



Upcycling, Content for Realizing a Circular Economy

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1

A Paradigm Shift to a
Circular Economy

1 A Paradigm Shift to a Circular Economy

-1 The U.S. Rejoins the Paris Agreement



(Source: abcnews.com Biden inauguration date 1.20.2021)



(Source: 9&10news.com <Biden Signs First Executive Actions as President, Re-Joins Paris Climate Agreement> 1.21.2021)

President Biden signed the instrument to bring the United States back into the Paris Agreement on his first day in office.

1 A Paradigm Shift to a Circular Economy

-2 The U.S. SEC Standardizes Climate-Related Disclosures for Major Companies starting in 2023



The screenshot shows the ESG Korea website header with the logo 'ESG경제 Economy of Sustainable Growth'. The navigation menu includes '지속가능경제', '환경·사회', '기업·거버넌스', '평가·투자', '이슈리포트', and '오피니언'. The article title is 'SEC, 기후정보 공시 내년부터 단계적 의무화...미국 상장기업들의 대응은'. The author is '이신형 기자' and the article was published on '2022.05.02 11:47'. The article content states: '스코프 1, 2 공시, 대기업은 2023년, 중견기업은 2024년, 중소기업은 2025년부터 공시. 스코프3 공시, 대기업은 2024년에 2023년 온실가스 배출량부터. 현재 미국 상장사 중 28% 온실가스 배출량 공시...스코프 3 공시 기업은 15% 불과'.

(Source: Reporter Shin Hyung LEE, <SEC Proposed Phase-In Mandatory Climate Risk Disclosure Starting in Next Year...Responses of U.S. Major Companies

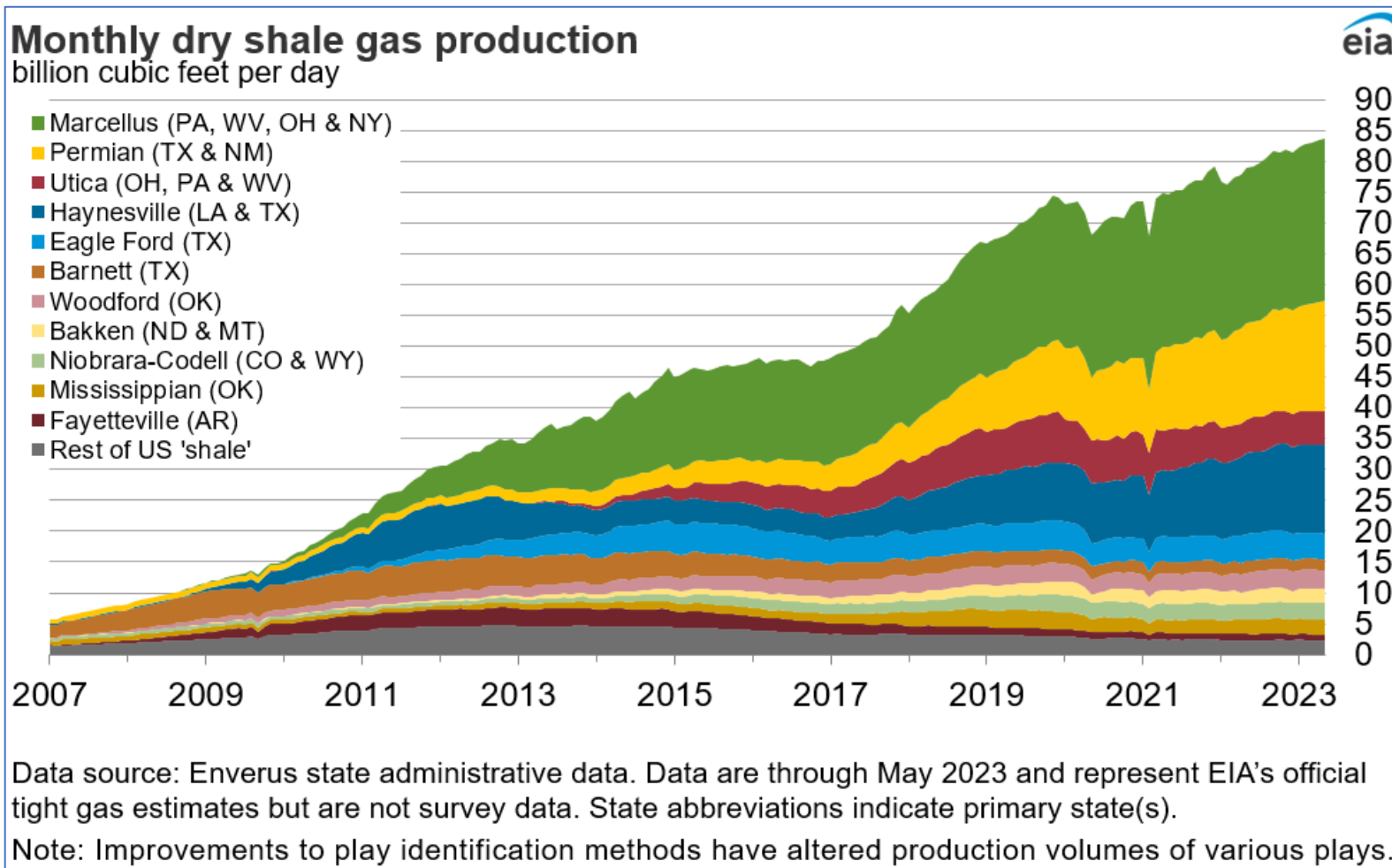
Scope 1: **Direct** GHG **emissions** produced from the production stage

Scope 2: **Indirect** GHG **emissions** produced from the process of generating electricity on-site

Scope 3: **Total external carbon emissions** produced by **partners** and **logistics**, as well as **product use** and **disposal**, in addition to direct product production

1 A Paradigm Shift to a Circular Economy

-3 U.S. Intentions (1/4)



* 1 bil. cubic feet(ft³)
= 178 mil. bbl

(Source: U.S. Energy Information Administration(EIA), <Natural Gas Weekly Update>, July 19, 2023)
<https://www.eia.gov/naturalgas/data.php#prices>

1 A Paradigm Shift to a Circular Economy

-3 The U.S.'s Intentions (2/4)

