
Description:

With solid discipline around price, smooth 14 SEER transition, and some emerging technology around compressors and controls, the US HVAC industry is gradually recovering. In residential, it should result in an outsized volume growth due to low unemployment and gas prices, added with high consumer confidence and depressive demand, while continued price and commodity tailwinds boost margin expansion. Commercial is under more steady status, with continuous non-residential construction recovery which still has some room to run.

US Residential momentum continues, replacement rates accelerating.

Replacement rates have steadily raised over the past few years following historically low levels coming out of the recession, and are now accelerating towards the high end of historical ranges as potential replacement demand is released into the system. This will be further boosted by a positive fundamental setup with high consumer confidence and low unemployment and gas prices, which have historically correlated strongly with replacement rates. It is estimated that the US HVAC market would achieve an 11% growth in 2016 and 5% in 2017.

US Commercial HVAC stable.

Based on a 5% growth ongoing non-residential construction recovery and stable 3% growth in replacement, it is estimated that this market would achieve 4% growth in 2016 and 2017 respectively. 2015 was a strong recovery year for non-residential construction while 2016 could most probably witness some slowing. While most HVAC players' revenue have recovered on regulatory change and pricing, commercial HVAC volumes are still 20% below peak, which means there are still some room to run in this market.

Price/cost positive, the key variable is 14 SEER price, but transition was smooth.

Price was solid again in 2015, a trend that will continue with most companies announcing steady price increases that are expected to mostly stick even in a low commodity environment. Mix up has also been a key topic with the 14 SEER transition performance slightly better than expected and industry mix shifting rapidly away from 13 SEER as the 14 SEER premium held steady at about 10%. This market could see a compression up to 8%, which should come out with another solid mix benefits year. For cost, commodities remain sluggish, and major OEMs follow similar hedging strategies.

Ductless market remains the key theme.

Ductless continues to be a key strategic theme in the industry, which could represent 15% of the industry for both residential (about 9%) and commercial (about 6%). While key obstacles such as first cost, lack of installed base, and aesthetics limit the penetration gains in what should remain largely a ducted unitary market, it is starting to show better adoption rates as energy efficiency gains and flexibility in installation outweigh the higher first cost in many instances. Almost all US OEMs have built up JVs/partnerships with foreign suppliers, and while it is expected a well above market average growth rates in ductless.

Intensified Technology competition among suppliers.

With most OEMs boasting new capabilities, inverter technology is another key strategic theme. Inverter compressors appear to be contained solely within the high end systems at now, with key players expressing interests in spreading this technology in more mainstream systems. In particular, Daikin has mentioned about vertically integrating its compressor technology and taking inverters to mass market products, but this has remained slow to develop for now. In the near-term, there should be no dramatic change here.

Competitive stable; potential for another round of consolidation.

Lennox continues to increase share in both residential and commercial, while Trane performing well in commercial and losing some incremental share in residential. York and some of the smaller HVAC players
are also possible to lose share in residential. The 14 SEER transition has not impacted competitive landscape, and industry discipline remains integrated. On the M&A front, there's potential for another round of industry consolidation. The ultimate outcome of JCI/TYC, and their desire to grow or get rid of HVAC, and the appetite for investment from Chinese/Asia players are to be closely focused.

Potential risks, but under control.

Potentially rising rates are the biggest uncertainty and risk factor, somewhat like auto. Housing still remains good below normalized levels, so any downturn here is unlikely to match that of last cycle. For commercial, the biggest risk remains around the non-residential construction cycle, where significant indicators have been mixed in recent months, and a striking deceleration would be a clear headwind.

