CCES 2025 Session Summary

Unlocking Sustainable Value: The Transformative Power of Product-as-a-Service Models

During this interactive session, delegates heard how Product-as-a-Service (PaaS) models are transforming industries by shifting the focus from ownership to the value of services. From electronics to shipping to construction equipment, these innovative models drive both economic and environmental benefits by encouraging circular design and maximizing asset utilization. This interactive session delved into the critical role of Product-as-a-Service (PaaS) models in advancing sustainability and circularity. This session was sponsored by CHEP Canada.

- **Monica Da Ponte**, Principle, Shift & Build (moderator)
- **Eli Browne,** Head of Sustainability, CHEP Canada
- **Frances Edmonds**, Head of Sustainable Impact, HP Canada
- **Rush Nathan**, Sustainability Manager, HILTI North America

Date / Location: Wednesday, April 16, 2025 / Montreal, Canada

SUMMARY

Monica opened the discussion by framing the urgent need for a shift away from linear economic models that pursue infinite growth on a finite planet. She highlighted the Haudenosaunee philosophy of seven generations as an inspirational principle for making sustainable decisions. PaaS was introduced as a key intervention allowing manufacturers to retain product ownership, thereby incentivizing reuse, remanufacturing, and refurbishment, significantly reducing environmental impacts.

The Genesis of PaaS: Moments of Inspiration

Each panelist shared a transformative moment that underscored the potential of PaaS:

- **Eli Browne (CHEP):** Her previous role at Sobeys, tackling a 50% food waste reduction goal, demonstrated how sustainability initiatives can solve major problems. Partnering with Second Harvest's food rescue app diverted 30 million units of surplus food from landfills. This experience led her to see PaaS as a powerful tool to address raw material consumption, deforestation, waste, and carbon emissions. CHEP, a company already founded on a circular model, leverages PaaS to bring "clarity to complexity" and create positive impacts.

- **Rush Nathan (HILTI):** A personal experience renting ski gear rather than buying it sparked his realization. This simple act of "renting over owning" showcased the vast opportunities for circularity across diverse industries and daily life.

- **Frances Edmonds (HP Canada):** HP's Lifecycle Assessments (LCAs) revealed significant environmental benefits when products are accessed as a service versus owned. This finding, combined with Canada's low 6.1% circularity rate, highlighted the critical imperative for circularity to bridge the gap in climate goals, as even achieving Paris Agreement targets would only cover 15% of necessary action. HP, with its 40% global circularity rate (aiming for 75%), exemplifies what's possible through take-back and recycling programs.

Implementing PaaS: Real-World Case Studies

The panelists provided deeper insights into their companies' PaaS models, as outlined below.

CHEP's Product-as-a-Service Model: CHEP, a global leader in supply chain logistics known for its iconic blue pallets, operates a long-standing circular model. Pallets are issued to manufacturers, transported to retailers, and then returned to CHEP for reuse and repair. This closed-loop system is fundamental to their success. CHEP's **"Forest Positive" goal** exemplifies their holistic approach to

sustainability, ensuring 100% certified sustainable timber, enabling the growth of two trees for every one harvested, and transforming forest markets to chain-of-custody certification. This approach reduces deforestation risk and benefits customers. CHEP uses LCAs for all assets and prioritizes durability to maximize reuse cycles. They employ a robust system and team to recapture most pallets, despite some diversions for other uses. Eli also highlighted their "Managed Recovery" program, where retailers sort pallets at their warehouses, returning only those needing repair, fostering efficiency and shared benefits.

HILTI's Fleet Management Solution: HILTI provides tools, technology, and software for professional contractors. Recognizing the construction industry's challenges (stalled productivity, safety, and high environmental impact), HILTI developed its "Fleet solution." Instead of purchasing tools outright (high upfront capital, productivity loss from broken/lost tools), contractors lease them for a monthly fee, guaranteeing productivity for years. HILTI collects, repairs (often within 24 hours), and returns tools, or provides loaners. Tools provide **telemetry data** on location and utilization, helping contractors optimize their fleet and avoid unnecessary purchases. At end-of-life, HILTI collects tools for reuse (donating to charities/trade schools) or disassembles them for spare parts. Rush affirmed that HILTI's long-standing focus on durability (rooted in their former slogan "outlast") aligns perfectly with PaaS, incentivizing even more intentional design for longevity and repairability. They are exploring incorporating returned parts into new manufacturing.