TRADING ECONOMICS						
Crude Oil Production – Country List						
Global	Europe	U.S.	Asia	Africa	Australia	G20
Country	Last	Previous	Referring to	Unit		
U.S.	12615	12696	2023-04	BBL/D/1K		
Russia	10177	10477	2023-03	BBL/D/1K		
Saudi Arabia	9956	9959	2023-06	BBL/D/1K		
Canada	4633	4623	2023-03	BBL/D/1K		
China	4283	4295	2023-03	BBL/D/1K		
Iraq	3985	3955	2023-06	BBL/D/1K		
Brazil	3115	3262	2023-03	BBL/D/1K		
UAE	2893	2891	2023-06	BBL/D/1K		
Iran	2754	2698	2023-06	BBL/D/1K		
Kuwait	2548	2548	2023-06	BBL/D/1K		

(Source: TRADING ECONOMICS, <Crude Oil Production – Country List>, Top 10, July 27, 2023)
<https://ko.tradingeconomics.com/country-list/crude-oil-production>

1 A Paradigm Shift to a Circular Economy

-3 The U.S.'s Intentions (3/4)

(Omitted) ...

Ultimately, the United States aims to wield a double-edged sword of **competitiveness in both the oil and gas sector and the eco-friendly sector**. Currently, the U.S. is the only country accumulating the ability to manage production, demand capacity through its domestic market, and environmental response capacity. Given the power of the dollar and its influence in financial markets, the United States' **leadership in the global energy market** is gaining more strength.

(Source: GS Caltex Media Center, <The Biden Administration's Energy Policy and the Reshaping of International energy Geopolitics>, Jae Seung LEE, Professor and Jean Monnet Chair in College of International Studies at Korea University, January 26, 2021)

https://gscaltexmediahub.com/energy/biden_administration_energy_policy/

1 A Paradigm Shift to a Circular Economy

-3 The U.S.'s Intentions (4/4)

(Omitted) ...

However, energy geopolitics is now transitioning to a new phase known as **the carbon war**. Entities with carbon and eco-friendly competitiveness are seeking to lead in shaping **new trade norms and standards**. Decarbonization does not imply a slack international trade environment. In fact, **the United States'** environmental sector might have been relatively obscured during the Trump administration, but its state-level and corporate competitiveness in renewable energy and energy technology, as well as its private R&D capabilities, are **well positioned to lead the global race**. Centered around the Green Deal and carbon-neutral initiatives, Europe is also striving to take the lead in low-carbon economy and in setting technology standards. China, Japan, and South Korea are also competitively presenting Green Deal and carbon-neutral policies. China and major industrial countries are competing swiftly over materials and resources, including rare earth elements.

(Source: GS Caltex Media Center, <The Biden Administration's Energy Policy and the Reshaping of International energy Geopolitics>, Jae Seung LEE, Professor, and Jean Monnet Chair in College of International Studies at Korea University, January 26, 2021)

https://gscaltexmediahub.com/energy/biden_administration_energy_policy/

1 A Paradigm Shift to a Circular Economy

-4 The U.S.'s Intentions from the EU's Perspective (1/3)



M Green Deal Reloaded - Why the European Climate Policy Won't Happen Without China

ANALYSIS - 28 APRIL 2021

Climate protection cannot be separated from the battle for hegemony taking place between the United States and the People's Republic of China. Within the context of this high-intensity geopolitical conflict, climate protection has taken on a well-defined geopolitical dimension. In the seventh article of the "Green Deal Reloaded" series, Roderick Kefferpütz, Senior Analyst at the Mercator Institute for China Studies (MERICS),¹ suggests that the Franco-German tandem should encourage the European Union to confront this reality, in order to pursue a climate realpolitik that combines cooperation and competition.

Global warming poses a challenge to the planet as a whole. In fact, that goes without saying-greenhouse gases don't stop at borders. Climate protection thus concerns the global community. And because **international cooperation is vital to curbing climate change**, it is frequently claimed that international cooperation on climate change should be separated from other political conflicts. But this is not the case now; a new geopolitical order is being established in the world. **The United States and the People's Republic of China have long been engaged in a competition for hegemony**, the effects of which are felt in every field and sector. As a result, the European Union in general, and France and Germany in particular, must pursue a climate policy towards China that factors in the geopolitical dimension. China has been on this path for some time; the pandemic has not made the situation any less complex. While Beijing has been growing at a brisk and brazen pace, the economy in Europe has stalled. And yet, a strong economy is what's needed to take the green transformation forward-and ultimately, to protect the climate.



By Roderick Kefferpütz
SENIOR POLITICAL ANALYST
AND FREELANCE WRITER

(Source: ISTITUT MONTAIGNE² <Green Deal Reloaded> 7. Why the European Climate Policy Won't Happen Without China, April 28, 2021)

1 MERICS: A European think tank on China founded in 2013 by Stiftung Mercator, one of Germany's largest privately funded foundations

2 ISTITUT MONTAIGNE: A public policy think tank based in Paris, founded in 2000.

1 A Paradigm Shift to a Circular Economy

-4 The U.S.'s Intentions from the EU's Perspective (2/3)

Climate protection cannot be separated from **the battle for hegemony** taking place between **the United States** and **the People's Republic of China**. Within the context of this high-intensity geopolitical conflict, climate protection has taken on a well-defined geopolitical dimension. In the seventh article of the "Green Deal Reloaded" series, Roderick Kefferpütz, Senior Analyst at the Mercator Institute for China Studies (MERICS), suggests that the Franco-German tandem should encourage the European Union to confront this reality, in order to pursue a climate realpolitik that combines cooperation and competition.

기후 보호는 **미국**과 **중화인민공화국** 간의 **패권싸움**과 분리될 수 없습니다. 이러한 고강도의 지정학적 갈등 맥락 속에서 기후 보호는 잘 정리된 지정학적 차원을 차지해 왔습니다. "그린 딜 재장전" 시리즈의 일곱 번째 기사에서 MERICS(Mercator Institute for China Studies)¹의 수석 분석가인 Roderick Kefferpütz는 프랑스와 독일의 2인3각 협력으로 유럽 연합이 협력과 경쟁을 결합한 기후 현실정치의 이러한 현실에 맞서도록 독려해야 한다고 제안합니다.

