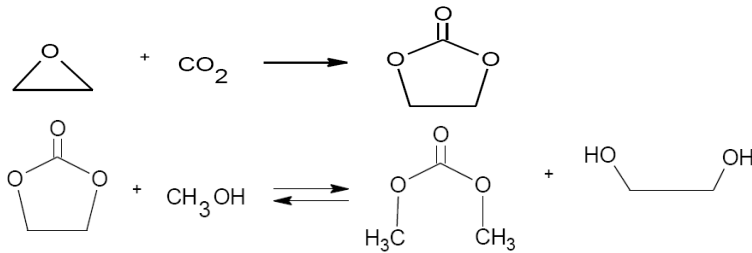


### Exercise 1)

Consider ROUTE 5 for simultaneous sequestration of CO<sub>2</sub> and production of DMC, via ethylene glycol.



- Propose a cradle-to-gate process;
- Evaluate Potential Environmental Impact of your cradle-to-gate process. Use WAR (Waste Reduction Algorithm), software available for download at [www.epa.gov/nrmrl/std/sab/war/sim\\_war.htm](http://www.epa.gov/nrmrl/std/sab/war/sim_war.htm).

### Exercise 2)

Calculate the Profit Index for ROUTE 4, simultaneous sequestration of CO<sub>2</sub> and production of urea. Use costs presented in the following Table.

Chemical	P (US\$/mol)
Ammonium	0.00496
Carbon credits	0.00084
Dimethyl carbonate	0.10810
Methanol	0.01047
Urea	0.02019

