The Circular Economy: Creating the World We Want

Speakers:

- Bill Wescott, Brain Oxygen LLC
- Pramod Kumar Sharma, Foundation for Environmental Education

Webinar: July 16, 2020, 3-4:15 PM ET
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How familiar you are with Circular Economy?

- Very Familiar: 5
- Familiar: 34
- Not at all familiar: 18
One word that comes to your mind when you hear 'Circular Economy'
The Circular Economy: Creating the World We Want

William Wescott Ph.D.
Managing Partner
BrainOxygen LLC
Outline

- Getting to “Duh!”
  - Think BIG & Ask WHY – Design Thinking + Systems Thinking
    - Circular Economy and the Meaning of Life
- How Did We Get in this Mess?
- Ways to Think about the Circular Economy
Getting to Duh!

• Quick stories
  • Who wants to own motor oil?
  • My accidental technology museum
  • What my grandmother and emerging economies have in common

• Quick questions
  • Why are we not following common sense that reduces cost as well as social/environmental impacts?
  • How did we get off track?
How Did We Get into This Mess? The Linear Economy

We have been focused on reducing the average cost of goods vs minimizing the cost of value provided (+ minimizing total lifecycle costs)

![Graphs showing average cost and total cost of value over time with product quantity and number of uses on the x-axis.]

We forgot to ask the basic questions:
What is the meaning of life? Is life about our experiences or about our stuff?
Ways to Think About the Circular Economy

Vision: Decoupling Quality of Life and Materials
Applying Design Thinking in a Deep Way – Think BIG & Ask Why?

1. Do you *really* need that? (Virtualization is a Virtue!)
2. If a good is required, do you need to own it? (X as a service, sharing economy)
3. Can there be a positive contribution to natural capital?
Ways to Think About the Circular Economy

Vision: A World Without Waste

Source: Ellen MacArthur Foundation, 2015
Circular Economy in the Cafeteria

**Figure 4: Structural Waste in the Food System**

**Food Waste**
- 31% of food produced is lost or wasted

**Fertiliser Utilisation**
- 95% of fertilisers do not provide nutrients to human body

**Malnutrition Deaths and Diseases**
- Obesity causes 5% of deaths

**Land Degradation:**
- 30-85% of European agricultural land is affected by soil degradation (range depending on definition and data set used)

Source: Ellen MacArthur Foundation, 2015
Circular Economy Benefits – What’s Not to Like?

Our June 2015 report, Growth Within, estimates the following benefits by 2030:

- €1.8 tr Per Annum to the economy by 2030
- +11% GDP
- +18% Disposable income
- -48% CO2 reduction
- ++ Positive employment
- Where else are the benefits?

Source: Ellen MacArthur Foundation, 2015
How does the concept of Circular Economy relates to my role as an Educator?

- Pollution prevention
  - Materials used, practices modeled with students, direct instruction
  - I must take into account it when we are trying to solve life problems with my students

- Critical thinking
  - Empowering students with knowledge
  - Important to integrate economics into our work! Great interdisciplinary opportunities!

- Inspire change for the future!
  - It is connected to our daily lives and solving problems in our lives.
  - Encourage people to buy sustainable items with least amount of packaging.
How does the concept of Circular Economy relate to my role as an Educator?

- By understanding this system, my teaching will interweave this concept into my lessons/activities.

- Teaching about the environment and solid waste management!

- Helping students understand ecological systems in nature and human roles and impacts.

- I already integrate this when teaching about history of economic systems and industrialization in Global History class. I foster Eco Schools work in Green Team, and I also add in these themes to my micro and macro economics course.

- The future people who would participate in this economy must be on board and understand how it works, why it's important, should be educated about it. We also must educate the current people participating so they can help make the transition.

- I work for a recycling and Waste to Energy facility as an educator in our communities, and we want to push material up the Solid Waste Hierarchy to better and higher uses, and encourage source reduction. In Maine, we're making the case for EPRI.
Eco-Schools
Project Advancing Circular Economy

Pramod Kumar Sharma, Senior Director of Education
Foundation for Environmental Education
Foundation for Environmental Education

- A non-profit, non-governmental organisation
- Promoting Sustainable Development through Environmental Education worldwide
- An umbrella organisation with one member organisation in each country
  - 4 member organisations in 4 countries in 1981
  - Over 100 member organisations in 79 countries in 2020
  - 5 environmental education programmes
Our programmes

- Eco-Schools & FEE EcoCampus
- Blue Flag
- Learning about Forests
- Green Key
- Young Reporters for the Environment
Eco-Schools
STATS AND FIGURES

- **Students involved:** 19.6 million
- **Registered Schools:** 59,458
- **Green Flags Awarded:** 17,703
- **Local partners globally:** 1,877
- **Teachers involved:** 1.4 million
- **50% of Eco-Schools countries receive support from their national government**
- **Teacher training sessions:** 820
Programme Participants
A Seven-Step Change Framework for Continuous Improvement

1. Form an Eco Committee
2. Produce an Eco Code
3. Inform & Involve
4. Monitor & Evaluate
5. Make an Action Plan
6. Carry Out an Environmental Review
7. Link to the Curriculum
Sustainable Development Goals (Agenda 2030)
Positive Action Towards Sustainable Development

- Increase actions that reduce consumption (SDG 3, 10, 11, 12, 13).
- Take actions that support resilience of Earth Systems (SDG 14 and 15).
- Take actions for waste minimization (SDG 11 and 12).
- Support sustainable products and services (SDG 12).
- Increase awareness of actions that support Sustainability (SDG 4.7).
Education for transforming from Linear to Circular Economy

Linear economy:
- Raw materials
  - Production
  - Use
  - Disposal

Recycling economy:
- Raw materials
  - Production
  - Use
  - Recycling
  - Disposal

Circular economy:
- Raw Materials
  - Production
  - Use
  - Recycling
  - Disposal

Institute for Sustainable Futures logo
Curricular Framework...