(Source: ISTITUT MONTAIGNE² <Green Deal Reloaded> 7. Why the European Climate Policy Won't Happen Without China, April 28, 2021)

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1 A Paradigm Shift to a Circular Economy

-4 The U.S.'s Intentions from the EU's Perspective (3/3)

... (중략)

Finally, what we are witnessing is **a competition of economic systems**. **The fight against global warming is also a competition between the social market economy and state capitalism** and their associated political system-liberal democracy for the former and autocracy for the latter. This fight resembles **a race against time** to see which one will succeed more quickly and more effectively in **defining and guiding the necessary transformation processes**. ...

마지막으로 우리가 목격하고 있는 것은 **경제체제의 경쟁**입니다. **지구 온난화를 향한 싸움도 또한 사회적 시장경제와 국가 자본주의 간의 경쟁**입니다. 그리고 이것은 각자 연계된 정치체제인 자유민주주의와 독재주의의 경쟁이기도 합니다. 이 싸움은 누가 보다 빠르고 보다 효과적으로 **필수적 전환 과정을 정의하고 안내**하는 것에 성공할 것인지 알아보는 **시간 싸움**을 다했습니다.

(Source: ISTITUT MONTAIGNE² <Green Deal Reloaded> 7. Why the European Climate Policy Won't Happen Without China, April 28, 2021)

Competition in the 21st century system is a race against time resolving around **presenting transition models (circular economy structure and resource circulation society)**.

1 A Paradigm Shift to a Circular Economy

-5 Sub-Conclusion

The transition to a resource circulation society or circular economy structure is an **inevitable** trend.

It is not a matter of ethical choice, but of economy, and an approach that takes our **livelihoods** into account must be taken.

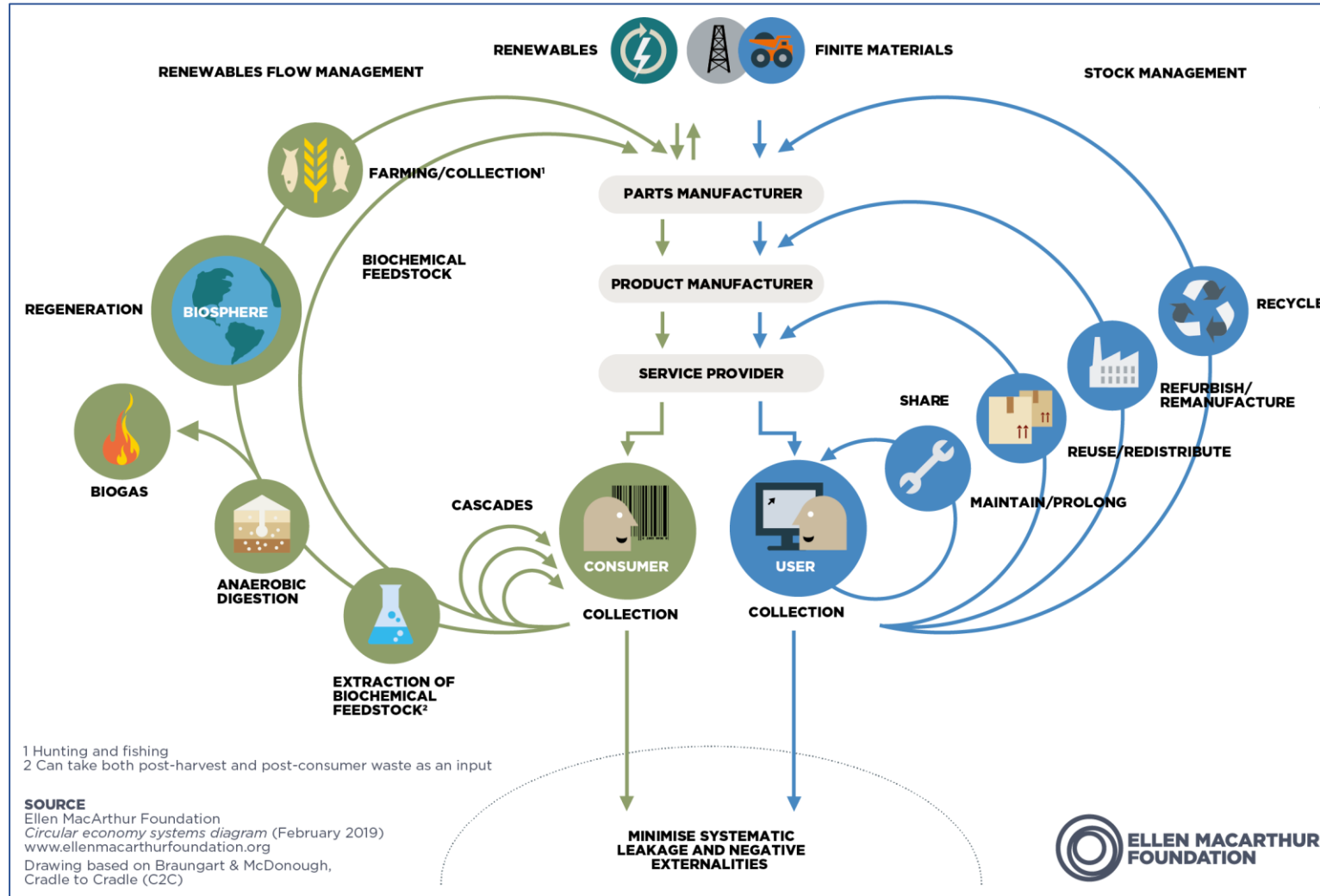
Global capital is entering a **fierce race** to secure **standards** and **leadership** in the changing market.

