

# **ICT Carbon Credit Ecosystem Creating New Wealth North America**

**Presented to PROMPT  
Montreal, Quebec, Canada  
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The  
Insight  
Research  
Corporation

- Average annual loss in productivity in USA due to power disruptions is \$80 Billion
- North America will need to add 758,000 MW of additional electrical power capacity at a cost of \$1.6 Trillion thru 2030 to meet projected demand
- Demand for power will outstrip supply. Compounding the imbalance, renewable power and nuclear energy will be less than 30% of the projected demand by 2010.
- Clean energy sector will not appreciably impact imbalance in near term
- Approximately 10% of all Supply Side Management (“SSM”) infrastructure is constructed to meet peaks in demand occurring 3-5 days/80 hours per year.
- Ten percent of all forecasted infrastructure capital expenditures (“CAPEX”) or over \$10 Billion, is addressing peaks in demand occurring 80 hours per year or less than 1% of the time.

- As power demand-supply imbalance continues, greenhouse gas emissions will rise. To meet increased demand and avoid service disruptions, grid operators and utilities have increased supply side capacity by constructing more power plants (some cases fossil fuel) and more transmission and distribution lines
- Americans lose 214 minutes of power per year. In Europe figure drops to 70 minutes in UK; 53 minutes in France; Japan averages 6 minutes in lost power per year.
- Electrical power demand will rise 40%+ by 2030. Coal produces 52% of USA electricity.
- Generating 1 million BTUs requires \$9 in fuel oil; \$6 in natural gas; and only \$1.85 in coal.
- Current power transmission and distribution is inefficient. Some estimations indicate power generation loss from plant to retail customer are as high as 30%

- **Where do we stand?**

- Infrastructure is aged critically beyond its depreciable lifecycle. Transportation Industry alone will require \$200 Billion.
- Need to recycle 100 Million tons of ICT gear
- Contend with the North American portion of 29 Billion+ MtCO<sub>2</sub> greenhouse gas emissions worldwide.
- Must make capital expenditures of nearly \$1.6 Trillion to generate, transmit, and distribute necessary power consumption forecasted for next twenty years
- Need to convert \$1.6 Trillion (much as we can) to Renewable Energy
- **What do we do, starting tomorrow?**

- Implement GREEN Communications Portfolio
  - Comprising over 50 technologies, services in a product roadmap
- Utilize the INSIGHT GREEN Communications Model
  - Algorithmic model combining over 60,000 variables
  - Model enables detailed insight into the environmental impact from telecommunications technologies and solutions
  - Baseline year for both the Carbon/GHG data and telecommunications revenue and subscriber data is 2007
  - Flexible and powerful tool that can be customized for any service provider's target market providing estimates of environmental impact of similar service offers

- GREEN Communications may potentially reduce GHGs by
  - 376 Million metric tons through 2008
  - 1.2 Billion metric tons in 2013
  - Forecast average carbon credit will approximate US\$21.50 per metric ton (1 carbon credit = 1 MtCO<sub>2</sub>)
  - **ICT Industry can contribute a yearly 23%-30% GHG emissions reduction**
  - Value of carbon credits (trades) to businesses and consumers has potential to act as an incentive to adopt GREEN Communications solutions

- If GREEN Communications Portfolio is widely implemented, it holds potential to create carbon credit valuation of \$153 Billion
- Furthermore, within North America, Demand Side Management (“DSM”) solutions have potential to offset \$6 Billion per annum in projected power plant generation, transmission and distribution (“T&D”) CAPEX
- Conservatively, given that large investments will be required, ICT Participants generally, and Service Providers, specifically, thru GREEN solutions may reduce GHGs by a minimum 20% across all five markets segments
- Twenty percent GHG Emissions Reductions suggests \$153 Billion in carbon abatement accrued to the US and Canadian economies
- ICT Participants form the ICT Carbon Credit Ecosystem

