The Delicate Balance Between Energy Development and the Environment: Is there a Middle Ground?
Panel Discussion and Q & A

Speakers:
- Mark Safty, Partner, Holland & Hart
- Robert Duffy, PhD, Professor, C.S.U.
- Len Broberg, PhD, Professor, UM
- Bob Seidenschwarz, Chairman, MT World Affairs Council

Sustainable Development: A Complex Question
- It takes...
  - Dedicated attitude
  - Critical Thought
    - Paper or plastic?
      - What are you going to do with it when you get it home?
    - Waterless urinals?
    - A well for water
  - The planet will be fine; we just might not be here to see it.
  - We have to be good stewards of the world.

Environmental Movement:
- Intersects Energy and Recreation
- Focus on technical issues
  - Engagement is possible!
    - Strong issues we need to work on together
      - There’s a significant decrease in coal generation.
      - Coal & fossil fuels will still continue to play a role in the energy sector
      - There are extensive coal plants in Asia
        - How can we provide them with alternatives?
**Finding a balance isn't easy**

- We must seek a middle ground
- It’s a political issue. The public must decide.
- Businesses only do what they’re forced to
- 1.3 Billion people have 0 access to electricity
  - Expected to change by 2030
    - Huge carbon implications
  - Shift to living in urban areas
    - People will have to take responsibility
- Who has water?
- Coal money influences politics
- We don’t know what to do with nuclear waste
  - We need the technology to store it.
- Solar is scalable and reliable

**Questions and Answers:**

- Can we increase carbon fee on all fuels and give revenue back to people?
  - Money would likely pay political taxes
  - Americans hate tax
- Where is the level playing ground? Is time running out?
  - We can still make a difference
  - Must get Humans to fix the problem. They created it
- Young people are optimistic and want to make a difference.
Global Energy Transportation and Infrastructure

Speakers:

- Steve Bobb, Executive VP, CMO, BNSF
- Bill Brodsky, Chairman, MT Rail Link
- Tim Fox, Attorney General, MT

Steve Bobb:

- MT is a key producer of goods and connector of transport
  - Export $200 m to Korea
- We must have an efficient, reliable transportation system
  - Expanded capacity projects
    - Invest in ports and dams
    - More track
    - More investments
    - Great Northern Corridor
      - Efficient access
      - High volume through region and terminating in region
      - Demand of transportation grows with population
- BNSF operates 1600 trains a day
  - 2014 safest year in history
  - They connect customers and geography
- They must be flexible in market-place
  - Add capacity and support growth
  - In Montana, Success from...
    - Regional cooperation
    - Good permitting process

Bill Brodsky

- Railroads play a critical role in energy transport
- Rail Link has grown significantly in Montana
- Regional railroads in MT work very well
  - Take advantage of our double tracks that already exist
  - Stay one step ahead of traffic
  - Round the clock inspections
  - In good shape for the future
  - Increasing efficiency in coal transport on west shore
  - Railroads are a growth industry
  - Safety is their priority
- Canada B.C. plays a critical role in future

Tim Fox

- Today railroads are the backbone of commerce
Railroads helped build this country!
Coal trains are important business in Montana
  ▪ Demand remains strong
• Montana’s reach spans the globe
  ▪ MT’s export economy creates jobs and benefits around the world
• Export terminals link MT to access to the global economy
• Gateway Pacific terminal is in draft phase
  ▪ Columbia River and Oregon would provide transport by river to deep water port
  ▪ Permit in process
  ▪ Will stopping it violate commerce laws?
• Keystone pipeline is a Montana success!

Questions and Answers:
• What about coal dust?
  ▪ Not a significant danger
  ▪ Found ways to prevent it from releasing
• What about the keystone pipeline?
  ▪ Moves crude to one place
  ▪ Rail and pipeline both play valuable role
  ▪ Cross rivers with pipeline safely
How Montanans View Energy

Speakers:
- Pat Barkey, PhD, Director, Bureau of Business Economics, UM
- Jim Jensen, Exec. Dr. MT Environmental Info Center
- Travis Kavulla, Commissioner, Public Service Commission

There are many perspectives on how Montanans view energy
- Energy business
  - Require a social license to operate
- How people feel matters
  - But it depends on who and how you ask
    - Are you asking voters?
      - Republicans?
      - Democrats?
    - What type of questions
    - Phone survey will represent older, retired people
    - Where people live in the state matters too
  - Things we’ve found from our own surveys:
    - People require subsidies
    - General public has different concerns
    - How Montanans feel about economy
      - Disappointed
      - Business people feel it could be better
- Problem in Montana:
  - Addicted to coal
  - Denial about what future of coal is
  - We must accept this reality of addiction and denial
    - The planet depends on it
- 2013 Poll:
  - MT favors wind power
  - Renewable energy will create jobs
  - Support use of renewable energy
  - Over ½ of Montanans will pay more for renewable energy
  - US should address climate change
  - Montanans care about the environment
    - And they’re willing to do something about it.
  - We have to get beyond coal
    - Coal is not more reliable or less expensive
- Political Issue
  - Money and coal affect politics
  - Need common product definitions
In electricity sector too
- Senate Bill 402
  - Keeps people employed
  - Environmental concerns
- EPA Bill
  - Will have very little impact
- Montana needs to improve how we run our electric grid
- Winning debate on science does not win debate on policy

