



National Research Council
Canada

Conseil national de recherches
Canada

WIND ENERGY CONVERSION TECHNOLOGY

TECHNOLOGY ORIGINATED CENTURIES AGO

TWO BASIC AERODYNAMIC TYPES:

1. DRAG MACHINES - RELY ON DIFFERENTIAL DRAG TO CREATE TORQUE
(TRADITIONAL) - AERODYNAMICALLY SELF STARTING
 - HIGH SOLIDITY (MANY BLADES)
 - LOW SPEED HIGH TORQUE
 - TYPICAL APPLICATIONS
 - PUMPING
 - GRINDING
 - EXAMPLES
 - FARM WINDMILL
 - OIL DRUM SAVONIUS
 - CUP ANEMOMETER
2. LIFT MACHINES - RELY ON AERODYNAMIC LIFT
(MODERN)
 - MAY REQUIRE STARTING ASSISTANCE
 - LOW SOLIDITY (FEW BLADES)
 - RELATIVELY HIGH SPEED
 - TYPICAL APPLICATIONS
 - GENERATION
 - PUMPING