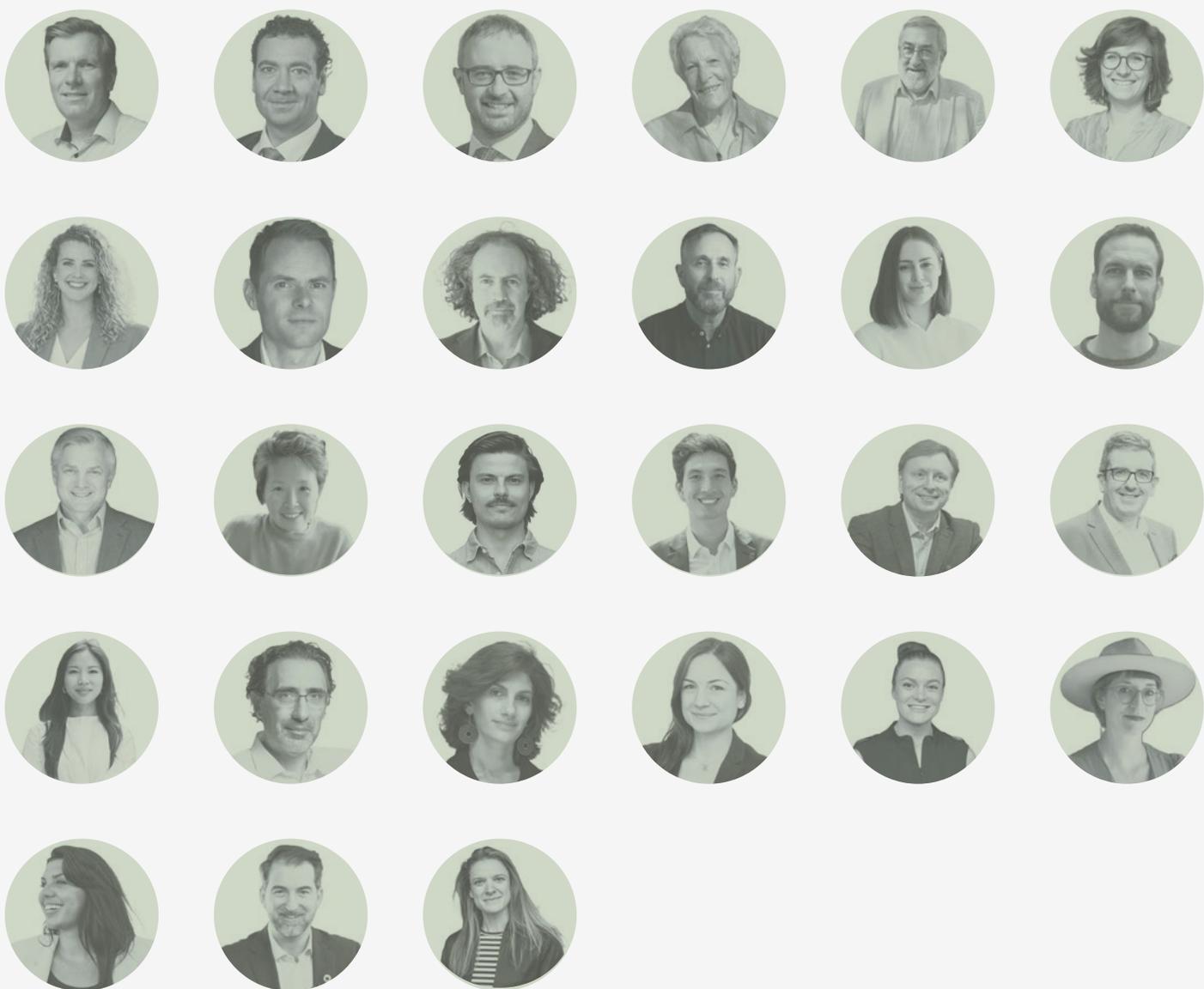


# HYB26

## Sustainability Edition

The Regenerative Question - What Hospitality Must Become



**The Hotel Yearbook**

Foresight and innovation in the global hotel industry



HY8



# **The Forgotten Poison: Detoxing the Guest Room is Hospitality's #1 Regenerative Act**

Prevention-based pest control

**Martim Gois**

*CEO and Co-Founder, Valpas*



*Martim Gois argues that hospitality has a “fourth pillar” of sustainability it has mostly ignored: pesticide use, especially neonicotinoids applied in guest rooms to control bed bugs. As regulators, certifiers, and major buyers begin to recognise the massive biodiversity and health impacts of these chemicals, the industry is shifting from reactive, chemical-heavy pest control to prevention-based, pesticide-free systems, positioning pesticide elimination as a concrete, non-negotiable step toward truly regenerative hospitality.*

There is a room at the centre of the global hospitality industry. It has a bed, a minibar, blackout curtains, and — invisible to the guest, unrecorded in any sustainability report, and missing from virtually every green certification on the market — a recurring application of neonicotinoid pesticides to manage bed bugs.

For years, that room has simply not been part of the conversation. That is now changing.

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*Carbon is the headline. Pesticides are the headline the industry is finally ready to write.*

Hospitality has built strong frameworks around three sustainability pillars: energy, water, and waste. Each has dashboards, benchmarks, and improving trajectories. But a fourth pillar — pesticide use — has remained unmeasured and largely unacknowledged, due in no small part to decades of heavy lobbying by pesticide manufacturers. That silence is ending as the evidence of environmental and human harm has grown impossible to ignore.

In 2026, that changes. The frameworks have shifted. The market has moved. And the path to follow the leaders, rather than catch up, is open.

## THE FOURTH PILLAR

Energy, water, waste. Walk into any property pursuing EU Ecolabel, GSTC certification, or a regional star rating, and you will find targets and benchmarks for each. You will almost certainly not find a single line of data on pesticide application.

Yet pesticides — specifically the neonicotinoid-based insecticides that dominate indoor pest management for bed bugs — represent a category of environmental impact that reaches beyond what appears on any carbon dashboard. Not in terms of emissions. In terms of something arguably more fundamental: biodiversity.

