



# ASHRAE ACTION

## ROANOKE CHAPTER NEWSLETTER

([WWW.ASHRAEROANOKE.ORG](http://WWW.ASHRAEROANOKE.ORG))

DECEMBER 2011

### DECEMBER MEETING

**PLEASE JOIN US FOR A GREAT MEETING AT BLUE-5 RESTURANT!**

**Tuesday, December 13<sup>th</sup>**  
Blue-5 Restaurant  
Downtown  
Roanoke, VA

**TOPIC:**  
**ASHRAE 62.1 - Updates and Application**

**SPEAKER:**  
**Patrick Castelvechi**

**AGENDA:**  
Doors open at 11:30  
Meeting/Lunch: 11:45

**RESERVATIONS MUST BE MADE BEFORE NOON on December 12<sup>th</sup> TO Rick Hughes:**

E-mail: [RoanokeASHRAEMeetings@gmail.com](mailto:RoanokeASHRAEMeetings@gmail.com)  
Phone: 540-342-1816

### PRESIDENT'S CORNER

I HOPE THAT EVERYONE HAD A GOOD THANKSGIVING AND GOT A CHANCE TO GET AWAY FROM WORK TO ENJOY SOME TIME WITH THEIR FAMILY.

LAST MONTH WE HAD AN EXCELLENT PRESENTATION WITH HANK JACKSON SPEAKING ABOUT WATER SOURCE HEAT PUMPS. HE DESCRIBED THE DIFFERENT ARRANGEMENTS AND ADVANTAGES OF WATER SOURCE HEAT PUMPS AND WE HAD A VERY INVOLVED QUESTION AND ANSWER SESSION AFTER THE PRESENTATION.

CHAPTER PAST PRESIDENT, PATRICK CASTELVECCHI, WILL BE PRESENTING ON A VERY IMPORTANT TOPIC FOR ALL OF US IN THE HVAC INDUSTRY TO LEARN MORE ABOUT, ASHRAE 62.1. I HOPE THAT EVERYONE CAN MAKE IT OUT TO OUR DECEMBER MEETING. THIS MONTH IT IS ALSO A MEMBERSHIP PROMOTION MEETING AND ANYONE WHO JOINS ASHRAE AT THE MEETING OR HAS JOINED IN THE LAST MONTH CAN ATTEND THE MEETING FOR FREE, SO PLEASE BRING OUT ANY OF YOUR CO-WORKERS WHO ARE NOT ASHRAE MEMBERS.

PLEASE NOTE THAT FOR THE JANUARY MEETING WE WILL BE MEETING WITH THE SHENANDOAH SECTION AT THE EDELWEISS GERMAN RESTAURANT IN STAUNTON VA. ALSO THE ANNUAL ASHRAE GOLF TOURNAMENT DATE HAS BEEN SET FOR APRIL 27<sup>TH</sup> AT ASHLEY PLANTATION.

-KYLE LONGBRAKE  
PRESIDENT  
ROANOKE CHAPTER

### MARK YOUR CALENDERS:



**January Meeting -- January 10<sup>th</sup>**

**Dinner Meeting  
with Shenandoah Chapter  
at EDELWEISS GERMAN RESTAURANT  
19 EDELWEISS LANE  
STAUNTON, VA 24401  
LOCATED OFF EXIT 213 (GREENVILLE EXIT)**

BOARD OF GOVERNORS MEETING @ BLUE-5  
DECEMBER 13<sup>TH</sup>, 11:15

### 2011/2012 Meeting Schedule

September 13 <sup>th</sup>	Lunch	Blue-5
October 18 <sup>th</sup>	Dinner	VT Tour
November 8 <sup>th</sup>	Lunch	Blue-5
December 13 <sup>th</sup>	Lunch	Blue-5
January 10 <sup>th</sup>	Dinner	Staunton
February 21 <sup>st</sup>	Lunch	Blue-5
March 13 <sup>th</sup>	Dinner	Blue-5
April 10 <sup>th</sup>	Dinner	Blue-5
"Student Night"		
May 8 <sup>th</sup>	Lunch	Blue-5
June 12 <sup>th</sup>	Dinner	Lynchburg

## EIA projects world energy use to increase 53 percent by 2035; China and India account for half of the total growth

*International Energy Outlook 2011 (IEO2011)* released today by the U.S. Energy Information Administration (EIA) presents updated projections for world energy markets through 2035. The *IEO2011* Reference case projection does not incorporate prospective legislation or policies that might affect energy markets.