HP's Product-as-a-Service Offerings: Frances detailed HP's three main PaaS lines: Instant Ink (consumer), Managed Print Services (B2B), and PC as a Service (B2B). HP differentiates PaaS from traditional leasing by providing **enhanced services and data insights**. For PCs, HP offers secure data wiping, refurbishment, and redeployment of devices for a second life, extending product lifespans to 7-8 years. This is critical for meeting their 75% circularity goal by 2030, as it allows for the reuse of components. HP executives even use internally refurbished devices. PaaS enables HP to offer carbon-neutral products and leverage telemetry for proactive maintenance (e.g., security updates, performance monitoring), ensuring optimal device health and reducing customer burden.

Benefits and Challenges of PaaS Implementation

The panelists highlighted numerous benefits of PaaS:

- **Economic:** Cost savings, new revenue streams, increased profitability, capital preservation, and optimized asset utilization.
- **Environmental:** Reduced raw material consumption, lower carbon emissions, waste diversion from landfills, biodiversity preservation, and extended product lifespans.
- **Operational:** Increased productivity, greater flexibility for customers to scale needs, enhanced security, and valuable data insights for both providers and customers.
- **Social:** Improved employee engagement, creation of diverse employment opportunities, and strengthened community relations.
- **Strategic:** Enhanced brand reputation, competitive differentiation, attraction of ESG-focused

partners, and access to grants and research collaborations.

However, significant challenges hinder widespread PaaS adoption:

- **Financial System Misalignment:** Traditional accounting and financial systems (e.g., CapEx vs. OpEx) are not designed for PaaS, making it difficult to measure long-term value and sometimes conflicting with executive compensation structures.
- **Revenue Shortfall:** Suppliers, especially small and medium-sized businesses, face an initial revenue dip when transitioning from transactional sales to service models.
- **Customer Procurement Barriers:** Customers are unfamiliar with "buying as a service," and current material sourcing processes, often lengthy and focused on transactional metrics (e.g., speed of RFP completion), are ill-equipped for PaaS.
- **Logistical Complexity:** Implementing reverse logistics, managing asset recovery, and ensuring consistent quality of returned/repaired products present significant operational hurdles.
- **Valuation of Reused Components:** Lack of universal guidelines for valuing extracted spare parts complicates accounting and financial transparency.
- **Perception of Quality:** Overcoming the misconception that reused or repaired products are of lower quality. HILTI, for instance, found that some reused electronic components actually outperform new ones due to early failure rates.
- **Integration with Existing IT:** Customers may have well-established internal IT teams, requiring providers to demonstrate how PaaS complements rather than supplants existing capabilities, often by offloading routine tasks to allow internal staff to focus on higher-value work.

Scaling Up PaaS and Necessary Support

The discussion concluded with insights into scaling PaaS and the support needed:

- **Target Industries:** PaaS is particularly promising for industries with long-lasting, complex, high-quality products (e.g., construction, beer/liquor, specialized packaging).
- **Holistic Integration:** Companies must embed circularity principles throughout all processes and product lines, avoiding isolated "green lines."
- **Transparency and Performance Measurement:** Publicly disclosing the percentage of materials sourced as a service and using company-level performance metrics (beyond just product attributes) will drive better outcomes.
- **Ecosystem Thinking:** Creating advocacy across the entire value chain, from suppliers to end-users and beyond, is crucial for broader adoption and benefits. For example, CHEP works with retailers to encourage their suppliers to use CHEP pallets.
- **Data-Driven Decisions:** Utilizing LCAs and customer-specific circularity reports (like HILTI's customized reports for fleet customers or HP's reports for enterprise clients) provides tangible evidence of impact, incentivizing adoption.

Key Supports Needed:

- **Education and Resources:** Providing material sourcing professionals with the necessary knowledge and tools to adapt procurement practices for PaaS.
- **Policy and Accounting Reform:** Reforming financial systems to better measure long-term value and account for asset reuse, rather than deprecating value to zero.
- **Incentives:** Exploring mechanisms to support businesses through the initial revenue shift when transitioning to PaaS.
- **Collaboration:** Fostering strong partnerships throughout the supply chain to facilitate reverse logistics and shared value.

The panelists offered resources (sustainability reports, white papers on PaaS and LCAs, circularity accounting manuals) via the SwapCard app, encouraging attendees to explore further and contribute to research on "buying as a service." The session concluded with a call to action for attendees to contribute to advancing circularity within their own organizations, recognizing that every job has a role to play in this transformative shift.