2

The State of the Circular
Economy Transition

2 The State of the Circular Economy Transition

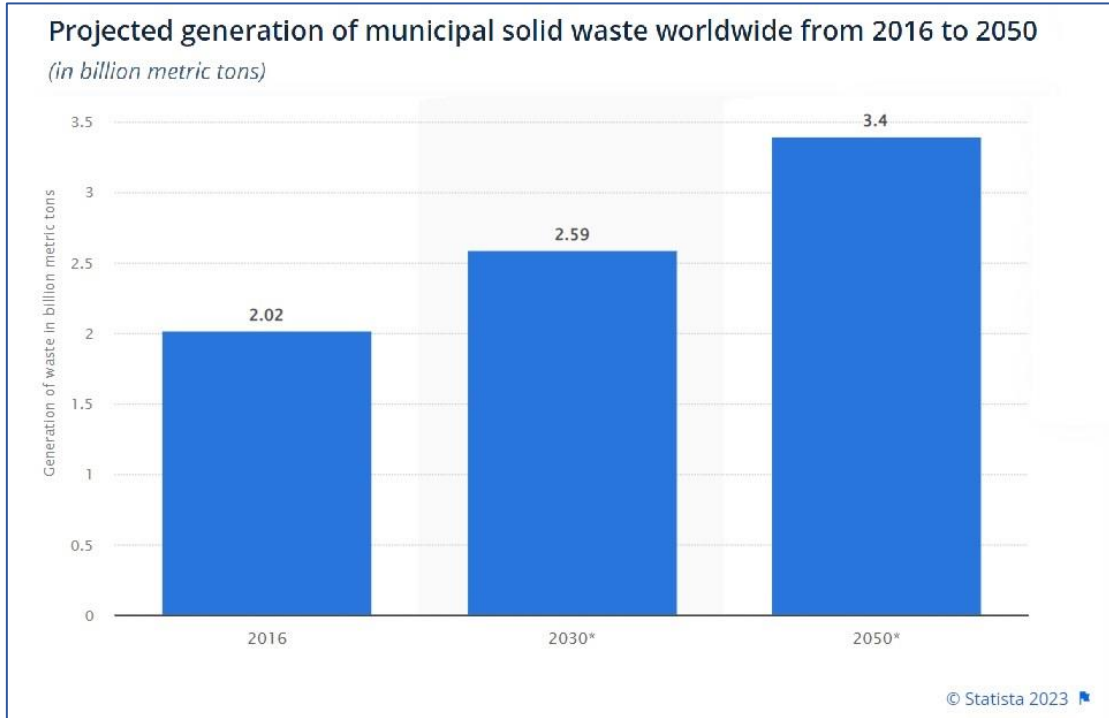
-1 Completed Transitioning Basis for Circular Economy



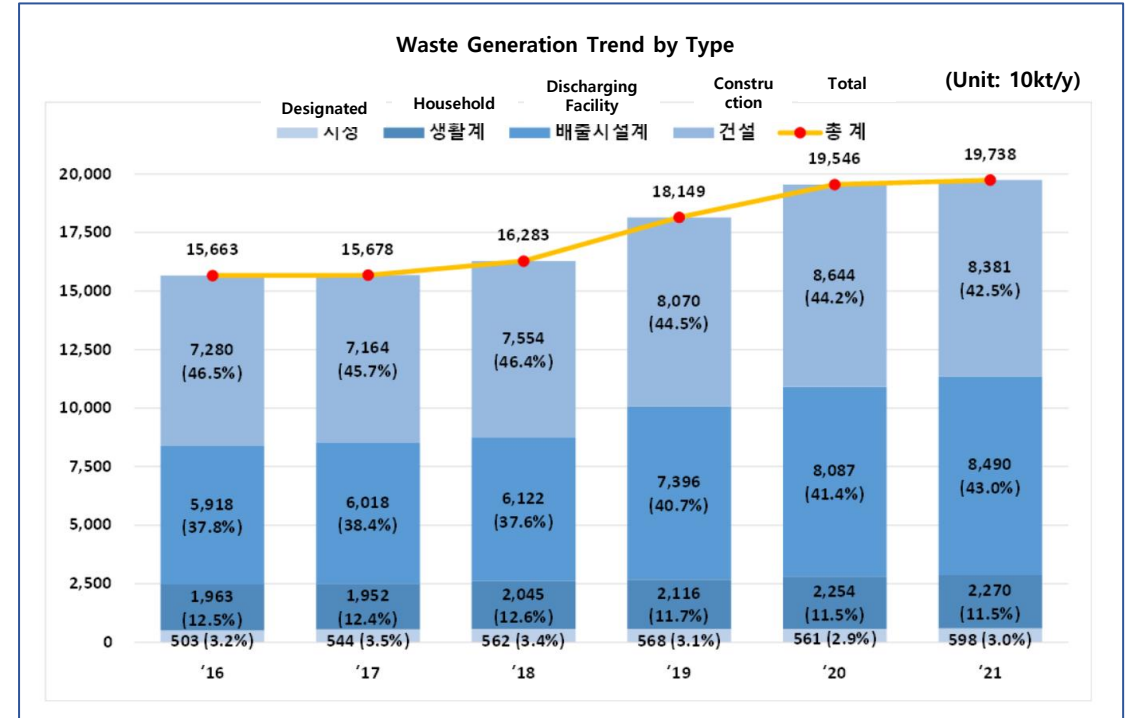
(Source: Ellen McArthur Foundation, <The Butterfly Diagram: visualizing the circular economy>, February, 2019)

2 The State of the Circular Economy Transition

-2 Inoperative Transitioning Basis for Circular Economy



(Source: Statista, <Global municipal solid waste generation projection 2016-2050>, July 18, 2023)



(Source: K-eco, National Waste Generation and Treatment Status in 2021, 2022)

While discussions about transitioning to a circular economy are increasing, the amount of waste which can be considered as resource wastage still demonstrates a steady upward trend.

2 The State of the Circular Economy Transition

-3 Sub-Conclusion

Transition to a circular economy: Begins with **breaking free from the linear economy structure**

Need for a **comprehensive transformation across domains of life such as clothing, food, and housing**: Lack of research and content

New content suitable for a circular economy structure in areas of clothing, food, and housing → **Upcycling**

