European climate policies: effects on the electricity sector with PyPSA-Pol model

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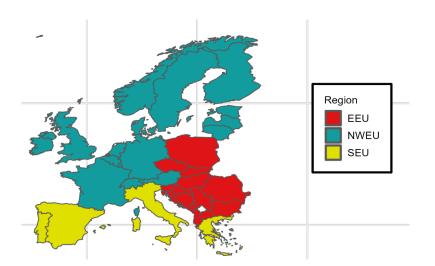
PyPSA – Pol model

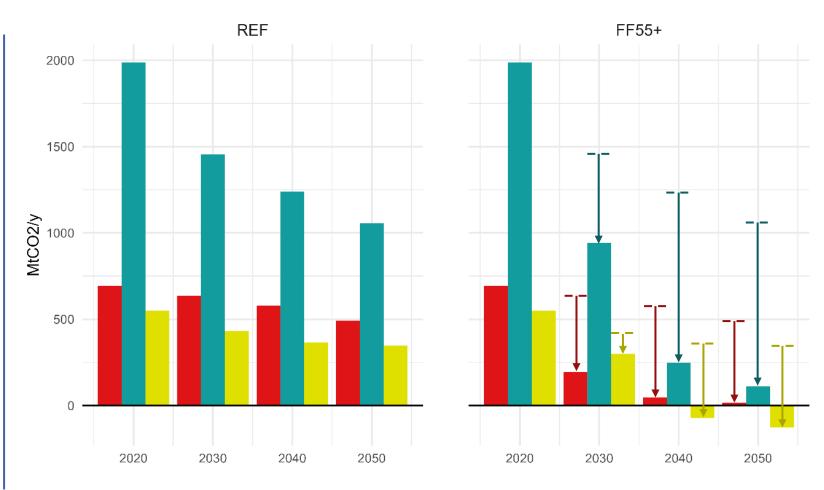
PyPSA-Eur European Climate Law EU climate policies Fit-for-55 package GRIDS& SOURCES DEMAND REPowerEU STORAGE Electricity Wind & Solar PV Electric devices Electrolysis Fuel cell **Emissions reduction targets** Hydroelectricity **Resistive heaters** 2030 2040 Heating Heat pumps Hydrogen Biogas Gas boilers ETS: power and Steam Methanation -62% -100% -100% reforming energy intensive industry CHP Methane Fossil gas Electric ETS2: land transport and -62% -70% -100% Transport buildings Other biomass Fuel cell Carbon Dioxide Internal Direct air Carbon capture combustion **ESR:** agriculture -72% -100% -58% Atmosphere capture Fischer-Tropsch Liquid Industry Fossil oil hydrocarbons

2050

Results – CO2 emissions reduction

	REF	FF55+
PyPSA	No climate	FF55 in
-Pol	policy for the	2030, Net
	energy	Zero CO2
	sector	emissions in
		2050



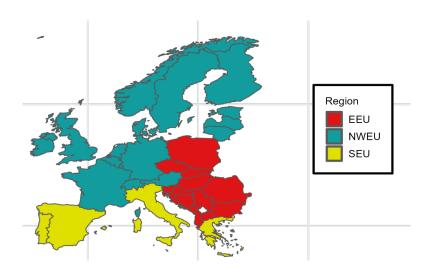


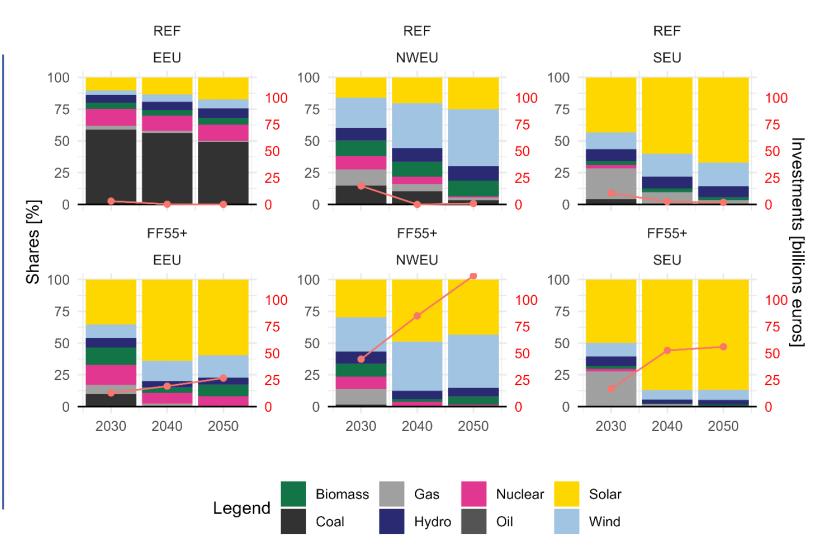
EEU NWEU SEU

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Results – Electricity generation shares

	REF	FF55+
PyPSA	No climate	FF55 in
-Pol	policy for the energy	2030, Net Zero CO2
	sector	emissions in
		2050







Socio – economic and distributional impacts linking with input – output general equilibrium model



PyPSA-Pol model development: endogenising industry sector demand



Climate change impacts on energy demand and supply

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