Worldwide energy consumption grows by 53 percent between 2008 and 2035 in the Reference case, with much of the increase driven by strong economic growth in the developing nations especially China and India. "China and India account for half of the projected increase in world energy use over the next 25 years. China alone, which only recently became the world's top energy consumer, is projected to use 68 percent more energy than the United States by 2035." said Acting EIA Administrator Howard Gruenspecht.

Some key findings:

- **CHINA AND INDIA LEAD THE GROWTH IN WORLD DEMAND FOR ENERGY IN THE FUTURE.** THE ECONOMIES OF CHINA AND INDIA WERE AMONG THOSE LEAST AFFECTED BY THE WORLDWIDE RECESSION. THEY CONTINUE TO LEAD WORLD ECONOMIC GROWTH AND ENERGY DEMAND GROWTH IN THE REFERENCE CASE. IN 2008, CHINA AND INDIA COMBINED ACCOUNTED FOR 21 PERCENT OF TOTAL WORLD ENERGY CONSUMPTION. WITH STRONG ECONOMIC GROWTH IN BOTH COUNTRIES OVER THE PROJECTION PERIOD, THEIR COMBINED ENERGY USE MORE THAN DOUBLES BY 2035, WHEN THEY ACCOUNT FOR 31 PERCENT OF WORLD ENERGY USE IN THE *IEO2011* REFERENCE CASE ([FIGURE 1](#)). IN 2035, CHINA'S ENERGY DEMAND IS 68 PERCENT HIGHER THAN U.S. ENERGY DEMAND.
- **RENEWABLE ENERGY IS PROJECTED TO BE THE FASTEST GROWING SOURCE OF PRIMARY ENERGY OVER THE NEXT 25 YEARS, BUT FOSSIL FUELS REMAIN THE DOMINANT SOURCE OF ENERGY.** RENEWABLE ENERGY CONSUMPTION INCREASES BY 2.8 PERCENT PER YEAR AND THE RENEWABLE SHARE OF TOTAL ENERGY USE INCREASES FROM 10 PERCENT IN 2008 TO 15 PERCENT IN 2035 IN THE REFERENCE CASE. FOSSIL FUELS, HOWEVER, CONTINUE TO SUPPLY MUCH OF THE ENERGY USED WORLDWIDE THROUGHOUT THE PROJECTION, AND STILL ACCOUNT FOR 78 PERCENT OF WORLD ENERGY USE IN 2035 WHILE THE REFERENCE CASE PROJECTIONS REFLECT CURRENT LAWS AND POLICIES AS OF THE START OF 2011, PAST EXPERIENCE SUGGESTS THAT RENEWABLE ENERGY DEPLOYMENT IS OFTEN SIGNIFICANTLY AFFECTED BY POLICY CHANGES.
- **NATURAL GAS HAS THE FASTEST GROWTH RATE AMONG THE FOSSIL FUELS OVER THE 2008 TO 2035 PROJECTION PERIOD.** WORLD NATURAL GAS CONSUMPTION INCREASES 1.6 PERCENT PER YEAR, FROM 111 TRILLION CUBIC FEET IN 2008 TO 169 TRILLION CUBIC FEET IN 2035. UNCONVENTIONAL NATURAL GAS (TIGHT GAS, SHALE GAS, AND COALBED METHANE) SUPPLIES INCREASE SUBSTANTIALLY IN THE *IEO2011* REFERENCE CASE—ESPECIALLY FROM THE UNITED STATES, BUT ALSO FROM CANADA AND CHINA.
- **WORLD OIL PRICES REMAIN HIGH IN THE *IEO2011* REFERENCE CASE, BUT OIL CONSUMPTION CONTINUES TO GROW; BOTH CONVENTIONAL AND UNCONVENTIONAL LIQUID SUPPLIES ARE USED TO MEET RISING DEMAND.** IN THE *IEO2011* REFERENCE CASE THE PRICE OF LIGHT SWEET CRUDE OIL (IN REAL 2009 DOLLARS) REMAINS HIGH, REACHING \$125 PER BARREL IN 2035. TOTAL WORLD PETROLEUM AND OTHER LIQUIDS FUEL USE INCREASES BY 26.9 MILLION BARRELS PER DAY BETWEEN 2008 AND 2035, BUT THE GROWTH IN CONVENTIONAL CRUDE OIL PRODUCTION IS LESS THAN HALF THIS AMOUNT AT 11.5 MILLION BARRELS PER DAY, WHILE PRODUCTION OF NATURAL GAS PLANT LIQUIDS INCREASE BY 5.1 MILLION BARRELS PER DAY, WORLD PRODUCTION OF UNCONVENTIONAL RESOURCES (INCLUDING BIOFUELS, OIL SANDS, EXTRA-HEAVY OIL, COAL-TO-LIQUIDS, AND GAS-TO-LIQUIDS), WHICH TOTALED 3.9 MILLION BARRELS PER DAY IN 2008, INCREASES TO 13.1 MILLION BARRELS PER DAY IN 2035 ([FIGURE 2](#)).

