

## Introduction

Hello, I'm Tom Green, and I'm going to speak to you about education in economics compatible with sustainable development.

**By signing the Talloires Declaration, universities commit to insuring that all university graduates have environmental knowledge which allows them to be environmentally responsible citizens. So I asked myself: do lessons on economic principles offer students sufficient training in preparing them to be environmentally responsible citizens?** But before sharing my research and the results, I would like to take a step back and to look at the history which has greatly influenced research on sustainable development.

**I'll start with a report which came out in 1972. The Limits to Growth, prepared for the Club of Rome by scientists from MIT.** They gathered data on natural resources and socio-economic indicators and they constructed a model with the aim of exploring the interactions between the economy and the environment. But the results were not at all optimistic. The model indicates that if humanity continues to promote economic growth, there will be a sharp dip in human well-being before the year 2100. **At first, this report was considered to be an important contribution to science, it was the first time that the interactions between the economy and the environment had been analysed on a global scale. But shortly after its publication, economists challenged the report.** They stated that the MIT scientists did not understand how the market mechanisms resolve problems to do with lack of resources. The public and politicians came to believe that the hypothesis, which puts limits on economic growth, was disproved.

**But in 2012, Turner, an Australian scientist, compared data gathered since 1972 with the initial projections from the MIT team.** He found that their projections closely corresponded with this biophysical data collected through the last decades. **This indicates that despite all of the discussions promoting sustainable development, we haven't taken any efficient measures.** To better understand the link between economic growth and the state of the environment, let's take a look at this slide on economic indicators. As gross domestic product increases, the more energy is available, etc. All indications suggest that human living conditions are improving. Next, let's look at the environmental indicators. **The curve plotted by the empirical data has just about the same shape and in this case shows us that human opportunities are rapidly deteriorating. There is therefore a link between the economic and environmental indicators that economists cannot push to one side.**

Let's return to my study on the education of university students in economics. **I focussed on three public universities in British Columbia.** I analysed the economics textbooks used, so as to determine how the authors conceptualised the relationship between economy and environment. I interviewed over 50% of the professors who teach courses on economic principles so as to fully understand how they handle the subject of sustainable development in their course. I also conducted in depth interviews with fifty four students from these same courses. First, I'll tell you the results on the economics textbooks. I compared eight traditional economics textbooks, also known as neo-classical

economics, against one textbook written by a team of economists who prioritise sustainable development. **The results show that the traditional textbooks, which are most often used, have a maximum of 4% of their contents which is relevant to sustainable development. In comparison, the text which emphasises the integration of environmental issues has around 7% relevant contents.** Courses which are based on such textbooks therefore are not useful for fulfilling the Talloires Declaration.

**My interviews with economics professors show that the majority do not understand why an economics course should explore the links between the environment and the economy.** For example, one professor had apparently forgotten that the textbook he used had a chapter on external ecological effects. The students brought up that the courses were not at all sufficient to help them to understand issues linked with sustainable development. **The courses promote certain values which are problematic from a more environmental point of view.**

**I presented the students with a scenario where they had to explain the effect of a carbon tax for a company whose commercial activities concern the installation of wind turbines.** Few students were able to correctly respond to this exercise, which shows that these courses have not succeeded in adequately preparing the students to understand the most basic environmental policies. The insufficient preparation offered by these economics courses hinders society's ability to tackle issues of sustainable development. **It is therefore important to revise how universities handle economics courses, ensuring that the interactions between the economy and the environment are included within the framework of fundamental economic principles.** Ecological economics offer us this perspective.

**Conclusion : "Anyone who believes exponential growth can go on forever in a finite world is either a madman or an economist." Kenneth Boulding, President of the American Economic Association, 1968.**