Contents:

1 Introduction
   1.1 Abstract
   1.2 VAC Technology
      1.2.1 Cooling Basics
      1.2.2 Residential Cooling Applications
      1.2.3 Commercial Cooling Applications

2 Summary
   2.1 Global Market Overview
   2.2 Residential HVAC
   2.3 Commercial HVAC
   2.4 Market Landscape
   2.5 Snapshot & Key Players

3 Residential HVAC Market
   3.1 Near-term Outlook
      3.1.1 Market Size
      3.1.2 Replacement Demand
      3.1.3 AC/Heat Pump Unit Forecast
   3.2 Long-term Outlook
      3.2.1 New Construction
      3.2.2 Non-construction Adoption
      3.2.3 Replacement Demand
      3.2.4 Regulation: Look Ahead 14 SEER Transition
   3.3 Residential HVAC Market Landscape
      3.3.1 Market Share
      3.3.2 Supply
      3.3.3 Distribution

4 Commercial HVAC Market
   4.1 Construction Trends
   4.2 Order & Revenue Trends
   4.3 Market Landscape

5 Ductless Market in North America
   5.1 Introduction
   5.2 Competitive Landscape
   5.3 Industry Consolidation Outlook

6 Sub-Markets
   6.4.1 Compressors
   6.4.2 Thermostats
   6.4.3 Refrigerants
   6.4.4 Motors

7 Research on HVAC Margins and Financial Performance of Major Players

Sketch Map of Mechanical Refrigeration Cycle
Central AC Split System with Furnace
Application Distribution of A/C Equipment Market, 2015
Distribution of Global HVAC Market (including aftermarket & services), 2015
Distribution of Global HVAC Market (excluding aftermarket & services), 2015
Market Share of Key Global Enterprises, 2015
Summary of Key Global Enterprises
Relation between EMR US Climate Sales and AHRI Unit Shipments
After Outgrowing Unitary Shipments in 2010-11, Window Units Dipped in 2013-15
Potential Volume Growth Estimates vs. AHRI Reported
Implied Replacement vs. Actual Replacement, 1989-2017E
Residential Unitary Shipments, 2015-2017E
US Auto Sales, 1976-2014
Breakout of US Residential Unitary Market (Condensing Units), 2015
Residential Durable Good Replacement Map
HVAC Replacements Only Partially Correlated with Existing Home Sales
Residential Unitary Market Share, 2015
Residential Unitary HVAC Industry Chain Map
US Commercial HVAC Market Size by Segments, 2010-2017E
Market Share of Key Players across Various HVAC Market Segments, 2015
Commercial HVAC Product Breakdown, 2015
Lennox View of North American Commercial Unitary Market
US Light Commercial End-Market Breakout
Commercial Unitary Applications by Floor Space, U.S. Non Commercial Building
Small to Middle Market Size Buildings (1,000-25,000 sq ft) Cooling Apparatus
Large Size Buildings (25,000->500,000 sq ft) Cooling Apparatus
Light Commercial Market Share, 2015
Market Size of Common Applied Equipment Products and Competitors
Global Chiller and Airside Equipment Markets, 2015
Global Chiller and Airside Equipment Markets by Region, 2015
Air Cooled 250 Ton RT Market Share, 2015
Air Cooled >250 Ton RT Market Share, 2015
Water Cooled Market Share, 2015
Centrifugal 0-300 Ton Market Share, 2015
Centrifugal >300Ton Market Share, 2015
Large Commercial/Applied End-Market Breakout, 2015
Chiller Applications by Floor Space, U.S. Commercial Building, 2015
Small to Middle Market Size Buildings (1,000-25,000 sq ft)
Large Size Buildings (25,000->500,000 sq ft)
Buying Decision Tree of Commercial HVAC
Global Large Commercial Market Share, 2015
Growth in Occupied Homes with AC, 1974-2015
Replacement vs. Installed Base, 1976-2015
Annual Cooling Degree Days Y/Y vs. Replacement (Non-New Housing) Shipments Y/Y
Temperatures Rebounded, 2015
Growth in Replacement Opportunities (Unit Breaks), 2011-2017E
EMR US Climate Sales vs. AHRI Unit Shipments, 2007-2015
Revenue Growth of WSO Products (Including Replacement Parts) and WSO Equipment, 2007-2015
AHAM Window Unit Shipments vs. AHRI Unitary Shipments, 1985-2015
Percentage of Occupied Homes with Window A/C, 1985-2013
Assumed Pre-Buy Unit Impact
Price Trend of Retail Gas and Crude Oil, 1993-2016
Consumer Confidence and Change of Gas Prices, 1994-2016
Consumer Confidence vs. HVAC Replacement Rates, 1988-2015
Existing Home Sales vs. HVAC Replacement Rates, 1999-2015
