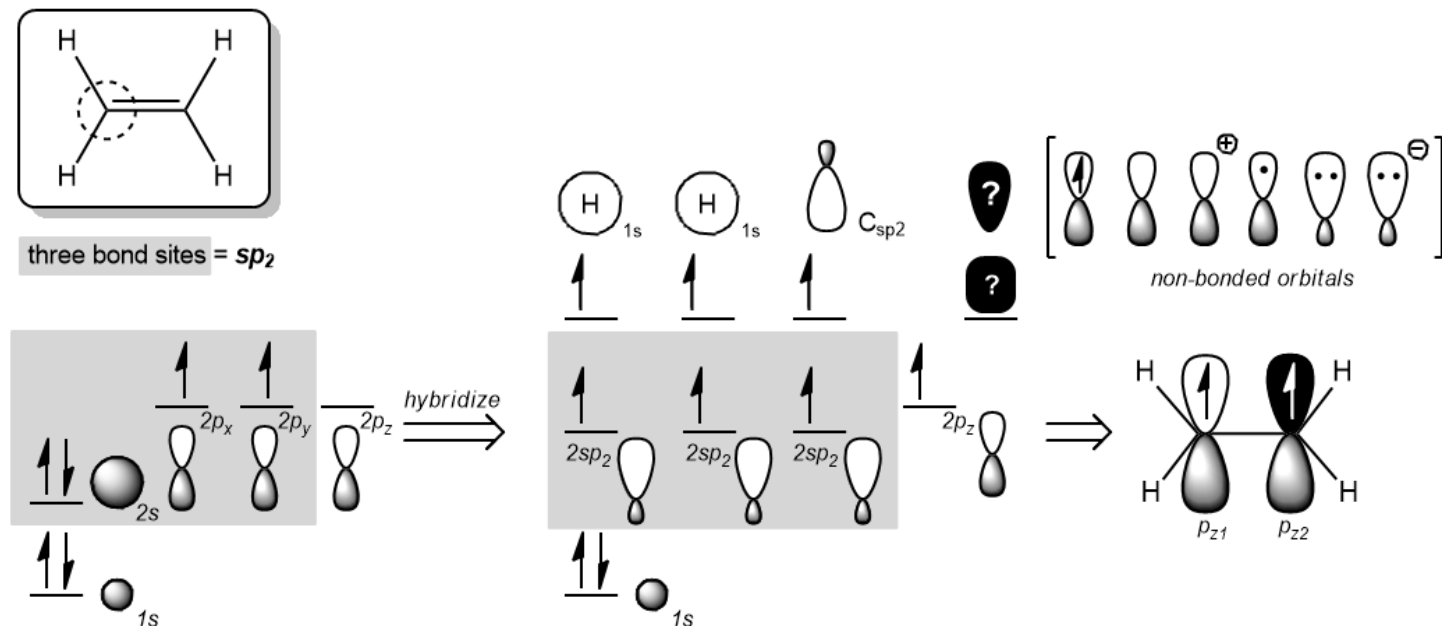


## CONCEPT: BASICS OF MOLECULAR ORBITAL THEORY

- As previously discussed, non-bonding orbitals have the unique ability to **conjugate** with adjacent non-bonding orbitals.
  - Bonding/non-bonding takes place in the outermost shell. Let's review *atomic orbitals* of *valence electrons*:



- When adjacent non-bonded atomic orbitals overlap, they create more favorable *molecular orbitals*.
  - We can use a *linear combination of atomic orbitals* (LCAO) to visualize the resultant molecular orbitals

## EXAMPLE: Simplified LCAO Model of Ethene.

