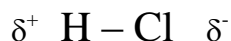


Electronegativity (EN)

- a measure of the attraction an atom has for BONDING electrons.
- Trends for periodic table:
 - EN increases going across a row.
 - EN decreases going down a group.
 - Fluorine is the most EN atom, followed by oxygen and nitrogen.
 - Metals have the lowest EN (they like to lose bonding electrons)
 - Non-metals have the highest EN.

Polar and Non-Polar Covalent Bonds

- **Perfect sharing** of electrons between atoms produces a **PURE COVALENT BOND** (or non-polar covalent).
 - Between identical non-metal atoms (Cl_2 , H_2)
 - Between non-metal atoms with similar EN (CH_4)
- **Uneven sharing** of electrons in the bond between atoms is called a **POLAR COVALENT BOND**.
 - Uneven charges (dipoles) are set up in the bond.
 - One atom will attract a greater share of the bonding electrons (so has a slight negative charge δ^-).
 - The other atom has less of the electron pair (so has a slight positive charge δ^+).



- These slightly negative and positive areas of charge are referred to as **Dipoles** (Di = 2, dipole = 2 poles)
 - E.g Between non-metal atoms with big differences in EN (H_2O)