Other report highlights include:

- FROM 2008 TO 2035, TOTAL WORLD ENERGY CONSUMPTION RISES BY AN AVERAGE ANNUAL 1.6 PERCENT IN THE *IEO2011* REFERENCE CASE. STRONG ECONOMIC GROWTH AMONG THE NON-OECD (ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT) NATIONS DRIVES THE INCREASE. NON-OECD ENERGY USE INCREASES BY 2.3 PERCENT PER YEAR; IN THE OECD COUNTRIES ENERGY USE GROWS BY ONLY 0.6 PERCENT PER YEAR.
- PETROLEUM AND OTHER LIQUID FUELS REMAIN THE LARGEST ENERGY SOURCE WORLDWIDE THROUGH 2035, THOUGH PROJECTED HIGHER OIL PRICES ERODE THEIR SHARE OF TOTAL ENERGY USE FROM 34 PERCENT IN 2008 TO 29 PERCENT IN 2035.
- PROJECTED PETROLEUM CONSUMPTION AND PRICES ARE VERY SENSITIVE TO BOTH SUPPLY AND DEMAND CONDITIONS. HIGHER ECONOMIC GROWTH IN DEVELOPING COUNTRIES COUPLED WITH REDUCED SUPPLY FROM KEY EXPORTING COUNTRIES RESULT IN A HIGH OIL PRICE CASE IN WHICH REAL OIL PRICES EXCEED \$169 PER BARREL BY 2020 AND APPROACH \$200 PER BARREL BY 2035. CONVERSELY, LOWER ECONOMIC GROWTH IN DEVELOPING COUNTRIES COUPLED WITH INCREASED SUPPLIES FROM KEY EXPORTING COUNTRIES RESULT IN A LOW OIL PRICE CASE IN WHICH REAL OIL PRICES FALL TO ABOUT \$55 PER BARREL IN 2015 AND THEN GRADUALLY DECLINE TO \$50 PER BARREL AFTER 2030 WHERE THEY REMAIN THROUGH 2035.
- WORLD COAL CONSUMPTION INCREASES FROM 139 QUADRILLION BTU IN 2008 TO 209 QUADRILLION BTU IN 2035, AT AN AVERAGE ANNUAL RATE OF 1.5 PERCENT IN THE *IEO2011* REFERENCE CASE. IN THE ABSENCE OF POLICIES OR LEGISLATION THAT WOULD LIMIT THE GROWTH OF COAL USE, CHINA AND, TO A LESSER EXTENT, INDIA AND THE OTHER NATIONS OF NON-OECD ASIA CONSUME COAL IN PLACE OF MORE EXPENSIVE FUELS. CHINA ALONE ACCOUNTS FOR 76 PERCENT OF THE PROJECTED NET INCREASE IN WORLD COAL USE, AND INDIA AND THE REST OF NON-OECD ASIA ACCOUNT FOR ANOTHER 19 PERCENT OF THE INCREASE.
- ELECTRICITY IS THE WORLD'S FASTEST-GROWING FORM OF END-USE ENERGY CONSUMPTION IN THE REFERENCE CASE, AS IT HAS BEEN FOR THE PAST SEVERAL DECADES. NET ELECTRICITY GENERATION WORLDWIDE RISES BY 2.3 PERCENT PER YEAR ON AVERAGE FROM 2008 TO 2035. RENEWABLES ARE THE FASTEST GROWING SOURCE OF NEW ELECTRICITY GENERATION, INCREASING BY 3.0 PERCENT AND OUTPACING THE AVERAGE ANNUAL INCREASES FOR NATURAL GAS (2.6 PERCENT), NUCLEAR POWER (2.4 PERCENT), AND COAL (1.9 PERCENT).
- THE TRANSPORTATION SECTOR ACCOUNTED FOR 27 PERCENT OF TOTAL WORLD DELIVERED ENERGY CONSUMPTION IN 2008, AND TRANSPORTATION ENERGY USE INCREASES BY 1.4 PERCENT PER YEAR FROM 2008 TO 2035. THE TRANSPORTATION SHARE OF WORLD TOTAL LIQUIDS CONSUMPTION INCREASES FROM 54 PERCENT IN 2008 TO 60 PERCENT IN 2035 IN THE *IEO2011* REFERENCE CASE, ACCOUNTING FOR 82 PERCENT OF THE TOTAL INCREASE IN WORLD LIQUIDS CONSUMPTION