Carbon governs the atmosphere. Biodiversity governs everything else.

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*Insects are not a footnote to life on Earth. They are the chapter everything else is written in.*

Seventy-five percent of all animal species are insects. They maintain soil health, recycle nutrients, pollinate the crops that feed eight billion people, and regulate the very pest populations we spray chemicals to control.

Over the past 27 years, insect populations have declined by more than 75 percent — with some species falling by one to two percent every single year.

At the centre of this collapse: neonicotinoids. To bees alone, they are approximately 7,000 times more toxic than DDT — a compound banned in the 1970s for being too dangerous. They are water-soluble, leaching into soil and waterways. They are airborne, drifting through ventilation systems and open windows into urban greenery, affecting both indoor and outdoor air quality. They persist for years, accumulating rather than dissipating. By some estimates, only five percent of an applied neonicotinoid remains in its target. The other 95 percent goes somewhere else — into the insect world that sustains ours.

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*We are at the beginning of a major extinction-level event — the first ever for insects on the planet. While they may survive, we may not. We need them more than they do.*

*‘Floyd Shockley, Smithsonian Institution*

## HOSPITALITY'S STRUCTURAL ROLE

Hospitality is, according to current evidence, the heaviest indoor user of neonicotinoid pesticides in the built environment. The reason is structural: bed bugs are uniquely suited to the hotel model. They travel in luggage, colonise rooms, and spread outward — to guest homes, to other hotels, across destinations. Reactive treatment after an infestation is detected has been the default. And it creates a feedback loop of chemical discharge with every new outbreak.

The environmental cost of this loop has been real. Beyond biodiversity, pesticide misapplication in confined hotel spaces has caused serious health incidents — including fatalities — in the past decade, raising questions about the adequacy of current oversight that regulators have not ignored.

The good news is that the industry never set out to cause this harm. It operated within the frameworks available. Those frameworks are now being rewritten.