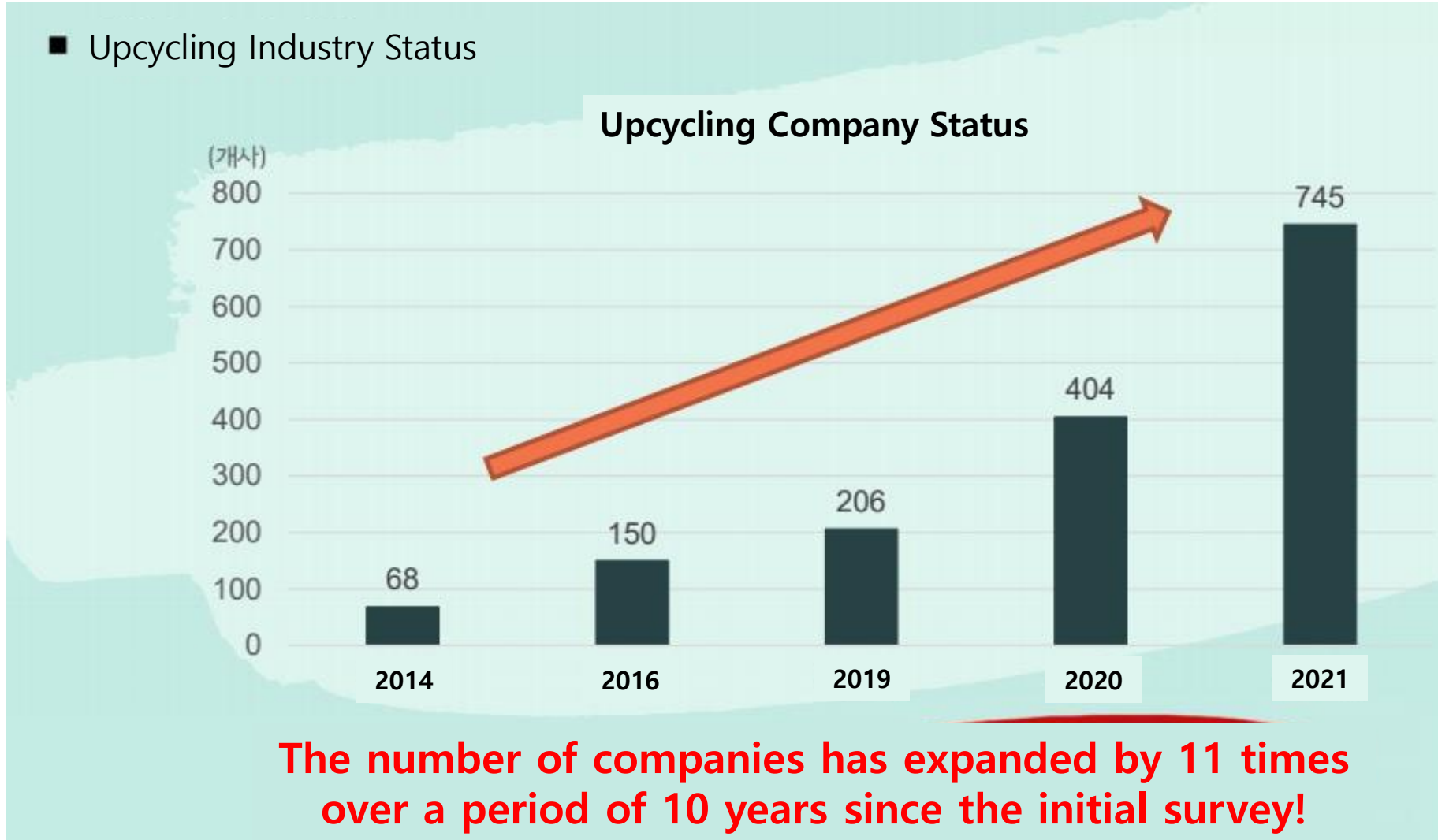
3

The State of the

Upcycling Industry in
Korea

3 The State of the Upcycling Industry in Korea

-1 Increase in the Number of Upcycling Companies



(Source: Korea Environmental Industry Association, <Introduction of the Upcycling Industry>, September 2022)

3 The State of the Upcycling Industry in Korea

-2 Upcycling Company Status (1/2)

- Current Status of Upcycling Companies (Companies Performing Support Projects of the Ministry of Environment)

Upcycling companies are mainly in the leather/bag and footwear manufacturing industry, accounting for a significant 23.6% proportion, most of which are small and medium-sized companies established less than three years ago (n=76)



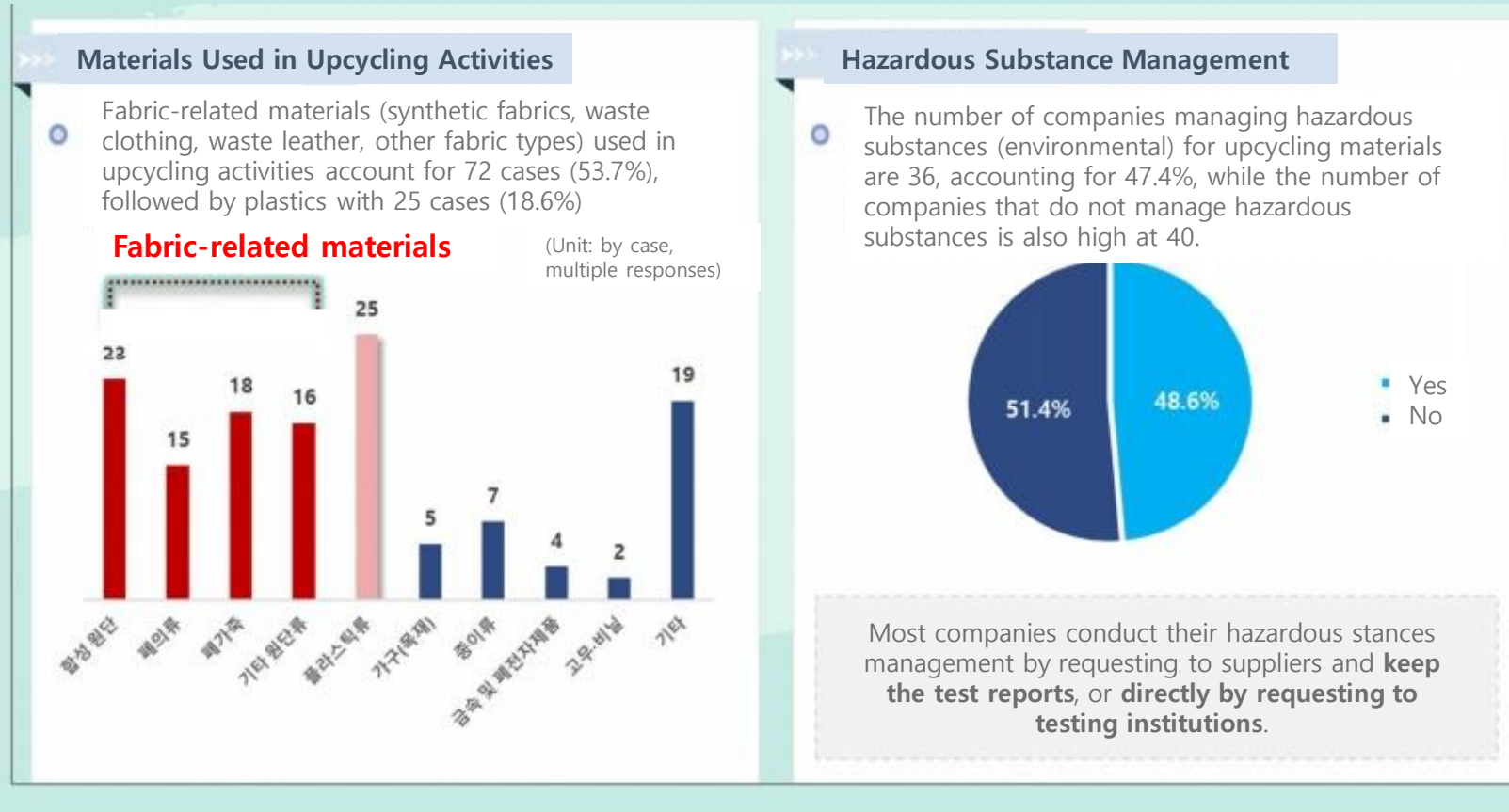
(Source: Korea Environmental Industry Association, <Introduction of the Upcycling Industry>, September 2022)

