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**How to boost sustainability in retort processing**   
  
*Retort processing is essential for food safety and extended shelf life—but it doesn’t have to come at the expense of sustainability. Surdry North America’s team shares three smart ways food and beverage manufacturers can reduce their environmental impact while maintaining top product quality.*

Retort processing plays a critical role in extending the shelf life of food and beverage products. By eliminating the risk of bacterial growth, it ensures food safety compliance and enables products to be distributed across long distances without refrigeration. However, the process typically involves high heat, pressure and large amounts of water—factors that can make sustainability a challenge.  
  
With over 40 years of experience in minimizing the environmental footprint of retort operations, our team has developed a strategic guide to help food and beverage manufacturers enhance sustainably without sacrificing efficiency or product quality.  
  
Here are three areas to focus on when aiming to make retort processing more sustainable:

**1. Select the right thermal process technology**   
  
Different food and beverage retort technologies vary significantly in their environmental impact. Traditional **Water Immersion** batch retorts, while effective and fast, are among the least sustainable options due to high water and energy consumption. Fully submerging products in hot water results in high operational costs and can pose challenges for regulatory compliance.  
  
In contrast, **Steam Water Spray (SWS)** batch retorts — pioneered by Surdry in the 1980s — use significantly less water. By using direct steam injection with superheated water spray, SWS enables efficient heat transfer while accommodating static, rotary and oscillating systems. This makes it a versatile and more sustainable solution for a wider range of products and containers.

With even greater efficiency, **continuous sterilizers** are transforming the industry. Unlike batch retorts, they maintain steady temperatures in thermal zones, eliminating the need to reheat or cool between cycles. Surdry’s Continuous Sterilizer, for example, reduces steam consumption by up to 50%, delivering major energy savings and lower operating costs.

**2. Implement energy and water recovery systems**  
  
One of the most effective ways to reduce both energy and water use is to integrate recovery systems. Solutions like **Surdry’s RecN** operate in a closed loop, allowing steam and water from one batch to be collected in a tank and reused for the next. This recovery water is still hot, which helps maintain process temperatures and reduce pre-heating and come-up times. This not only conserves water but also boosts energy efficiency and overall productivity, as the retorts are ready to restart the process more quickly.

**3. Optimize packaging for sustainability**  
  
Packaging is essential to successful retort processing, as it must withstand the high temperature and pressure required during sterilization. At the same time, choosing the right packaging can significantly reduce environmental impact.  
  
Recyclable and lightweight options minimize material use and lower emissions from transport. Pouches, for instance, are widely used for their flexibility and low weight. While traditional retort pouches are often not recyclable, retortable recyclable versions are gaining momentum—though availability remains limited in the U.S. Aluminum cans, which are fully recyclable and increasingly in demand, also offer a durable and sustainable packaging solution for shelf-stable foods.

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**ABOUT SURDRY NORTH AMERICA:**

Surdry North America (SNA) is the U.S.-based partner of Surdry S.L., a Spanish company dedicated to manufacturing world-class retorts for shelf-stable foods since 1981. SNA is the primary sales, service and support office for Surdry in the U.S., Mexico and Canada.

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