- Chipset/Sensor Device Manufacturers
- Network Edge Access Device Manufacturers
- Software Applications and Services
- Network Equipment Providers
- Consumer, Enterprise Marketing Behavior
- Carbon Offset Standards Bodies
- Systems Integrators
- Carbon Climate Registries/ Exchanges
- Service Providers
- Independent Third Party Audit & Compliance

- Market segments can expect to accrue the financial value attached to GHG ER on an annualized basis thru use of certain GREEN Communications solutions
- Next slides depict scenarios for additional ICT impact areas
- Enterprise
  - Average Carbon Footprint 50,450 MtCO<sub>2</sub>
  - Carbon Value \$21.50
  - GREEN Communications GHG Reduction Value \$542,000
- Commercial Real Estate
  - Average Carbon Footprint 79,800 MtCO<sub>2</sub>
  - Carbon Value \$21.50
  - GREEN Communications GHG Reduction Value \$772,000
- Small Medium Sized Businesses (“SMBs”)
  - Average Carbon Footprint 6,045 MtCO<sub>2</sub>
  - Carbon Value \$21.50
  - GREEN Communications GHG Reduction Value \$51,000
- Small Office Home Office (“SOHO”)
  - Average Carbon Footprint 71 MtCO<sub>2</sub>
  - Carbon Value \$21.50
  - GREEN Communications GHG Reduction Value \$530
- Consumer
  - Average Carbon Footprint 20 MtCO<sub>2</sub>
  - Carbon Value \$21.50
  - GREEN Communications GHG Reduction Value \$130

## ❑ Opportunity Costs

- Market share likely to be negatively impacted
- No incremental growth in revenue
- No clear differentiation between ABC Company and competitors
- Forgoes new and extended product/services roadmap
- Little incremental growth in market share, margins, customers
- Window of opportunity closes for first mover advantage

## ❑ Brand Equity

- Brand equity diminished as opportunity passes

## ❑ Corporate Social Responsibility (CSR) Value

- Decline in shareholder value
- Decline in stakeholder value
- Decline in community relations

## ❑ External Markets and Impact

- Takes a hit in Domestic and Global MRM Solutions, GPS, GIS, Presence and Location Services
  - MRM Field Force Management
  - MRM Field Service Management
  - MRM Field Asset Management

## ❑ Opportunity Costs

- Market share likely to remain neutral
- Modest incremental growth in revenue
- No clear differentiation between ABC Company and competitors
- Forgoes new and extended product/services roadmap
- Little incremental growth in market share, margins, customers
- Window of opportunity closes for first mover advantage

## ❑ Brand Equity

- Brand equity diminished as opportunity passes

## ❑ Corporate Social Responsibility (CSR) Value

- Slight increase in shareholder value
- Neutral in stakeholder value
- Small gain in community relations

## ❑ Markets and Impact

- Neutral in all business markets
- Neutral in Carrier Vertical
- Neutral in all global regions (Americas, EMEA, APAC)

## ❑ Opportunity Costs

- Market share likely to increase
- Incremental growth in revenue
- Clear differentiation between ABC Company and competitors
- Adoption assumes new and extended product/services roadmap
- Incremental growth in market share, margins, customers
- Opportunity gained with first mover advantage

## ❑ Brand Equity

- Brand equity increases with first mover advantage

## ❑ Corporate Social Responsibility (CSR) Value

- Increase in shareholder value
- Increase in stakeholder value
- Gains in community relations

## ❑ Markets and Impact

- ❑ **Opportunity to be the frontrunner in Presence and Location incorporating Carbon Credits into Offerings including/excluding Carrier Channels**
- Growth in all Domestic and Global MRM Solutions, GPS, GIS, Presence and Location Services
  - MRM Field Force Management
  - MRM Field Service Management
  - MRM Field Asset Management
  - Growth in Carrier Vertical Worldwide