3 The State of the Upcycling Industry in Korea

-2 Upcycling Company Status (2/2)

- Current Status of Upcycling Companies (Companies Performing Support Projects of the Ministry of Environment)

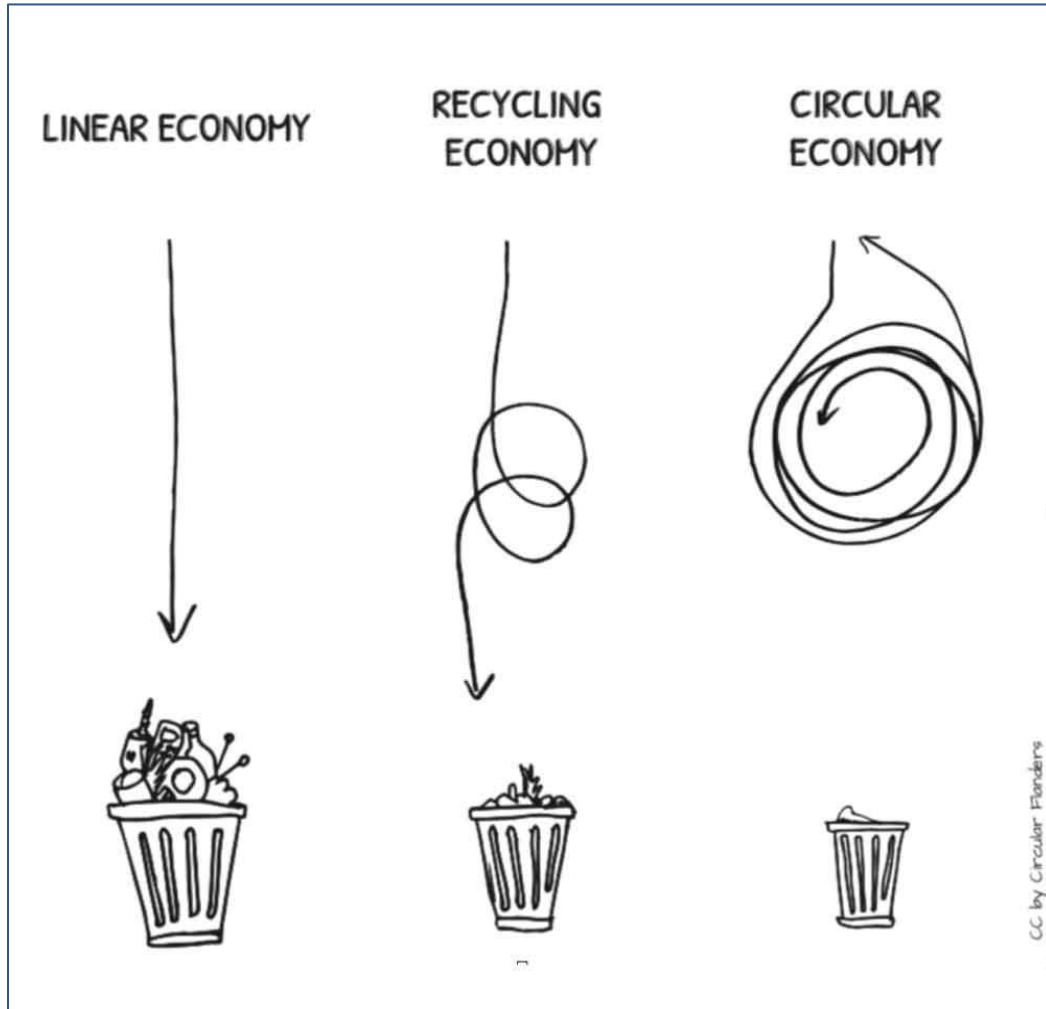
Upcycling companies utilize materials such as plastics and synthetic fabrics with verifiable suppliers and conduct harmful substance management by requesting to suppliers or directly to testing institutions.



(Source: Korea Environmental Industry Association, <Introduction of the Upcycling Industry>, September 2022)

3 The State of the Upcycling Industry in Korea

-3 The Status of the Upcycling Industry



(Source: CC by Circular Flanders via CommonObjective.co)

• Upcycling Product Designing Process

: Collecting used materials → Cleaning → Disinfection → Processing/manufacturing → Sales

(e.g.) Car seats of scrapped cars → Bags

Colorless plastic bottles → T-shirts, eco-bags, functional clothing

• What happens when these products reach the end of their lifespan?

