

# GET THE SOLSTICE® LBA ADVANTAGE

See reduced costs and better insulation performance with Solstice® Liquid Blowing Agent (LBA) blends vs Vacuum Insulated Panels (VIPs)



**Honeywell**

As energy efficiency regulations evolve, refrigerator manufacturers need innovative ways to meet new requirements – all while maintaining profit margins and attractive retail price points for consumers. Solstice® LBA minimizes the need to use more expensive Vacuum Insulated Panels (VIPs) while realizing a 10% improvement in insulation performance vs hydrocarbons. By replacing 1 sq. meter of VIPs using our high-performance Solstice® LBA in your blends, customers can save between \$5-\$10 per refrigerator.

### REACH YOUR SUSTAINABILITY GOALS

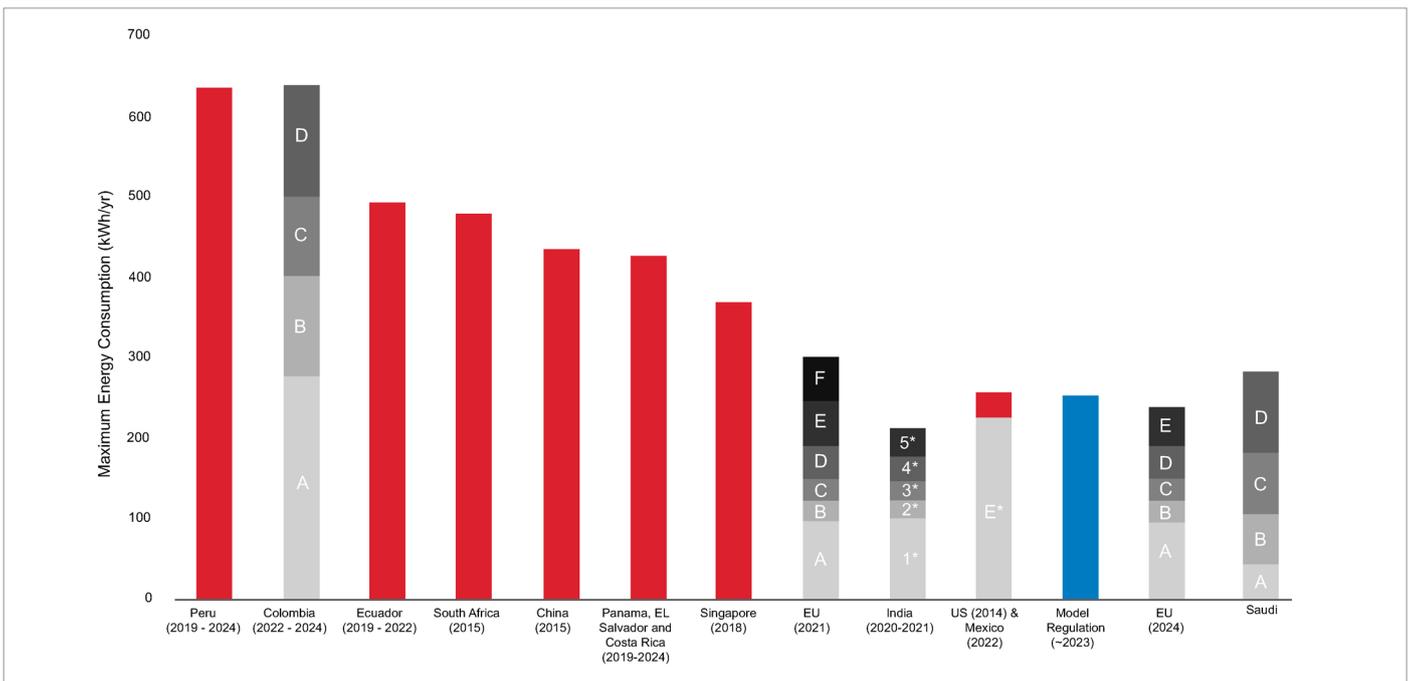
The appliance industry is facing an environmental challenge resulting from the use of high GWP materials, such as hydrofluorocarbons (HFCs), hydrochlorofluorocarbons (HCFCs), or less energy efficient materials like hydrocarbons, commonly used as blowing agents in the production of insulation foam.

Based on hydrofluoro-olefin (HFO) technology, Solstice® LBA has a global warming potential (GWP) of 1, 99.9% lower than HFC blowing agents.

Solstice® LBA helps customers realize energy efficiency goals, with a 10% improvement in insulation performance vs hydrocarbons. Solstice® LBA is non-ozone-depleting, nonflammable (ASTM E-681 and EU A11), listed under the U.S. EPA's Significant New Alternatives Policy (SNAP) program to replace ozone-depleting substances, listed on the TSCA inventory/registered under REACH, VOC-exempt (per U.S. EPA), and manufactured in the U.S.

### NEW ENERGY LABELING REQUIREMENTS BY REGION

Understand what energy consumption requirements for refrigerators are affecting your region.



