Performance with Purpose

The Promise of PepsiCo

AMERICA ATMOsphere

the Business Case

natural refrigerants

Emad Jafa
Director
Equipment Development
Global R&D

PepsiCo Journey
HFC Alternatives
Equipment Sustainability

Agenda

- Performance with purpose
- Current Workstreams
- HFC Free Reasons
- Progress to Date
- Lessons Learned
- HFC Free Challenges
- Next Steps

Introduction

PepsiCo Performance with Purpose

- Performance with Purpose (PwP): delivering sustainable growth by investing in a healthier future for people and our planet.
- PwP includes Performance Sustainability, Human Sustainability, Environmental Sustainability and Talent Sustainability.

❖ **Three Different Systems: R290,R600a and CO2**

44% less energy than baseline

Two HCs Systems:
- **R600a**
- **R290**

51% less energy than baseline

29% less energy than baseline

Pursuing a Dual Strategy: HCs and CO2

Three-Pronged Approach…

Reduce Green House Gas Emission

Energy Reduction

- Establish lower energy targets
- Factor energy in SKU/ supplier consolidation
- Continue to evaluate energy-efficient components
- Energy upgrade as part of refurbishment process
- Alignment with stake holders on energy reduction

HFC Free Refrigerant

- Drive alignment for regional targets for models with “green” refrigerant
- Establish service infrastructure for 100% conversion to Hydrocarbons (HC) in specific regions
- Convert to modular decks to facilitate transition to green refrigerant
- Commitment to CGF and RefNat target
- Started field test 2007
- Focus on both HCs and CO2

External Initiatives

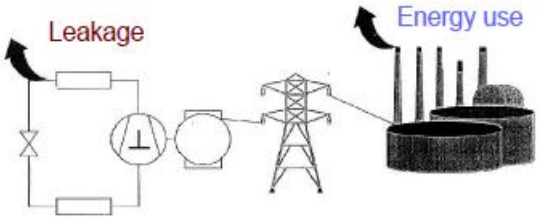
- With Governments for:
  - Alignment on targets
  - Investment & subsidies
  - Public Relations
- With NGO’s:
  - Refrigerants Naturally
  - Consumer Goods Forum
  - Greenpeace
- With Suppliers, Customers

Total GWP:

- 95% Indirect (energy)
- 5% Direct (HFCs)

HFC-Related:

- 75% blowing agent
- 25% refrigerant



Reasons for using HFC Free

Equipment Sustainably is Part of Our Strategic Initiative

- Strategic initiative" Performance with Purpose"
- Equipment is a large contributor to GHG emission
- Regulation and requests from customers….
- Industries migrating to green refrigerants
- It is the "Right thing to do"

All Pepsi Coolers & Venders

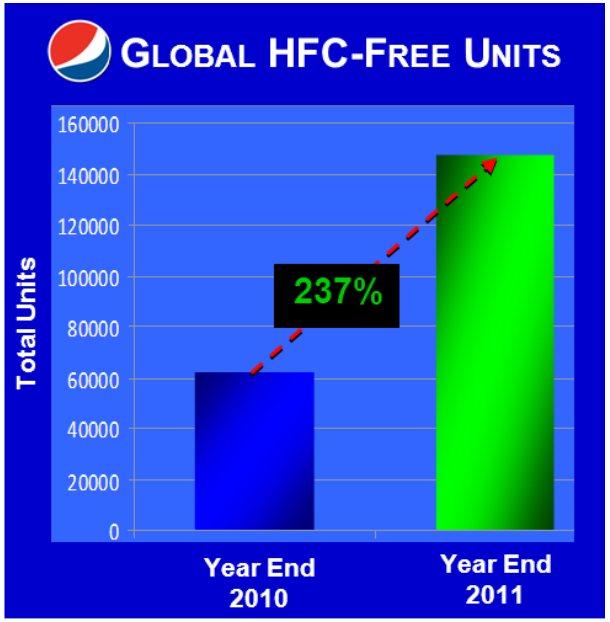
Consume more electricity used annually

All Pepsi Plants Combined

Progress to Date

HFC Free Journey

- First HFC free units in Europe - 2006
- Turkey is 100% HFC Free since 2009
- Russia expanded in large scale on HC in 2010
- CO2 vending machine pilot program in US – 2009
- HC Cooler pilot program in US – 2010
- CO2 Pilot program in Canada – 2010
- Several Pilot programs in emerging market



