

The table below compares the different types of photophosphorylation to provide a summary:

	non-cyclic photophosphorylation	cyclic photophosphorylation
Which photosystems are involved?	PSI and PSII	PSI only
Does the reaction involve photolysis of water?	yes	no
Which molecule is the electron donor?	water	chlorophyll a (P_{700}) in PSI
Which molecule is the final electron acceptor?	NADP	chlorophyll a (P_{700}) in PSI
What are the products?	reduced NADP, ATP and oxygen	ATP only

Products of the light-dependent stage

Both cyclic and non-cyclic photophosphorylation drive the synthesis of ATP, so we know this is one product of the light-dependent stage. The other useful product for photosynthesis is NADPH (reduced NADP), which is an important molecule for the following stage (see [3.3 Light-independent reactions](#)). Oxygen is a by-product which leaves the chloroplast and the leaf through the stomata, although some of the oxygen produced may be used for aerobic respiration.

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