HVAC Replacement vs. Major Economic Index, 1989-2017E
Cooling Degree Days Each Month in 2015
Pent-Up Replacement Demand Estimate
AC/heat pump unit shipments, 2011-2017E
HVAC Shipments by State, 2015
Percent of HVAC Shipments by Top 10 Oil Producing States, 2015
Implied Replacement Rate at Various Downside Scenarios
Downside Scenario Replacement Rates, 1989-2017E
Residential HVAC Downside Matrix, 2017E
AC/heat pump unit shipments- DOWNSIDE SCENARIO
Auto Market P/E Ratio, 1988-2015
Auto Market Relative Valuation, 1990-2015
Auto Market Valuation versus US SAAR, 1988-2016
Building Market P/E Ratio, 1988-2016
Building Sector Relative Valuation, 1990-2016
Building Sector Valuation vs. US Housing Starts, 1988-2016
US Housing Starts, SAAR, 2014-2016
Household Formation, 1967-2015
Implied Household Formation
Household Formation Contribution by Age Group
Rent as a Share of Median Household Income
Mean Balance on Student Loans, 2005-2014
HVAC Industry Approximate Revenue Mix, 2015
Company Revenue Growth vs. AHRI Units Growth, 2011-2015
Condensing Units Mix by SEER, 2009-2017E
Rates for Components Move with R-410A Mix, 2010-2016E
Copper Price, 1988-2016
Copper Price, Mar 2011-Mar 2016
Steel Price, 2008-2016
Hedging Strategies of Major OEMs
A/C PPI vs. Metals PPI, 1979-2015
Unitary AC PPI vs. Metals PPI, 1978-2015
AHRI Annual Unitary Shipments (Resi/Comm'l), 1974-2015
Annual Housing Completions, 1973-2015
Growth in Housing Stock, 1965-2015
HVAC Usage of All US Residential Households, 2009
Central Air Penetration by Original Construction Date, 2009
Central Air Penetration by Housing Type, 2009
Air Conditioning Penetration by Region/Type, 2009
Occupied Homes with Central Air Conditioning, 1974-2015
Build of Annual Shipments for New Housing, 1973-2015
Installed Base Estimates, 1973-2015
Non-Construction Adoption/Penetration, 1975-2015
Replacement Demand Estimates, 1973-2015
Replacement Shipments as % of 12- to 18-Year-Old Shipments, 1991-2015
Historical % of Installed Base Replaced and Implied Life, 1989-2015
Historical Replacement Rates vs. Consumer Confidence, 1989-2015
Historical Replacement Rates vs. Unemployment Rates, 1989-2015
Historical Replacement Rates vs. Existing Home Sales, 1999-2015
Historical Replacement Rates vs. Case-Shiller Index, 2000-2015
Historical Replacement Rates vs. Housing Starts, 1989-2015
Historical Replacement Rates vs. NAHB Survey, 1990-2015
Increased Cost of A/C Replacement
Replacement units, 2015-2017E
Medium-Term Replacement Demand (Replacement as % of Installed Base), 1989-2017E
Build of Unit Demand, 2015-2017E
Residential Unitary Market Share, 2015
Lennox Residential Organic vs AHRI Shipments, 3Q14-4Q15
Lennox Volume vs. Mix vs. Price, 1Q14-4Q16
EMR Climate Organic Growth, 2005-2011
EMR Climate Organic Growth, 2011-2016E
14 SEER vs. 13 SEER pricing gap
Condensing units mix by SEER, 2009-2017E
Industry unit shipments analysis, 2013-2017E
Gross margin analysis (14 SEER & 13 SEER), 2013-2017E
Industry revenue and gross margin model (14 SEER & 13 SEER), 2013-2017E
13 SEER vs 14 SEER Illustrative Gross Margin (Product Level), 2014-2017E
13 SEER vs 14 SEER Illustrative Gross Margin (Industry Level), 2014-2017E
Impact of Customer Behavior by the Upcoming 14 SEER Minimum Efficiency Standard
Market Share of Goodman during the past two minimum SEER transitions, 1990-2014
Trane mix was solid when focused solely on high end products
Growth of Major Players and AHRI AC/HP shipments, 2005-2011
Estimated Industry Efficiency Mix, 2005/2006
Models of Major Players
Revenue Growth of Major Residential Players, 2011-2015
Mini Split Market Size, 2008-2015
Distribution System of Residential HVAC
Comparison of Company-Owned and Independent Distribution
Distribution Breakdown by OEMs
Distribution System of Trane
Carrier Company-Owned Distribution
Previous Lennox Distribution Strategy
New Lennox Distribution Strategy
Lennox is increasing Investment in PartsPlus Stores
DaveNet Portal Improves Direct to Dealer Capabilities
