W4-3-2 Gibbs energy 2

Provide the differential expression for the Gibbs energy, dg, by using du. What are the variables for the Gibbs energy?

$g = u - Ts + Pv = h - Ts \rightarrow \dot{g} = \dot{h} - \dot{(Ts)} = T\dot{s} + v\dot{P} - T\dot{s} - s\dot{T} = v\dot{P} - s\dot{T}$.
The variables for the Gibbs energy are T and P.