#### Comparison of maximum energy use requirements for refrigerator-freezers (25°C)

Source: Lawrence Berkeley National Laboratory [LBNL] analysis

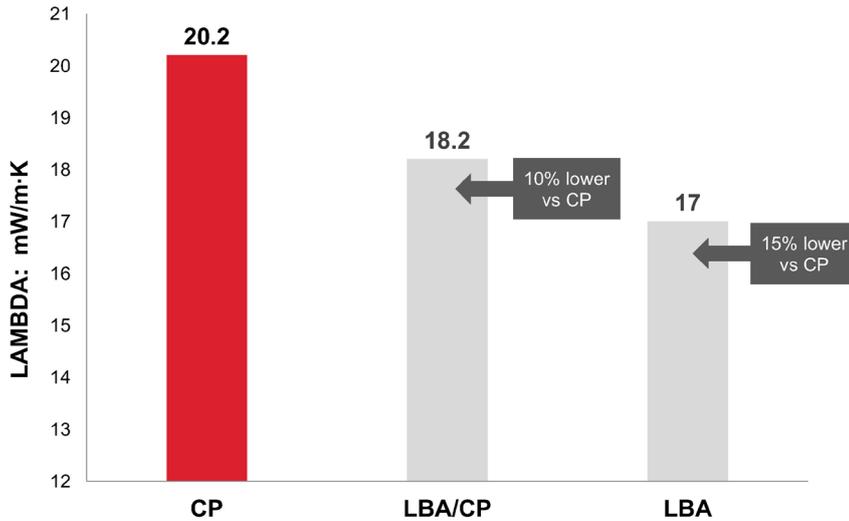
[Accelerating The Global Adoption Of Climate-Friendly And Energy-Efficient Refrigerators \(Page 8\)](#)

**NOTES:** (Source: Lawrence Berkeley National Laboratory [LBNL] analysis)

1. For refrigerator-freezers, energy consumption at 25°C according to standards in Colombia, Panama, El Salvador, Costa Rica, India, Mexico, Singapore, and the U.S. is assumed to be less by 25 per cent than the energy consumption at 32°C. Energy consumption at 32°C according to the EU standard is assumed to be greater by 25 per cent than the energy consumption at 25°C. South Africa's requirement is equivalent to the current EU B class.
2. The maximum energy use requirement for India, U.S./Mexico, and other countries are for frost-free type, refrigerator-freezers—automatic defrost with top-mounted freezer without an automatic icemaker, and refrigerator-freezers, respectively, as defined in the standards.
3. The comparison is based on calculations for a two-door frost-free refrigerator-freezer with 300 L storage volume and freezer compartment accounting for 30 per cent of total volume.

Solstice® LBA offers an ultra-low global warming potential (GWP) of one, and is an alternative to HCFCs, HFCs, and hydrocarbons (cyclopentane). When used alone or as a blend with cyclopentane, Solstice® LBA can provide better insulation performance than using cyclopentane and vacuum insulated panels (VIPs).

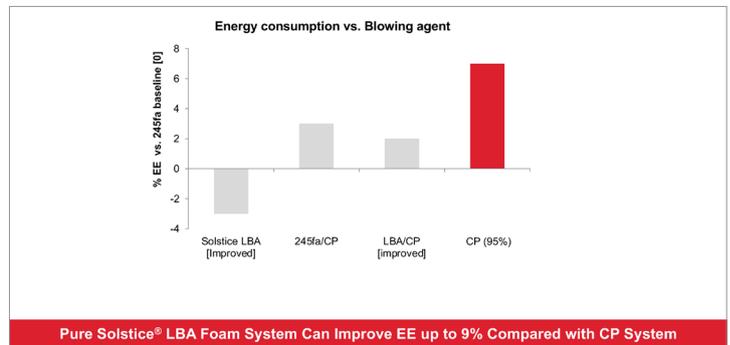
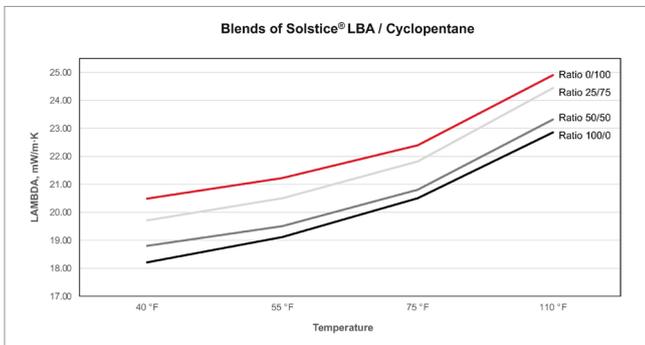
**Blends of Solstice LBA / Cyclopentane**



**Solstice® LBA optimized: 15% improvement over cyclopentane baseline**

**TECHNICAL INFORMATION**

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**Pure Solstice® LBA Foam System Can Improve EE up to 9% Compared with CP System**



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 FUTURE  
 IS  
 WHAT  
 WE  
 MAKE IT**

