Instructions to setup power provisioning on Windows for Azure VA systems.

1) Copy files to the PBS setup.
   a) Copy _pmi_*.py files from **\Power_VA\To_exec_lib_python_altair_pbs_v1** to **PBS_EXEC\lib\python\altair\pbs\v1**
   b) Copy Power hook files and azure authentication config file from **\Power_VA\To_server_priv_hooks** to **PBS_HOME\server_priv\hooks**
   c) Restart PBS server so that hooks gets loaded.
2) Configure PBS to run power hook.
   a) Enable node attribute **poweroff_eligible** on the nodes you need to be managed by power hook.
      qmgr -c "set node <node_name> poweroff_eligible=1"
   b) Update **PBS\home\server_priv\hooks\pbs_azure_login.cf** file with your azure credentials.
   c) Update **PBS\home\server_priv\hooks\PBS_power.CF** file which has power management configuration values. To make power on/off work you need these values to be updated:
      i) Set "power_on_off_enable" to "true". Make sure "power_ramp_rate_enable" is false and value is “true” not “True”.
      ii) Set "node_idle_limit" to the number of seconds. Power hook will not try to power off a node unless it is found being idle for the defined time by this variable. The default is "1800" seconds.
      iii) Set "min_node_down_delay" to number of seconds. Power hook will not try to power on a node unless it was kept powered off till the time defined by this variable. The default is 30 minutes or "1800" seconds.
      iv) Set "max_jobs_analyze_limit" to your desired number of jobs. Power hook analyzes queued jobs to identify if any job is waiting for a powered-off node. This variable defines how many queued jobs you want to analyze. The default is "100".
      v) Set "max_concurrent_nodes" to the number of nodes to be considered for powering on or powering off in a given server periodic hook cycle. So in a given cycle hook can power on 5 nodes and power down 5 nodes (10 nodes affected). Default is "5",
      vi) Set "min_free_nodes" to the number of free nodes you want always be available. This will override "min_node_down_delay". If the number of available free nodes is less than defined value but some nodes are recently powered off but haven't crossed "min_node_down_delay" time are considered to be powered on. The default is "5".
   d) Enable power hook.
      qmgr -c “set pbshook PBS_power enabled=1”
   e) To change frequency (in seconds) of hook run:
      qmgr -c “set pbshook PBS_power freq = 30”
   f) Enable PBS_est hook.
      qmgr -c “set pbshook PBS_est enabled=1”
   g) Set backfill depth so that PBS_est hook can update jobs with estimated attributes.
      qmgr -c “set server backfill_depth=5”