## ELECTRONIC NEWSLETTER

Any member with material to submit for inclusion in the monthly newsletter may send the information to:

Rick Hughes  
30 W Church Ave  
Roanoke, VA 24011

E-mail: [RoanokeASHRAEMeetings@gmail.com](mailto:RoanokeASHRAEMeetings@gmail.com)  
Phone: 540.342-1816  
Fax: 540.344-3410

**This is your newsletter. We welcome your contributions and commentary.**

Material can include letters to the editor, member news, upcoming events, comments on chapter programs or issues, etc.

## ATTENTION MEMBERS!

### *INTERESTED IN SAVING MONEY?*

STAR CARDS ARE AVAILABLE FOR PURCHASE. PAY NOW AND **SAVE** LATER!

**\$50.00 STAR CARD** – ADMISSION TO ANY THREE MEETINGS

**\$100.00 STAR CARD** – ADMISSION TO ANY SIX MEETINGS

### *WANT TO SAVE EVEN MORE MONEY?*

IN SUPPORT OF THE SOCIETY GAME (GREENING ASHRAE MEETINGS AND EXPOSITIONS) PLAN, THE ROANOKE CHAPTER WILL OFFER DISCOUNTS ON MEMBERS WHO CARPOOL OR USE ALTERNATIVE TRANSPORTATION TO ATTEND MEETINGS.

**\$2.00** DISCOUNT FOR DRIVING A CARPOOL.

**\$1.00** DISCOUNT FOR ANY OF THE FOLLOWING:

- RIDING IN A CARPOOL
- WALKING
- BIKING
- RIDE PUBLIC TRANSPORTATION
- DRIVE HYBRID VEHICLES
- DRIVE ALTERNATIVE FUELED VEHICLES

BE SURE TO LET **PATRICK MACCORMAC** KNOW IF YOU QUALIFY FOR THE MEETING DISCOUNT WHEN YOU PAY FOR THE MEETING.

## ROANOKE CHAPTER ASHRAE

### **2011– 2012 OFFICERS AND GOVERNORS**

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### **2011 – 2012 COMMITTEE CHAIRS**

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## THIS MONTH'S SPEAKER:

Patrick Castelvechi, PE, LEED AP BD+C, is the Heating, Ventilation, and Air Conditioning (HVAC) practice manager in AECOM's Roanoke, Virginia, office. He has led the mechanical design of 1.2 million square feet of new and existing buildings, including historic, secure, and occupied buildings. His experience includes designing innovative building systems to meet stringent energy and sustainable design requirements, specializing in designing complex collective protection advanced air filtration systems to guard against terrorist threats.

Patrick is a Past President of the Roanoke Chapter of ASHRAE and currently serves as a Governor in the Roanoke Chapter.

Patrick will be a featured speaker at the ASHRAE 2012 Winter Conference presenting an Integrated Design Process for renovating McGinnis-Wickham Hall at Ft. Benning, Georgia, a high-performance building designed to LEED Gold standards.

# HAPPY HOLIDAYS!

# ASHRAE RESEARCH

**MISSION:** TO IMPROVE THE QUALITY OF LIFE AND TO ANSWER TOMORROW'S QUESTIONS THROUGH RESEARCH TODAY.



2011/2012 ROANOKE CHAPTER GOAL = \$9000

2011/2012 REGION 3 GOAL = \$200,000

**THANK YOU TO OUR 2011/2012 YTD DONORS:**

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