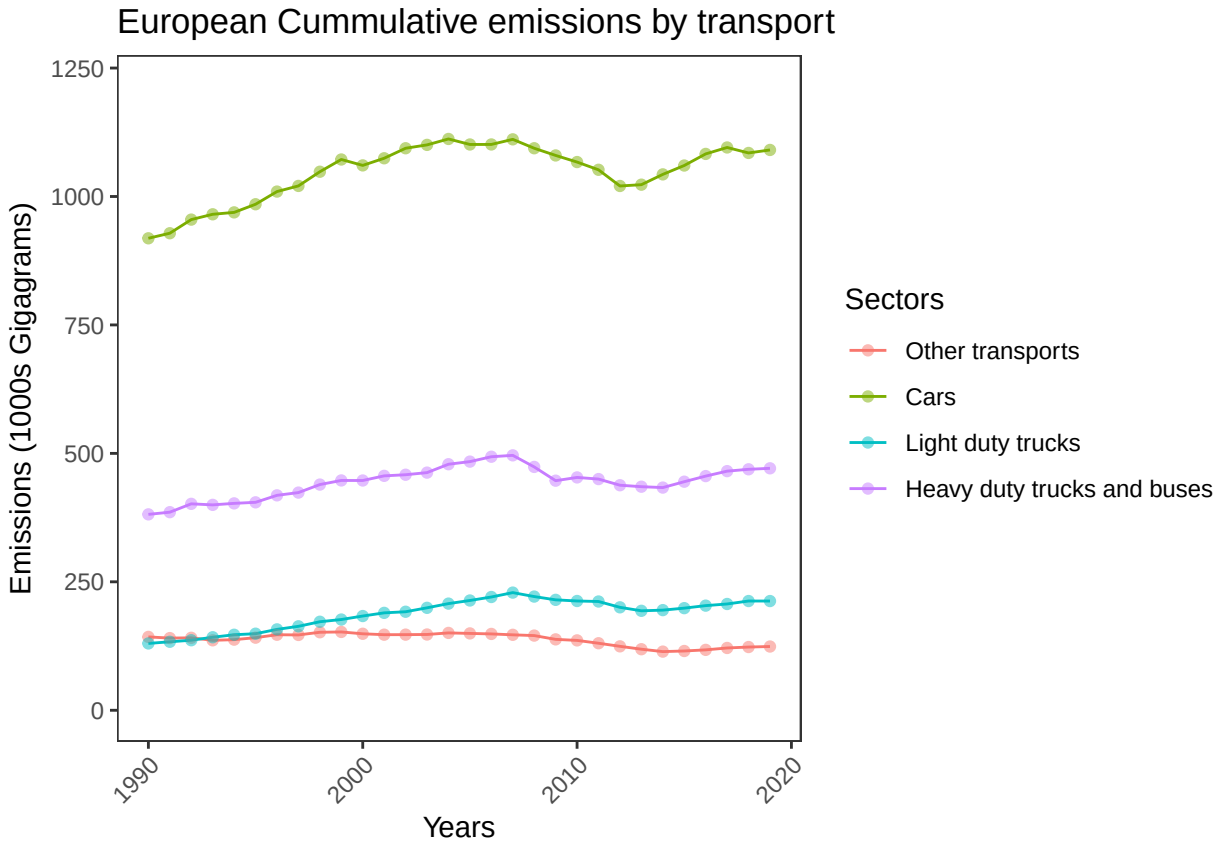
- Plus sort the 5 main energy producers and break down, by year, and structure of energy production