: Most upcycled products are difficult to recycle



The current upcycling industry is part of the **recycling economy**



Rather than creating high value from upcycling and

3 The State of the Upcycling Industry in Korea

-4 Requirements of the Upcycling Industry (1/2)

Environmental Technology and Industry Support Act

Act No. 18469 (Framework Act on Carbon Neutrality and Green Growth for Coping with Climate Crisis)
Partly Amended on Sep. 24, 2021

Article 2 (Definitions)

The terms used in this Act are defined as follows:

3. The term "environmental industry" means industry providing facilities, instruments or services necessary for improving the environment by minimizing discharge of environmental pollutants and increasing efficiency of resources throughout the entire environment, including air, water quality, noise and vibration, ecosystem, etc.

B. Industry that produces products or provides services that contribute to environmental conservation and enhancement by promoting the circulation of resources such as upcycling industry that generates high added value in a new approach by incorporating ideas, designs, etc. into waste materials.

(Source: LAWnB, lawnb.com)

3 The State of the Upcycling Industry in Korea

-4 Requirements of the Upcycling Industry (2/2)

Requirements for the "Upcycling Industry" under the Environmental Technology and Industry Act

- 1) Minimize discharge of environmental pollutants throughout the entire environment, including air, water quality, noise and vibration, ecosystem, etc.
- 2) Provide facilities, instruments or services necessary for improving the environment by increasing efficiency of resources.
- 3) Generate high added value in a new approach by incorporating ideas, designs, etc. into waste materials.
- 4) Industry that produces products or provides services that contribute to environmental conservation and enhancement by promoting the circulation of resources



Upcycling should not be limited to upcycling companies alone.



For the realization of a circular economy, all economic activities must meet the criteria of

3 The State of the Upcycling Industry in Korea

-5 Sub-Conclusion

Upcycling and our attitude towards resources

For the upcycling industry to grow, companies must transcend their focus on manufacturing utilizing waste materials and evolve into **service-oriented companies** providing **circular economy solutions**.

These solutions must be designed as **models that provide products and services** as **essential byproducts** or **devices**.

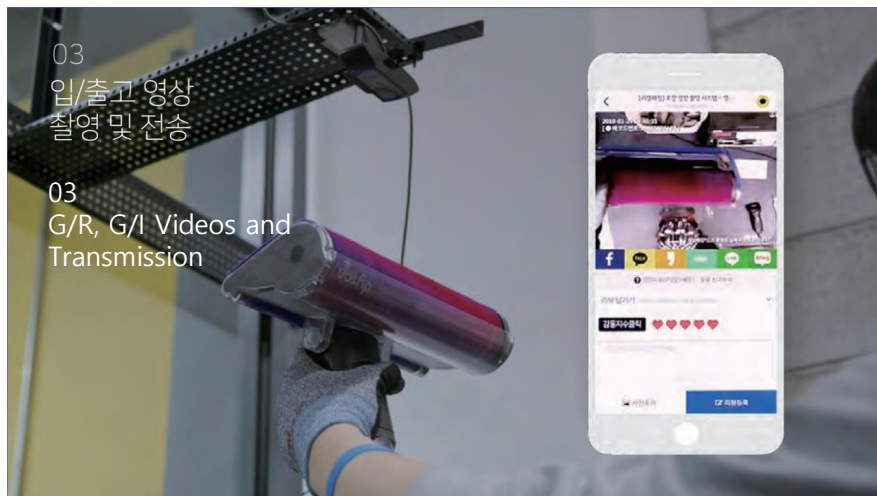
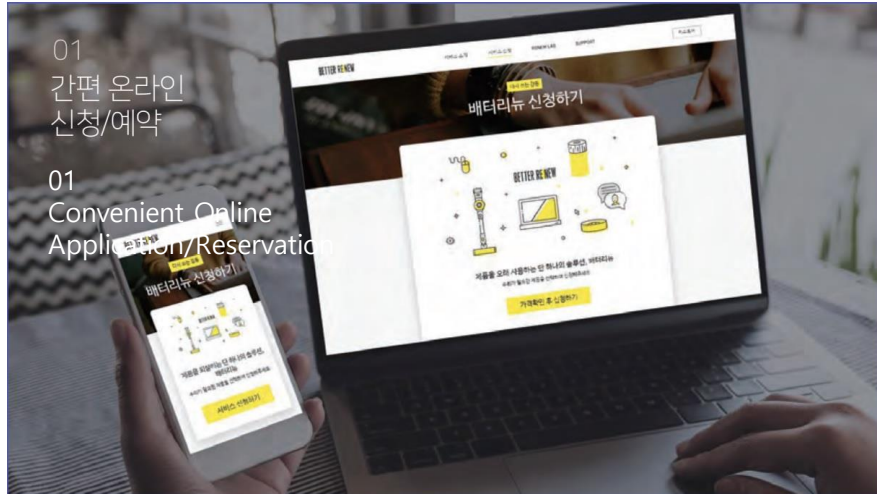
4

Solutions to Upcycling and Circular Economy

4 Solutions to Upcycling and Circular Economy

-1 B to C Model – Social Venture ENLIGHTEN 1/6

BETTER RENEW Business Model: High-priced Vacuum Repair/



(Source: <Discussion on Ways to Promoting the Right to Repair for the Transition to Circular Economy Society> Source Book, Korea Federation for Environmental Movements/Eco City Seoul, June 23, 2023)

4 Solutions to Upcycling and Circular Economy

-1 B to C Model – Social Venture ENLIGHTEN 2/6



(Source: <Discussion on Ways to Promoting the Right to Repair for the Transition to Circular Economy Society> Source Book, Korea Federation for Environmental Movements/Eco City Seoul, June 23, 2023)

4 Solutions to Upcycling and Circular Economy

-1 B to C Model – Social Venture ENLIGHTEN 3/6



The advertisement is split into two panels. The left panel has a blue background with the 'newte' logo in white script. Below the logo, it says 'Newte suggests,' followed by two green boxes containing the text 'Long-Lasting' and 'Well-Disposed'. At the bottom of the left panel, it says 'Sustainable Home Appliance Life' in green. The right panel has a white background with the 'newte' logo in black script. Below the logo, it says 'Newte, NEW WAVE OF ELECTRONICS' in black. At the bottom of the right panel, it says 'Newte leads the trend for long-lasting and well-disposed home appliances so that convenient home appliances don't make the planet uncomfortable.' in black.

newte
Newte suggests,
Long-Lasting
Well-Disposed
Sustainable Home Appliance Life

newte
Newte, NEW WAVE OF ELECTRONICS

Newte leads the trend for long-lasting and well-disposed home appliances so that convenient home appliances don't make the planet uncomfortable.

