



Community-level efficiency definitions:

$$CUE_{plant} = \frac{NPP}{GPP}$$

$$CUE_{microbial} = \frac{G + EX}{G + EX + R_h}$$

Soil/sediment and ecosystem-level efficiency definitions:

$$CSE_{soil/sediment} = \frac{NECB}{NPP}$$

$$CUE_{ecosystem} = \frac{NEP}{GPP}$$

$$CSE_{ecosystem} = \frac{NECB}{GPP + F_{in}}$$

$$NECB = GPP + F_{in} - R_a - R_h - F_{out}$$

$$NEP = GPP - R_a - R_h$$