Lennox Has Expanded Same-Day Coverage for Emergency Replacement
Ranking and Data of Top 50 HVAC/R Distributors, 2015
Key Acquisitions since 2000 (Excluding Carrier)
Categories (Shaded) Included in EE/MI Non-Res Index
Total Non-Res Construction vs. EE/MI Non-Res Index
Office Spending - Public vs. Private
Commercial Spending - Public vs. Private
Education Spending - Public vs. Private
Healthcare Spending - Public vs. Private
Public EE/MI Index vs. Private EE/MI Index, 2003-2016
EE/MI Non-Res Index, Public vs. Private Mix, 2003-2015
Public and Private Office Construction Spending, 1993-2016
Public and Private Education Construction Spending, 1993-2016
EE/MI Non-Residential Construction Index vs. ABI, 1995-2015
EE/MI Non-Residential Construction Index vs. ABI, 2006-2015
EE/MI Non-Residential Construction Index vs. ABI C&I and Institutional, 1996-2015
EE/MI Non-Residential Construction Index vs. ABI C&I and Institutional, 2007-2015
Dodge New Non-Res Contracts vs. EE/MI Non-Residential Construction Index, 1996-2016
Dodge New Non-Res Contracts vs. EE/MI Non-Residential Construction Index, 2007-2016
Commercial Real Estate Lending Standards and Loan Demand, 1993-2016
Commercial Real Estate Lending Standards vs. EE/MI Non-Residential Private Construction Index, 1992-2015
Loan Demand vs. EE/MI Non-Residential Private Construction Index, 1996-2015
AIA Consensus Forecasts, 2016-2017E
Summary of EE/MI, 2Q12-4Q15
Non-Res Construction versus Related Company Revenue Growth, 1Q11-4Q15
Commercial HVAC Orders of Major Players, 2Q08-4Q15
Commercial HVAC Revenues of Major Public Players, 2Q08-4Q15
Key Qualitative Differences between Commercial Unitary and Applied HVAC
Light Commercial Demand and Non-Res Spending Data, 1997-2015
North America Commercial HVAC Market Structure
US VRF Market Units, 2008-2015
Ductless Share of Commercial Market of US, Europe and Asia
Daikin North America Presence (Ex-Goodman), 2009-2011
Daikin Is Targeting Substantial Synergies from Goodman Transaction, 201-2015
Daikin America HVAC Revenues, 2009-2015
Daikin Operating Margin, 2008-2015
AHRI Shipments and EMR Climate Revenues, 2007-2015
Scroll Compressor Market Size, 2008-2015
Scroll Compressor Market Unit Split
Scroll Compressor Market Share (Worldwide)
HVAC Compressor Inverter Technology
China Market Share of Inverter ACs, 2008-2015
North America Control Revenues
Top 10 Smart Thermostat Vendors
Leaderboard Grid Thermostats, 2015
Leaderboard Grid Thermostats, 2013
Smartphone Market Size, 2008-2014
Smart Thermostat Market Units, 2013-2018E
Smart Thermostat Market, 2013-2019E
New/Resale Pulse Installs as % of Total Gross Additions
Refrigerant Comparisons
R-22 Production Allocations, 2015-2020
Estimated R-22 Refrigerant Industrial Average Prices, 1Q13-1Q16
Solstice vs. R32 vs. R410A
Evolution of Refrigerant Regulations and HON Products
Refrigerant Transition Summary
Montreal Protocol Timeline (Global implementation)
Typical Residential HVAC OEM Cost Structure
% of Sales Contribution from Mix, 2004-2015
Total Unit Cost Structure
Fragmented, Two-Tier Distribution System
% of Revenue Impact from Price of IR's Resi and Lennox's Resi, 2011-2015
Steel Prices, 2008-2016
Copper Prices, 1989-2016
Historical Operating Margins of Major HVAC Players, 2005-2015
Key Cost Reduction Metrics for Carrier Restructuring Programs
Summary of Key Actions of Carrier
Key Cost-Reduction Metrics for Lennox Restructuring Programs
Cumulative JCI Building Efficiency Restructuring
Goodman Employees & Floor Space, 2006-2010
Operating Margin Comparison of Major Players, 2007-2015
Gross Margin Comparison of Major Players, 2007-2015
R&D Spending Comparison of Major Players, 2007-2015
Capex/Sales Comparison of Major Players, 2007-2015
Asset Turnover Comparison of Major Players, 2007-2015
Fax Order Form
To place an order via fax simply print this form, fill in the information below and fax the completed form to 646-607-1907 (from USA) or +353-1-481-1716 (from Rest of World). If you have any questions please visit http://www.researchandmarkets.com/contact/