- **Carbon Credit** - Kyoto created a marketplace for permits which give the bearer the right to emit one Mt CO<sup>2</sup>
- North American Carbon Credit Exchanges
  - Chicago Climate Exchange. Voluntary and trading now.
  - NYMEX Green Exchange. Voluntary and trading now.
  - Montreal Climate Exchange
  - Alberta Exchange
- US GREEN Carbon Initiatives
  - State of California Air Resources Board
  - Western Climate Initiative
    - Several US western states, Canadian provinces, certain Mexican states
  - Regional Greenhouse Gas Initiative
    - Several American Northeastern and Middle Atlantic States, various Canadian provinces
  - US Mayors Climate Protection Agreement
    - 600+ cities, representing over 50% of 305M US population committed to reducing carbon by same reductions consistent with Kyoto Protocol Treaty
  - C40 Cities Summit

- Carbon Credits may act as a further incentive for an organization/ household to consider adoption of GREEN solutions.
- Carbon Credits: Enticing households, consumers, small medium sized businesses (“SMBs”) and Enterprises to buy services that reduce carbon footprint
  - Exchange traded volume tripled in last year, 2007
    - \$64 billion in carbon credits including US exchanges (Source: Carbon Finance Magazine)
  - US Trading Permits may exceed \$1 trillion by 2020 (Source: New Carbon Finance – May 2008)
  - \$5.18 billion in new venture capital invested into green technology in 2007, an increase of 44% over prior year
  - Opportunity: Worldwide \$613 billion by 2013.
  - Opportunity: Worldwide \$21.50/Mt CO<sup>2</sup> average value of 1 carbon credit by 2013

- **Deliver Environmental Triple Play**
  - Lower overall carbon footprint
  - Power Consumption
  - Extend End of Product Lifecycle
  
- **GREEN Communications Technology initiatives deliver 2 critical factors for Service Provider success:**
  - Increase Network Capacity Utilization Rates
  - Increase Market Demand for Products/Services by end-user Market Segments
  
- **Average Savings of Green Buildings**
  - Energy 30%
  - GHG 35%
  - Water 30%-50%
  - Waste Cost 50%-90%

- **ICT Carbon Credit Ecosystem**
  - Establish new Cross-Border Carbon Credit Trading System, a quasi-ETRM System combining computing, bandwidth, power consumption, carbon offsets, with anytime anywhere universal information access demand.
- **Florida Atlantic University**
  - New additional signatory to the Green IT MoU joining initial signatories: UCSD; UBC, PROMPT
  - Assist in creating new Carbon as a Service (“CaaS”) Application(s). Intellectual Property and Rights Management
- **Mayors’ Alliance for Green Schools**

- **Mayors' Alliance for Green Schools,**
  - Organization formed by US Green Building Council in partnership with US Conference of Mayors
    - Under the Build Green Schools Program ([www.buildgreenschools.org](http://www.buildgreenschools.org))
      - Clinton Global Initiative's K-12 Greening Program will support this effort
  - **St. John's Jesuit High School, Toledo, Ohio**
  - New signatory to the Green IT MoU. Partner with a Quebec based high school (TBD) to collaborate on
    - LEEDS standards for respective schools
    - Recommend, research, map, and report Zero Carbon Footprint. Register and potentially join Chicago/Montreal Climate Exchanges.
    - GREEN Communications Facilities/Building Management Solutions

- **ICT Carbon  
Credit  
Ecosystem  
Creating  
New Wealth  
North  
America**

- **Who Gets  
the Carbon  
Credit?**

Please visit the Insight Research Web Site at <http://www.insight-corp.com> for more information about Insight.

- ❑ Link to “Market Research Reports” to search our report database. See Communicating GREEN: Telecommunications Value in Promoting Environmental Improvement, 2008 – 2013 <http://www.insight-corp.com/reports/green08.asp>
- ❑ Visit “Custom Research Services” to learn more about our custom research capabilities.
- ❑ Join our “NewsFirst Telecom” email newsletter service for free.