## A DECISIVE SHIFT: REGULATORS, ALLIANCES, AND THE MARKET

The past two years have seen a convergence of institutional recognition that would have been unimaginable five years ago. Each body has moved in its own language — but the direction is unanimous.

The European Commission's forthcoming EU Ecolabel revision for tourist accommodations is looking to, for the first time, formally distinguish between reactive in-room biocide treatments and prevention-based systems that can demonstrate verified absence of use. Indoor biocidal products are explicitly identified as hazardous substances with documented health and environmental impacts, and hotels may be required to disclose treatment logs or provide verified evidence of prevention. The standard is taking shape. The question is who is ready for it.

The UAE's Department of Tourism has already updated its hotel rating criteria: prevention-based pest management with verified monitoring records now scores above reactive chemical treatment. The Global Sustainable Tourism Council has recognised this gap and is already reshaping its criteria around it. Travelyst is developing new standards to recognise and highlight hotels that have verifiably detoxified their guest rooms and maintain pesticide-free operations. The World Sustainable Hospitality Alliance has included indoor chemical avoidance in its sector pathway frameworks.

Tens of thousands of hotel rooms are already operating with zero pesticides. That number is rising fast. What began as a compliance conversation has become a competitive one.

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*The standard is taking shape. The market has moved. The question is who is ready.*

The transmission into bookings is already underway. Corporate RFPs from major travel buyers are including environmental health criteria for the first time. OTA algorithms are surfacing verified sustainability data as ranking signals. AI-powered travel assistants — increasingly making booking decisions on behalf of users — are trained on precisely the structured, verifiable data that certifications now require. A hotel without a pesticide management framework is a hotel an AI agent cannot confidently recommend to a traveller with environmental values. That is the architecture of the booking market being built today.

## FROM ROOFTOP GESTURES TO VERIFIED STANDARDS

The industry's instinct toward biodiversity has been genuine. Rooftop beehives have appeared on hotels across Europe and North America, bringing local honey to breakfast tables and a clear message: we want to coexist with nature. That instinct deserves credit — and a more powerful next step.

The uncomfortable truth is that placing beehives on the roof while spraying pesticides in the rooms below sends two opposite messages at once. Wild, local pollinators — the bees, flies, and beetles that have always lived in the area — are far more important to local ecosystems than any managed hive, and they cannot be protected by a rooftop gesture. The real move is to stop harming them in the first place.

This is where prevention-based standards change the equation entirely. Valpas certifies hotels in real time as bed bug-safe, backed by seamless guest room technology that prevents bed bugs within hours of their arrival in luggage — before infestations form, and without any chemical treatment. This eliminates the reactive pesticide cycle at source, while generating verified safety evidence recognised across demand platforms from ChatGPT to certifiers like EU Ecolabel, GSTC, and emerging star-rating schemes. The rooftop bee farm is a symbol. Zero pesticide use, verified in real time, is the standard.

## WHAT REGENERATIVE HOSPITALITY ACTUALLY REQUIRES

Regenerative hospitality has many definitions. But in a hotel context, one of its clearest practical expressions is this: the decision that this building will not discharge neonicotinoids into the environment.

Energy efficiency reduces harm at the margin. Pesticide elimination removes a category of active harm entirely. One is incrementalism. The other is regeneration.

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*Regeneration is not about doing less damage. It is about removing a source of damage that should never have been there.*

In the late 1960s, the connection between DDT and ecological collapse was contested. A decade later, it was banned worldwide. The operations that moved ahead of regulation were not penalised. They were prepared — and positioned.

The evidence on neonicotinoids is no longer contested. The regulatory trajectory is visible. The booking infrastructure is being rebuilt around verified environmental data. And the industry has, for the first time, the frameworks, the technology, and the market signal to act.

The guest room is the hotel's smallest unit and its largest environmental statement. Detox it. The pollinators, the planet, and today's travellers are waiting.

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“Show me only chemical-free,  
bed bug-safe hotels.”



What becomes searchable  
becomes bookable.