Established GHG Tool to calculate GHG Emission and Energy Reductions

- Energy reductions of 48% for coolers & 47% for vending equipment for 2011 versus 2004 models.
- Our equipment volumes continue to increase.
- There are over 147,000 HFC free units installed by end of 2011
- Units are placed in more than 24 countries

Lessons learned

- Build infrastructure in one country / region and expand to others.
- Start with Europe; knowledge in HFC free technology and service
- Build alliance with suppliers and work together to build the knowledge base
- Work with the BU and bottlers in order to neutralize the cost
- Establish service manual and training sessions..etc…
- Optimize system and reduce energy during design
  - build the business case for HFC free alternatives
- Focus on all systems HCs and CO2, as we believe, that one size fit all, will not work
- Understand Impact of placement of HFC free alternatives through consumer insight, market research..etc

HFC Free Barriers

Availability
- Components
- System

Communication
- Perception /dangerous
- Understanding /psychological

Suppliers
- Limited Choices Globally
- Experience in one system

Cost
- Acquisition cost
- Repair
- Infrastructure
- End of life cycle
- One solution – All application
- Scale of volume

Equipment Availability
- Charging / Recovery ..etc
- Unique repair system

Infrastructure
- Service Facility
- Training personal/documents

Technology limitation

Legislation/ Regulation

Safety Approval
- Common Standard
- Charge limitation

Challenges & Solutions

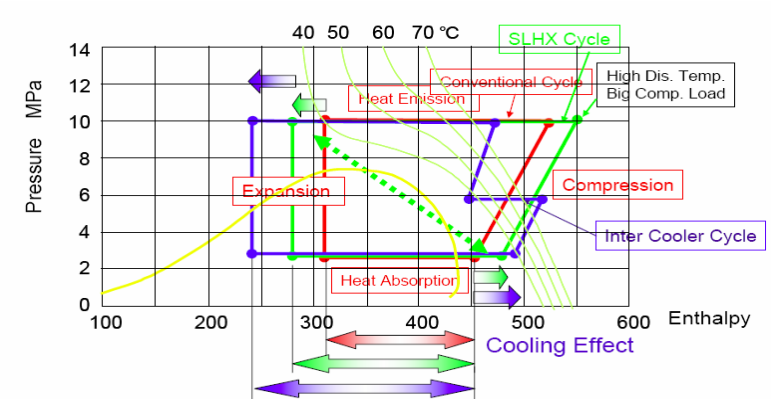
Challenges

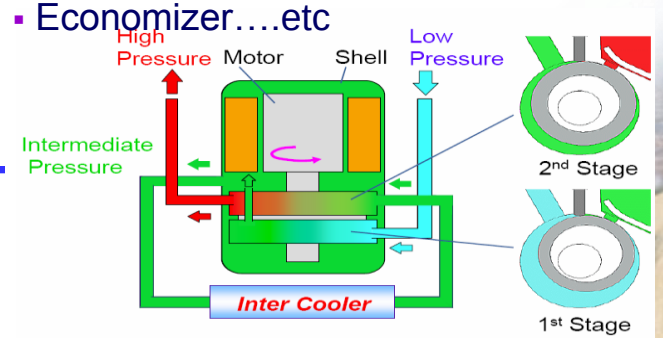
- **HC System (R290, R600a)**
  - Service infrastructure
  - Flammability issue
  - Charge Limitation <150G
  - Not ideal for double and triple door cooler
  - Cost almost same as R-134a or a little more
- **CO2 System**
  - Initial cost of the system still high
  - Performance at high ambient
  - Mass production for system components

Abatement plans

- **HC system**
  - Bottlers training
  - Spread awareness and knowledge
  - Regulations approved HCs for US market
  - HC has been used for years in EU
  - Optimize charge and design

- **CO2 System**
  - Cost will go down - components in mass production and demand increases
  - Double stage compressor
  - Economizer….etc





Next Steps

- Focus on Barriers
- Address barriers based on region by region
- Optimize system charge; explore the technology
- Work in different workstreams to lower the cost: Design, sourcing..etc
- Reduce the risk of serviceability; modular refrigeration deck…etc
- Build service infrastructure model; In-house vs. sourced

Questions?

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Thank You For Your Time