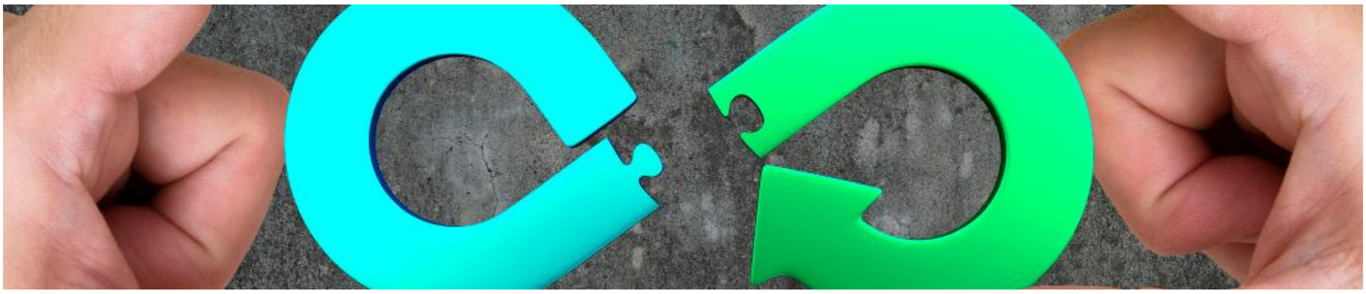
Arthur D Little

Viewpoint

The role of green capital in financing a circular plastics economy

Key findings from an ADL executive webinar with corporates and investors



To meet sustainability challenges, corporates need to bring together technology, scale-up capabilities, and capital. As we outlined in our previous Viewpoint, "Green financing of corporate breakthroughs," they now have access to a broader range of finance options. With all three blocks in place, how can capital best be leveraged? To demonstrate the opportunities and challenges, Arthur D. Little brought together investors and corporates to focus on green financing in circular plastics. Not only is this sector vital for increasing sustainability, but it also provides wider lessons. This Viewpoint provides a high-level summary of the event's discussion.

The Green Gambit

Achieving the "great green" breakthroughs that the world requires relies on a combination of clever thinking, design, orchestration, and calculated risk taking, which we call the "Green Gambit." Alongside the availability of technology, scale-up capabilities, and capital, four recent developments are accelerating breakthrough potential:

1. Greater government action with serious commitments and funding.
2. Increasing investor appetite and greater allocation of capital to green initiatives.
3. Corporates embracing novel financing methods to scale up their green ambitions structurally and to fiercely reduce cost.
4. Rapidly evolving technology and innovation ecosystems, which are redefining opportunities and potential partnerships.

The circular plastics economy

These trends are reshaping the rules of sustainable business with the circular plastics economy providing a perfect example. A tenth of every barrel of oil goes into plastics, with the products and packaging created central to everyone's daily lives. Plastics pollution provides a very visible, high-profile instance of the need to improve sustainability, particularly around packaging, which makes up nearly 40% of all plastic use. (Source: Plastic Oceans)

Creating a circular plastics economy that recycles and reuses materials is critical. Achieving this goal requires effective transformational changes to traditional business models in order to build intricate ecosystems that span multiple players, from plastics manufacturers to consumer goods companies, governments, and recyclers. The Green Gambit event's discussion focused on lessons learned for all sectors. Participants spanned the finance and corporate/industrial worlds (see figure below). We are very grateful to them for contributing their expertise, experience, and ideas.

The Green Gambit event participants

Michael Brandkamp
General Partner
European Circular Bioeconomy Fund (ECBF)

Gayatri Desai
Managing Director
Canadian Imperial Bank of Commerce (CIBC)

Carla Hilhorst
Executive Vice President, R&D, Foods & Refreshment
Unilever

Jacques Playe
Global Head of Packaging and Product Development
L'Oréal

Jim Seward
Senior Vice President
Technology, R&D, Sustainability
LyondellBasell

Source: Arthur D. Little

The green investor perspective

Global sustainable debt finance issuances reached a record US $632 billion in 2020, with an additional $150 billion raised in early 2021. (Source: Bloomberg) This provides a huge wall of green liquidity to finance projects, including those within circular plastics. However, the funding need is equally great, as explained by the Canadian Imperial Bank of Commerce (CIBC). Achieving the Paris Agreement target of limiting global warming to 1.5 degrees requires an annual reduction of 36.5 gigatons of CO_2. The expansion in funding is being driven by action from six key groups of players:

1. **Governments** – setting net zero targets.
2. **Regulators** – increasing rules and introducing principles around green investment.
3. **Investors** – showing growing interest in green opportunities.
4. **Corporates** – harmonizing strategy with sustainability.
5. **Credit rating agencies** – including climate risk in calculations.
6. **Financial institutions** – embracing sustainability as a key part of their social license to operate.

New funding bodies such as the European Circular Bioeconomy Fund (ECBF) have been created to address the growth-stage funding gap. ECBF aims to accelerate transformative innovations to the point where larger sources of capital can scale them further and has a funding goal of €250 million.

Green investment challenges

However, financing challenges in areas such as circular plastics remain:

- New models and markets need to be scaled up to become viable.
- Enormous investments are required. Funding energy transition alone will require $4.4 trillion on average every year. (Source: Energy Global)
- Sources of capital have different risk profiles. Meeting these needs requires a pipeline of bankable business models at different lifecycle stages:
  - Early stage – funded by venture capital and government grants.
  - Less-proven technologies – financed by corporate seed capital.
  - Proven technologies, which require large-scale capital to scale – provided by private equity.
  - Mature opportunities – met by institutional investors/ pension funds.
- Delivering sustainability requires coordinated action from all stakeholders along with flexible capital markets solutions working in an ecosystem.
- Most importantly, corporates need to be able to clearly explain projects to investors, matching finance with opportunities.

