Hourly generation dispatch by technology in SPA Renewables share =  $0.317 \ge 0.32$  CO2 reduction =  $0.957 \ge 0.55$ wind\_on  $3.0 \times 10^4$ wind\_off solar biomass nuclear coal gas\_cc gas\_oc hydro  $2.0 \times 10^4$  $p_{g,\,n,\,t}[\mathrm{MWh}]$  $1.0 \times 10^4$ 0 50 100 0 150

t