

White Paper

The Implications of R-22 Refrigerant on Real Estate

Executive Summary

R-22 refrigerant (also known as HCFC-22 or Freon-22) has been a mainstay in residential and commercial HVAC systems for decades. However, due to its ozone-depleting properties and high global warming potential, it has been phased out under international agreements and national regulations. For the real estate industry, this transition carries significant financial, operational, and compliance implications. This white paper explores the risks, challenges, and opportunities related to properties with legacy R-22 systems.

1. Background on R-22 Refrigerant

- **Chemical Composition:** R-22 is a hydrochlorofluorocarbon (HCFC) used extensively in air conditioning and refrigeration.
 - **Phaseout Timeline:**
 - **Montreal Protocol (1987)** identified R-22 as an ozone-depleting substance.
 - In the U.S., **production and import were banned in 2020**, with only recycled or stockpiled R-22 allowed.
 - Similar restrictions exist globally.
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2. Environmental and Regulatory Considerations

- **Ozone Layer Impact:** Chlorine in R-22 contributes to ozone depletion.
- **Global Warming:** R-22 has a global warming potential (GWP) ~1,800 times that of CO₂.
- **Compliance Risk:**

- Owners of R-22-based systems must comply with EPA leak repair, recovery, and recycling rules.
 - Non-compliance could expose owners/operators to fines and legal liabilities.
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3. Financial Implications for Real Estate Stakeholders

A. Operating Costs

- Rising R-22 prices due to limited supply.
- Higher maintenance costs as older systems fail more frequently.

B. Capital Expenditures

- Retrofitting options are limited and often suboptimal.
- Replacing R-22 systems with modern R-410A or R-32 units may be costly upfront but is generally more sustainable long-term.

C. Valuation Impacts

- Properties with outdated HVAC systems may face:
 - Lower marketability.
 - Reduced property values.
 - Longer transaction timelines if buyers anticipate costly replacements.
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4. Operational Risks

- **System Performance:** Aging R-22 units are less energy efficient, leading to higher utility costs.
 - **Tenant Satisfaction:** Frequent breakdowns can affect tenant comfort and retention in both residential and commercial properties.
 - **Insurance Considerations:** Some insurers may increase premiums or exclude coverage for outdated systems that pose environmental risks.
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5. Strategic Considerations for Owners and Investors

Short-Term Options

- Continue using R-22 units until end-of-life, budgeting for higher repair and refrigerant costs.
- Explore “drop-in” alternatives (R-407C, R-422B, etc.) with technical guidance, acknowledging limitations.

Long-Term Solutions

- **Full System Replacement:** Upgrade to R-410A, R-32, or next-generation low-GWP refrigerants.
 - **Energy Efficiency Gains:** Modern systems reduce energy consumption, often qualifying for green certifications or rebates.
 - **Sustainability Branding:** Demonstrating proactive replacement enhances ESG (Environmental, Social, Governance) positioning and tenant appeal.
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6. Implications for Transactions and Due Diligence

- **Buyers:** Must assess HVAC systems’ refrigerants during inspections.
 - **Sellers:** Should disclose the presence of R-22 systems and provide documentation of maintenance history.
 - **Lenders:** Increasingly view outdated systems as risk factors, potentially affecting financing terms.
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7. Recommendations

1. **Proper identification of R-22 exposure:** It is imperative to not rely on a home inspector to make this determination. If a client is concerned about potential risk, an HVAC inspection performed by a specialist must be conducted.

2. **Portfolio Assessment:** Inventory HVAC systems across holdings to identify R-22 exposure.
 3. **Plan for Phased Replacement:** Align upgrades with capital improvement budgets.
 4. **Leverage Incentives:** Explore federal, state, and utility rebates for energy-efficient upgrades.
 5. **Integrate into ESG Strategy:** Publicize HVAC modernization as part of sustainability reporting.
 6. **Tenant Communication:** Clearly communicate plans for HVAC reliability and environmental responsibility.
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Conclusion

The phaseout of R-22 refrigerant has created both risks and opportunities within the real estate sector. While the financial burden of replacement is significant, proactive adaptation positions owners and investors for higher efficiency, regulatory compliance, and improved asset value.