The corporate/industrial perspective

Plastics circularity

Moving from a linear to a circular economy changes the value chain entirely, adding completely new areas to the mix, including collecting, sorting, and recycling plastics. It is therefore a journey – and requires a whole ecosystem approach. As Unilever's slogan states, "If you think you can do it alone, you aren't thinking big enough."

L'Oréal stresses its 6R model for product innovation within the circular plastics economy:

- **Reduce** – making packaging smaller and lighter.
- **Replace** – using alternative materials where possible.
- **Reuse** – enabling reuse of packaging.
- **Refill** – encouraging consumers to refill containers.
- **Recycle** – collecting used plastic and using it to create post-consumer recycled (PCR) packaging.
- **Reinvent** – embracing innovation in product design to reduce reliance on plastics.

To achieve the six pillars of this model, packaging needs to start by being recyclable. Next, the ecosystem must be in place for packaging to be collected and recycled.

Building the ecosystem

Every player has a role within the circular plastics ecosystem (see figure overleaf), which represents a simplified summary of the event's main discussion points:

- **Financial investors** – funding innovation and scaling up technology.
- **Value chain** – supplying and helping develop/scale new technologies.
- **User industry** – creating demand and working with startups to scale tech. By setting commitments and choosing startup technology, corporates help startups unlock funding, demonstrating the ecosystem approach in action.

Achieving a true circular plastics economy

Source: Arthur D. Little analysis, adapted from Alliance to End Plastic Waste and from event presentations/comments

- **Government** – creating demand for change (via taxes), supporting new technology (via innovation funds) and educating populations. All corporate players stressed the importance of retaining tax proceeds in the circular economy, such as by increasing investment in recycling.
- **Others** – expanding ecosystems further by adding more players, such as NGOs.

Challenges to building the circular plastics economy

Players recognize the challenges to creating a truly circular plastics economy – and the roles of all parts of the ecosystem in overcoming them:

1. **Need to close the tap**, as outlined by Unilever – increasing recycling to stop materials leaving the circle and entering landfill or causing pollution.
2. **Fund the "missing middle,"** according to LyondellBasell. Currently, the most common investment opportunities are either large-scale (e.g., billion-dollar windfarms) or small-scale (e.g., venture capital investment in startups around the low millions mark). We need to address the missing middle (i.e., matching green financing needs to green financing options). This requires an ecosystem approach:
   - Corporates must demystify processes and show they are scalable; bring in innovation from outside and potentially aggregate projects (across companies) to make them attractive to investors. They must also be prepared to pay more now to bring down future costs when scale is achieved.
   - Investors should look at how they judge and price risk and returns in the new normal.
   - All players must work together as these gaps cannot be met by one part of the ecosystem alone. Collaboration must be ongoing – it is not about one-off or bilateral transactions. Investors should therefore become part of the ecosystem as demand and supply will both evolve and will be very situation-specific. This will require a new way of looking at "innovation" on both sides.

Questions considered

This is a representative sample of the many questions raised during the event.

1. Are inconsistencies between environmental, social, and governance (ESG) metrics an issue? Are the ways in which risk/return is currently judged adequate?
   While there is a lack of standardization around ESG metrics, an increasing number of investors believe that if the companies funded have no ESG alignment at all, then that is a greater risk, according to ECBF. Investors are increasingly accountable to regulators/shareholders on ESG metrics and thus must look for robust, measurable KPIs.

   There's also an ongoing debate about the pricing of green investments – they may be viewed more favorably by banks, but there is no capital pricing differentiation against traditional investments. CIBC pointed out that banks need to examine this going forward given the wider sustainability picture.
2. How do you factor in future taxes (e.g., around carbon)?
   Cost avoidance of taxes could help make some emerging technologies cost-effective and unlock investments that otherwise wouldn't be made. Players need to undertake a full scenario analysis, both around existing investments that may be susceptible to higher green taxes, as well as what it means for the cost base of potential green investments.
3. What is the position of plastics manufacturers in a sustainable, circular economy?
   While plastics pollution is a high-profile issue, plastics themselves are an incredibly versatile material. Packaging is just one use of plastics, alongside other sectors from cars to construction. Therefore, the objective should be to identify where plastics are the best choice and create circular economies around these

applications. This is transforming the business models of plastics manufacturers, as LyondellBasell explained. For example, they are now working with partners to manage recycling and safeguard future raw materials. This provides real opportunities for investors moving forward.

4. What role should corporate brand owners play?
   There is no point in raising green capital for business models that are unsustainable in an economic sense. To achieve circularity, we need significantly higher scale in mechanical and advanced chemical recycling. Before we get there, the costs of circular products are likely to be higher than virgin plastics. That means to achieve scale, brand owners such as Unilever and L'Oréal have an important role in providing guaranteed demand and paying a price premium for recycled product. In addition, corporate brand owners are important elements of the innovation ecosystems of today and tomorrow, sometimes as an orchestrator and sometimes as a contributor.

The ecosystem approach to the Green Gambit

As the event showed, creating a circular economy in plastics is both necessary and complex – and requires business model transformation. All players must work together in a wider ecosystem, with everyone understanding the individual needs and roles of their partners. In particular, players must address the missing middle for financing scale-up technologies and better link available finances with opportunities. Successfully playing the Green Gambit is a necessity to meeting carbon-reduction targets and requires a combination of technology, scale-up capabilities, and capital across the wider circular ecosystem.

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Arthur D. Little

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