Questions and Answers:

- How can we maximize on MT resources?
  - Need tax credit to create a level playing field for renewables with fossil fuels
  - In current policy, renewable energy comes 2nd to jobs
- How can we improve Montana’s energy literacy?
  - Invest in education at all levels
- Most helpful policy?
  - Renewable Portfolio Standards
    - We have them to acquire lower cost resources and efficiency
  - Carbon tax
- Is energy policy impacting people in MT?
  - Very different in different parts of state
    - Consider when polls were taken & economy of that year
  - Energy literacy is low in western part of MT
  - Small business owners—happy
  - Fixed income retirees—not happy
Looking to the Future of Global Energy

Speakers:

• The Honorable Jin Park, PhD
• Robert Vigfusson, PhD
• The Honorable Rob Merrifield
• The Honorable Jim Geringer

Projected Impact on Asia

• We’re at a historical turning point
  o US & Asia can have win-win relationships
• We need a bigger investment in technology
• Promote our network on nuclear safety
  o Work with U.S.
• Energy security = economic security
• Supply, demand, and resources are in different places
• Ability of getting wind energy to market is a challenge
• Water availability and consumption
• Endangered species impact production of energy
• Growing income, demand, and population
• We all benefit when we each benefit
  o We rely on each other
• Korean oil demand increased with income, then plateaued
  o Chinese oil demand is increasing with income. Where will it plateau?
    ▪ How much will China use in 2015?
    ▪ Creativity is most important factor
      • Creative policy on demand side
      • Creative applications of technology
• We have more knowledge today than ever
• We are allies. Let’s work together to be collectively self-sufficient

International Trade:

• Energy Security
• Food Security
• Problem: Infrastructure
• How do we double the amount of energy in next 30-40 years?
  o Must be here or we won’t be in energy business for long
    ▪ First in class
    ▪ Price on carbon
    ▪ Carbon storage
  o Judge coal by what it could do
Global environmental change in energy and Asia

- Impacts on Energy in Asia:
  - Impact of US Shale
  - Policy of Obama to Asia
  - Influence of China
    - Largest oil consumer in the world
  - Middle East
    - We hope to see it stabilize and diversify
  - Japan
    - Nuclear power safety
  - Russia
    - Wants to re-orient from Europe to Asia
  - Political implications
    - We want a stable environment for transport
    - People need to trust price signals
      - Shift consumption
    - Ocean transport is least expensive
    - Energy aspects/consumption are important in relations with N. Korea
  - Move to:
    - Information sharing
    - Technology sharing
    - Nuclear technology sharing
  - Water consumption
    - Recycle/retreat in shale/gas production
    - Reduce in AG production
    - Reduce personal consumption

Questions and Answers

- Why not promote energy cooperation with U.S.?
  - Public is demanding that we develop green
- China & Korea are becoming inseparable.
  - Need to jointly develop renewable energy.
Future of Northwest Regional Energy

Pat Smith, Northwest Power & Conservation Council
- 1980 Northwest power act
  - States involved in energy planning in N.W. U.S.
  - Future electricity must be cost effective
  - 62% of PNW met with Energy Efficiency
  - Load met
  - 2013 targets met
    - Energy efficiency 2\textsuperscript{nd} largest resource
    - Enough electricity to serve all of Oregon
  - Solar is growing
  - We’re actively looking for partnerships
  - We need a diverse portfolio

Travis Kavulla, Public Service Commission
- Demand decline in electricity
- Increase in supply
  - Because of Government mandates and policies
- Retail price to consumers going up steadily

Laura Anderson, DEQ Energy
- Wind farms have brought economic growth
  - Expect to continue to see growth
- Continuing to expand Hydro in Montana
- Solar prices falling
  - Expect more solar farms
- We work collaboratively with other agencies to manage our natural resources

Robert Rowe, CEO, Northwestern Energy
- Most of what we produce we export
  - We are a large, important state in energy
- We need broader borders for energy
- Developing renewables
  - Operational integration
  - Diversity in portfolio
    - Hydro
  - Right resources to meet customer needs
  - Regulations need to treat everyone fairly
  - Open access
    - All ideas welcome
  - Send the right price signals to consumers
Senator Cliff Larsen

- Cost effective energy is our #1 option
  - Hydro + wind = 70% of assets in MT
  - Fundamentally changed our portfolio

- Stewardship
  - Miles of gas and electric systems
  - We take stewardship seriously
  - We all have a role in infrastructure and service

- What is Montana’s Role in climate change?
  - Clean power plan
  - Increase energy efficiency
  - Use state and federal resources
  - Montanans feel a state of urgency about climate change

- This conference was about education
  - We share a common love for our:
    - State
    - Environment
    - Community
    - Economy
  - Role of University:
    - Foster in-depth discussion
    - Engage faculty and community