Material
Assessment
Experiences – Seven Steps

...requires pedagogical strategies that involve in both critical reflection on theory of sustainable production and different business models, such as de-growth and steady-state economy.

‘need is to stimulate without prescribing’
(Scott 2002 in Webster and Johnson 2009)
Circular Economy

Smarter use and manufacturing

REFUSE & REDUCE
Refuse things that you do not need and things that cannot be recycled!
Reduce consumption of resources like water!

Extending lifespan of product and its parts

REUSE
Reuse by repairing, refurbishing and re-purposing things!
Think of sharing, borrowing or renting!

Recovery and reuse of materials

RECYCLE & RECOVER
Recycle material such as metal, paper, plastic etc.
Recover energy from used material!

Linear Economy
Rate the importance of the following principles for circular economy?

- Reworking the production and consumption systems to not produce waste. 4.6
- Separating the biological or organic material from technical (like metals and plastics) materials 4.1
- Using renewable energy. 4.7
A Seven-Step Change Framework for Continuous Improvement

1. Form an Eco Committee
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7. Monitor & Evaluate
Extend the life of products
Share, Pass it on!
- Pass on the books you don't need
- Share your old books for others
- Take a book for yourself!

Advancing Circular Economy of Paper

Give back to make new products!
- Collect Used Beverage Cartons
- Collect Used Polyethylene
- Aluminium & Polyethylene
- Cellulose Pulp

Use By-Products as alternative material sources
- Bagasse: Waste from Sugar Industry
- Paper & Pulp Industry

Collection & Recycling
- User
- Products

Manufacturers
- Hygiene Products
- Paper Dispenser
- Eco-Natural Dispenser

Manufacturers
- Collect Used Beverage Cartons
- Collect Used Polyethylene
- Aluminium & Polyethylene
- Cellulose Pulp
Questions to ask to evaluate a consumption chain?

To what extent their practices are advancing circularity:

1. Are paper products made of recycled papers?
2. Where can paper use be reduced or eliminated?
3. Do the products have sustainability labels like – Forest Stewardship Council (FSC)?
4. What is done with used books – passed on to the next batch of students?
5. How and where can used paper be reused?
Which One Hand Print Action you will take...

1st: Refuse things that you do not need
2nd: Say no to single use or products that are made to last longer
3rd: Repair and recondition/refurbish to extend life of products
4th: Discuss and create awareness of the concept of Circular Economy
5th: Prefer renting instead of owning - buying services
One takeaway from the webinar...

- Teaching about circular economy could be very empowering for students
- Think about the end before the start
- Handprint
- Integrating circular economy into design thinking work we’re doing
- Linear vs recycle vs circular economy
- Awareness that I’ve been educating about circular economy, but didn’t know that terminology
- Circular economy is not a scary topic
- Reframing the circular economy as a positive challenge rather than a chasiment on society
- I liked learning about the Foundation for Eco Schools and want to learn more about their curriculum
One takeaway from the webinar...

- The circular economy can help us create the world we want!
- We need to change our behaviors
- the circular revolution is coming!
- That I must be an example or model about circular economy to my students
- Europe is way ahead of the U.S.
- Circular economy is more profitable on multiple dimensions than a linear economy.
- Change our consumption habits
- Services rule, more stuffs drool!
- Information about FEE and the hope that this form of education empowers our future generations to achieve near-perfect efficiency in resource-use
One takeaway from the webinar...

- It is important to start educating our youngest children on circular economies.
- Teaching students how to be smart circular members of society.
- Open minded to new ways of acting.
- Renting vs owning.
- Circular economy is a necessity for our survival. Linear economy is unsustainable.
- Learn from successful countries who has implemented such measures.
- Keep learning about the circular economy and what that means for education.
- Think about the life of a product before buying anything.
- People need to return to the natural state of being.
One takeaway from the webinar...

I live in the countryside where options are limited. I took recyclables to the city until those options were shut down. It seems that transport and sales of goods haven’t got this message... yet.

It’s all possible

We need to embrace a circular economy in to be a global competitor!

Love the idea of approaching it from the point of putting value on use and not owning things. Lots of people don’t understand why I don’t make purchases lightly but I want to buy durable and useful things! “We need to stimulate without prescribing.”

I need more research papers to read about this that give data for successful initiatives.

We should be talking about circular economy more often.

There is a need for a global change towards circular economy to avoid greenwashing - exporting the problem, this requires buy-in all across the world.

We need change our behaviors.

I’m disappointed to notice that the US does not have much buy-in on the FEE programs.