(Source: <Discussion on Ways to Promoting the Right to Repair for the Transition to Circular Economy Society> Source Book, Korea Federation for Environmental Movements/Eco City Seoul, June 23, 2023)

4 Solutions to Upcycling and Circular Economy

-1 B to C Model – Social Venture ENLIGHTEN 4/6

Starting with the wireless vacuum cleaner we are most confident in.

Over the past five years, we have repaired more than 100,000 vacuums,

and based on the technology and know-how, we have handpicked the most affordable, most reliable vacuums.

Newte Edition Selection Criteria

Usability

Is the product convenient for customers to use?

Durability

Is the product composed of components that ensure long-term use?

Aesthetics

Is the product designed beautifully to harmonize well with its surroundings?

Repairability

Can the product's lifespan be extended through after-sales service?



(Source: <Discussion on Ways to Promoting the Right to Repair for the Transition to Circular Economy Society> Source Book, Korea Federation for Environmental Movements/Eco City Seoul, June 23, 2023)

4 Solutions to Upcycling and Circular Economy

-1 B to C Model – Social Venture ENLIGHTEN 5/6

newte 서비스 과정 상품보기 브랜드 이벤트 Support Login 회원가입 +5,000 Bag

Premium After Sales Service

Use Newte as New Anytime!
Repari & Care Service

- 01 Simple Application & Consultation**
Simply ask for after sales service and consultation
- 02 Safe Receipt / Packaging**
Contactless pick-up
- 03 Professional Engineer's Premium After Sales Service**
Repairs with thorough checkup
- 04 Safe Package Receipt**
Receive repaired product

(Source: newte, www.newte.kr)

4 Solutions to Upcycling and Circular Economy

-1 B to C Model – Social Venture ENLIGHTEN 6/6

The screenshot displays the Newte website interface. At the top left is the 'newte' logo. The top navigation bar includes links for '서비스 과정', '상품보기', '브랜드', '이벤트', and 'Support'. On the right side, there are icons for social media, 'Login', '회원가입', and 'Bag' with a '+5,000' badge. The main heading is 'Disposal / Collection' in blue. Below it, the text reads 'Newte waits for 100% return.' The process is divided into three numbered steps:

- 01 Mobile Simple Application**
—
QR scan, easy application
- 02 Safe Receipt / Packaging**
—
Ask for contactless pick-up
- 03 Re-use or Disposal**
—
Reuse if can, appropriately discard if not

A blue bar is visible at the bottom center, and a chat bubble icon is in the bottom right corner.

(Source: newte, www.newte.kr)

4 Solutions to Upcycling and Circular Economy

-2 B to B Model – Je-CLEAN, Inc. 1/6

Je-Clean's First Business Model: Eco-Friendly Cleaning

(Source: Je-Clean)

Eco-Friendly, Professional Laundry Service for Luxury Hotel-Quality Bedding

Je-Clean offers regular laundry services utilizing eco-friendly detergents and systems.



4 Solutions to Upcycling and Circular Economy

-2 B to B Model – Je-CLEAN, Inc. 2/6

To maintain the standard of a luxury hotel service, high-quality pure cotton bedding with any minor flaw is discarded

(Source: Je-Clean)

Discarded Bedding (made of 100% cotton)



4 Solutions to Upcycling and Circular Economy

-2 B to B Model – Je-CLEAN, Inc. 4/6

Achieving a Closed-Loop Recycling (2/2)

(Source: Je-Clean)



4 Solutions to Upcycling and Circular Economy

-2 B to B Model – Je-CLEAN, Inc. 5/6

Je-Clean Products

(Source: Je-Clean)

Commercialization of Recycled Products through Circulated Cotton Resources

Joint product development through Je-Clean's leadership



Taekwang Industrial



Dong-A TOL



YOUNGSHIN TOWEL

4 Solutions to Upcycling and Circular Economy

-2 B to B Model – Je-CLEAN, Inc. 6/6

Future Plans of Je-Clean

(Source: Je-Clean)

Advancing Bedding Laundry Care Service



Expansion of Production through New Space Occupancy and Equipment Augmentation

- Securing a space to display and introduce recycled products and for logistics
- Ensuring sustainability through equipment introduction and optimization of working environment
- Promoting water management through additional purification facilities



Maximizing the Efficiency of the Current Laundry Business through Bedding Supply

- Reducing the cost of logistics through RFID and the efficiency of delivery and sorting and processing
- Tied-in strategy for accommodation operators through supply of our own inventory
- Processing as raw materials of used products



Promoting of Subscription Products through Strategic Partnership with Major Businesses

- Partnership with home appliance companies (NDA)
- Partnership with mattress rental operators (Coway and SK Magic)
- Partnership with co-living houses and shared houses (Mangrove and SK D&D)

4 Solutions to Upcycling and Circular Economy

-3 Conclusion (1/2)



FILE - Apple CEO Steve Jobs holds up an Apple iPhone at the MacWorld Conference, Jan. 9, 2007, in San Francisco. On Sunday, July 16, 2023, a first-generation iPhone sold at auction for \$190,373, almost 380 times its original price of \$499 when the groundbreaking device went for sale in 2007. (AP Photo/Paul Sakuma, File)

(Source: <https://www.live5news.com/2023/07/18/first-gen-iphone-sells-auction-almost-380-times-its-original-price/>)

What did
Apple
really sell us?

The iPhone?

or smart lifestyle?

4 Solutions to Upcycling and Circular Economy

-3 Conclusion (2/2)

Focusing solely on creating high added value from waste materials can make you unwillingly fall into **greenwashing**, or you may have to compete against existing new products in the **red ocean**.

To achieve innovation in the circular economy, businesses need to sell not just products and services, but **lifestyles suitable for the era of circular economy in the future**:

Upcycle 2.0

Upcycled products and services are mere tools. The emphasis should be on the **societal value** they generate.

If a company can develop **circular economy solutions**, it can establish an **exclusive market position** in the **blue ocean** that the company has formed.

Thank You for Listening