We present new model that shows how to stimulate the cooperation between agents to diminish or avoid environmental destruction. The proposed methodology goes through the “soft application” of Principal–Agent approach by the emission of certificates of improvements that embrace large domains and can be traded. Full cooperation— that we call fusion— signifies that one agent can make improvements in other’s part, and starts transfers of technologies, or joint efforts against deforestation.

In the case of pollution, the model defining contamination levels for one agent is defined as $dX(t) = AX(t)dW(t) + BX(t)dt - Cu(t)dt$ with quadratic instantaneous cost of improvements $u(t)$. We consider two identical agents with two independent Brownian Motions that drive the processes. The agent goal is to minimize the square of $(X(t) + Y(t)) +$ the cost of improvements. We show that fusion optima generate better results than collusive optima, when one agent, can make improvements in its own domain. We assume that each agent has full information about pollution levels of the other. We also compare results with optima in the case of separate certificates. The solution of problems goes through stochastic backward differential equations.

Permits-to-pollute approach doesn’t stimulate any kind of cooperation.

Keywords: Environment, Cooperation, Principal–Agent, Optimization