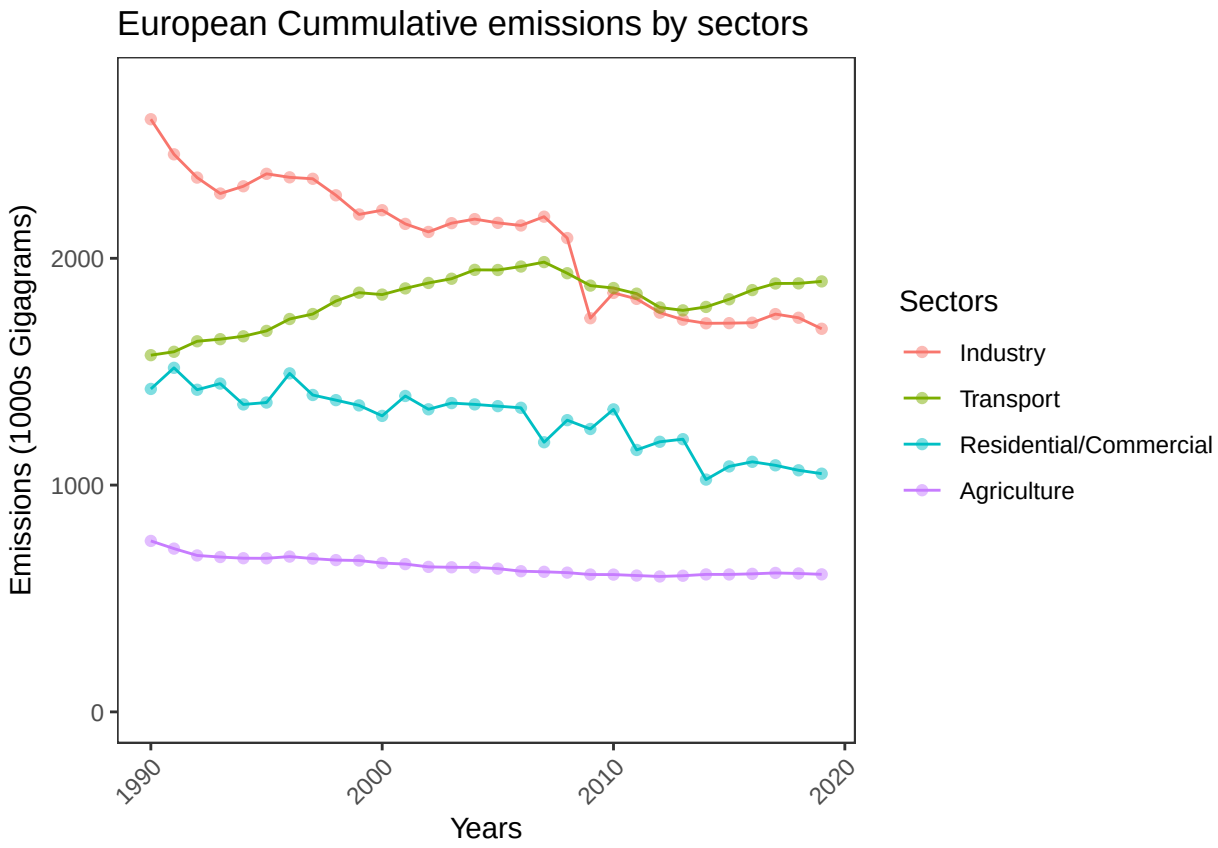

Energy production
2017
2018
2019
2020
2500
2000
1500
1000
500
0
DE
FR
IT
ES
PL
Energy consumed (10^6 GWE)
Year and country
Fuel
Coal & gases
Other
Natural gas
Nuclear
Oil & petrol
Renewables/biofuel

Ideas:

2- Energy used by industry? see predictions + expenditure in the future:




European Cummulative emissions by transport
Emissions (1000s Gigagrams)
1250
1000
750
500
250
0
1990
2000
2010
2020
Years
Sectors
Other transports
Cars
Light duty trucks
Heavy duty trucks and buses


European Cummulative emissions by sectors
Emissions (1000s Gigagrams)
2000
1000
0
1990
2000
2010
2020
Years
Sectors
Industry
Transport
Residential/Commercial
Agriculture

3 - Country-wise pollution and future predictions.

European Cummulative emissions by sectors