Order Information
Please verify that the product information is correct and select the format(s) you require.

Web Address: http://www.researchandmarkets.com/reports/3774276/
Office Code: SCBRXZVZ

Product Formats
Please select the product formats and quantity you require:

<table>
<thead>
<tr>
<th>Product Format</th>
<th>Quantity</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronic (PDF) - Single User</td>
<td></td>
<td>USD 2700</td>
</tr>
<tr>
<td>Hard Copy</td>
<td></td>
<td>USD 2800 + USD 58 Shipping/Handling</td>
</tr>
<tr>
<td>Electronic (PDF) - Enterprisewide</td>
<td></td>
<td>USD 4000</td>
</tr>
</tbody>
</table>

* Shipping/Handling is only charged once per order.

Contact Information
Please enter all the information below in BLOCK CAPITALS

Title:  Mr □  Mrs □  Dr □  Miss □  Ms □  Prof □
First Name: __________________________  Last Name: __________________________
Email Address: * __________________________
Job Title: __________________________
Organisation: __________________________
Address: __________________________
City: __________________________
Postal / Zip Code: __________________________
Country: __________________________
Phone Number: __________________________
Fax Number: __________________________

* Please refrain from using free email accounts when ordering (e.g. Yahoo, Hotmail, AOL)
Payment Information

Please indicate the payment method you would like to use by selecting the appropriate box.

☐ Pay by credit card: You will receive an email with a link to a secure webpage to enter your credit card details.

☐ Pay by check: Please post the check, accompanied by this form, to:
Research and Markets,
Guinness Center,
Taylors Lane,
Dublin 8,
Ireland.

☐ Pay by wire transfer: Please transfer funds to:
Account number 833 130 83
Sort code 98-53-30
Swift code ULSBIE2D
IBAN number IE78ULSB98533083313083
Bank Address Ulster Bank,
27-35 Main Street,
Blackrock,
Co. Dublin,
Ireland.

If you have a Marketing Code please enter it below:

Marketing Code: _______________

Please note that by ordering from Research and Markets you are agreeing to our Terms and Conditions at http://www.researchandmarkets.com/info/terms.asp