

Energy Stakes & Links in Rural Places



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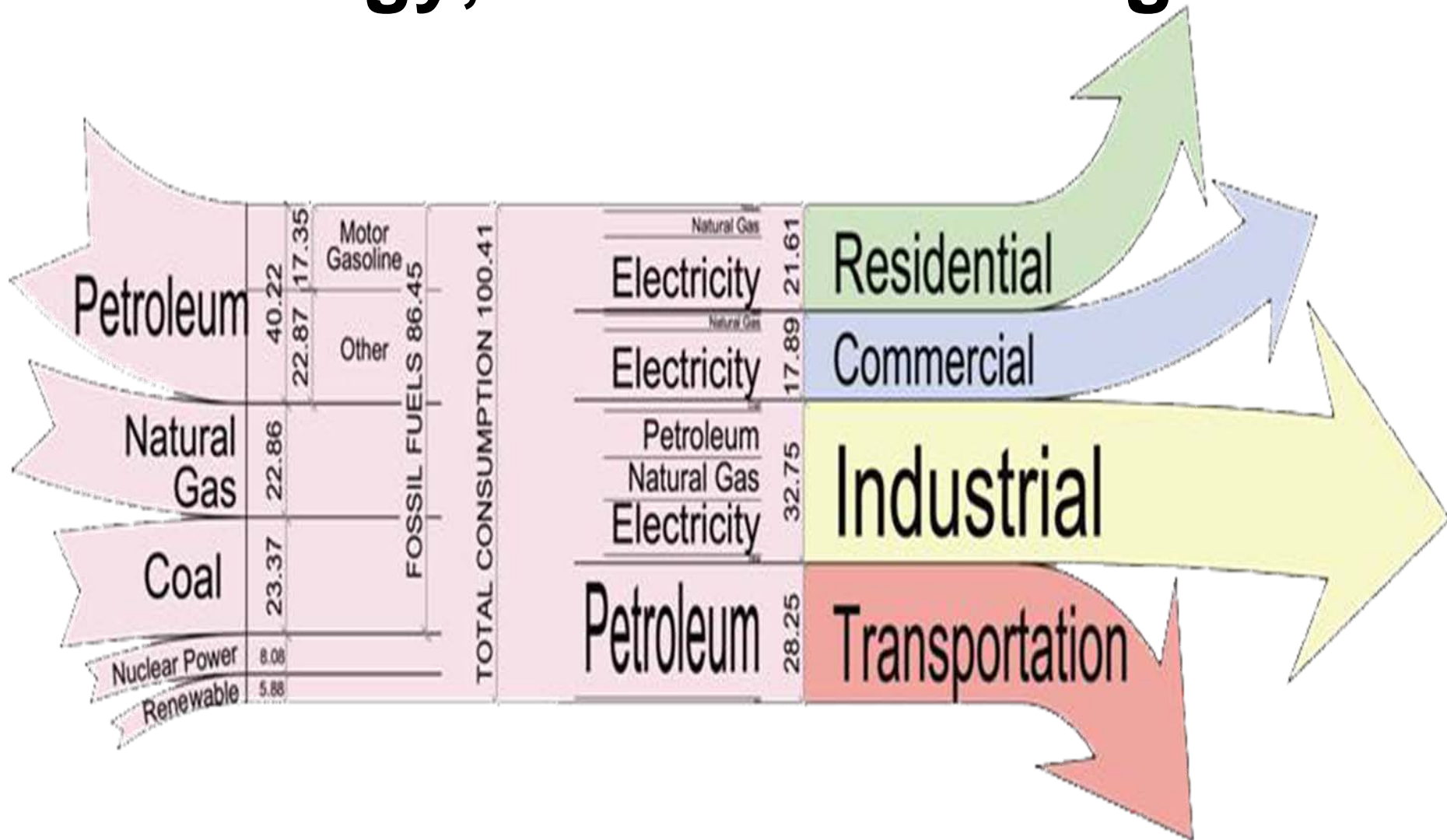
Outline

- **Background**
 - The overall energy challenge and opportunity
- **Approach**
 - Defining and achieving program prospects
- **Partnering**
 - How SEOs can gain program leverage and cost-effectiveness

Challenges, Opportunities

- **Major energy stakes** have been well defined, and seem to be raised about monthly
 - **Energy costs** wheeling out of historical control
 - “Forever cheap” mentality = use it freely
 - Rapid escalations threaten livelihoods and lifestyle
 - Wrenching issues now: cost, reliability, resource longevity, impacts
 - **Growing efforts** to capture “new” energy resource values are still in their infancy, e.g.,
 - Solar, Wind, Geothermal, Biofuels, and Carbon
 - **20% rural slice** too important to ignore

Buildings, at 40% of primary energy, an attractive target



Approach: Raise the Program Bar

- **Go for more** in existing buildings
 - Large savings possible & critically needed
 - 80% (EE/RE) new goal of experts (NRDC, ACI)
 - SWEEP EE: 50%, w/ 8-year payback (see REEP)
- **SWEEP Specifics**
 - **25% from low-cost/no-cost** (mainly behavior)
 - 5%-10% each CFLs & simple air sealing (see Big List)
 - 10%-20% smarter use of HVAC and electronics
 - **25% from investment-grade measures**
 - 5% further air sealing
 - 10%-15% each added insulation & upgraded appliances & equipment

More specifics: C-E-D-A-R

- Our short-hand term for a logical order to using energy more wisely:

Conservation

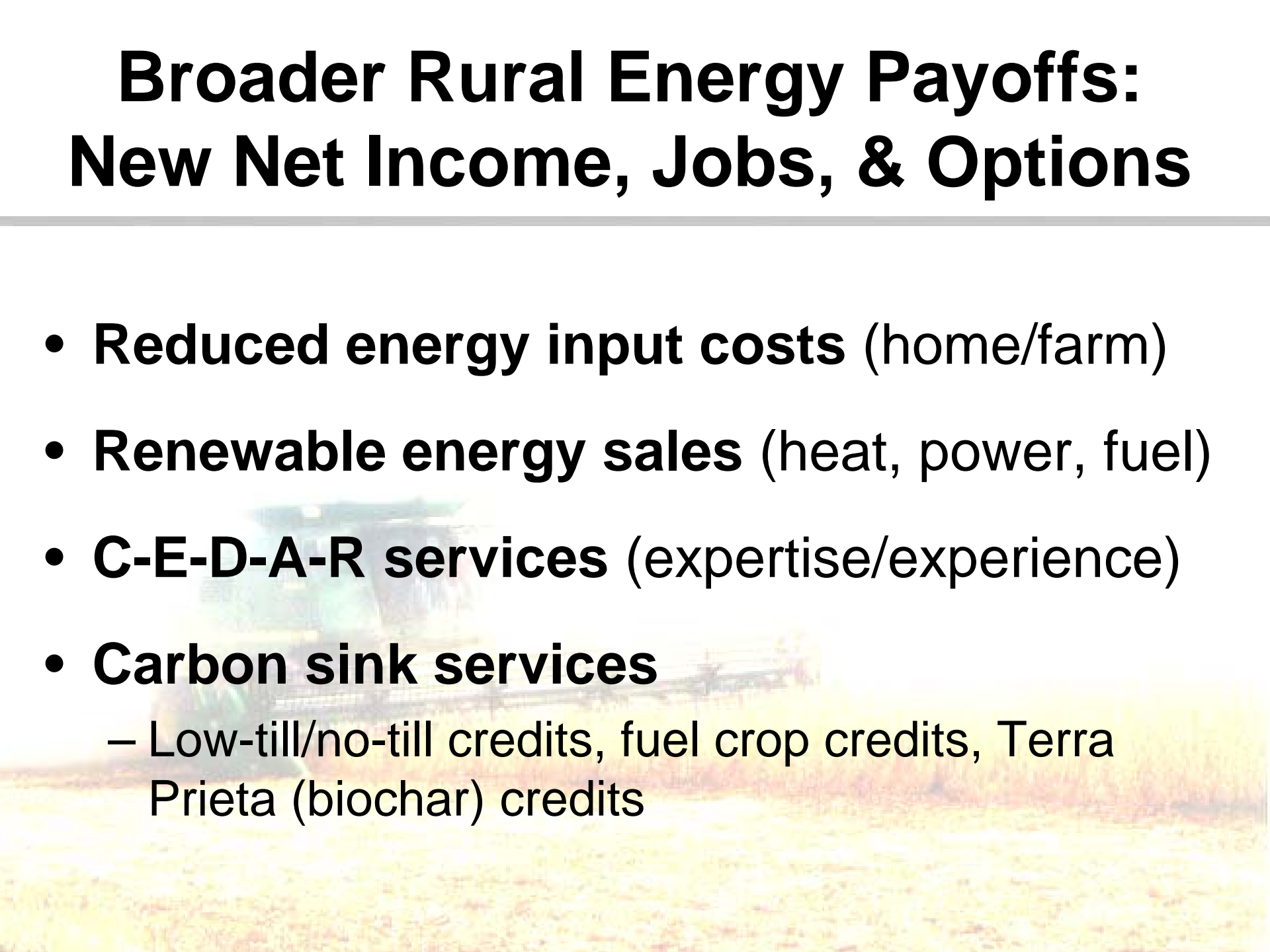
Efficiency

Demand response (for power)

Aggregation (on-site synergy, multi-site adders)

Renewables

Broader Rural Energy Payoffs: New Net Income, Jobs, & Options

- **Reduced energy input costs** (home/farm)
 - **Renewable energy sales** (heat, power, fuel)
 - **C-E-D-A-R services** (expertise/experience)
 - **Carbon sink services**
 - Low-till/no-till credits, fuel crop credits, Terra Prieta (biochar) credits
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National Need: Deep Energy Savings Demos

- **McKinsey: aggressive energy programs** can level electric demand growth through 2020
- **SWEEP's 2009 Rural Program Proposals**
 1. **Home Energy Action Workshop**
 - Evolving utility's information-only seminars into expert-guided deep (50%) energy savings programs for farmsteads
 2. **Zero Demand Energy Retrofit**
 - Addressing utility's real concern, and paying for deep energy savings programs w/ savings at peak
 3. **Town Energy Blanket**
 - Small-town energy blitz: all get a deep energy savings retrofit as alternative to shut-out or very expensive dribs & drabs

Connecting with Rural Partners

- **Residents**
 - Innovators/Early Adopters will pay large part of costs
- **Utilities**
 - Where C-E-D-A-R cost is lowest, interest will follow
- **NGOs**
 - SWEEP and others in Southwest, many other regional
- **Workforce Advocates**
 - C-E-D-A-R: huge rural job growth engine over next 10 years
- **Local Champions**
 - E.g., RC&Ds, EDCs, private sector
- **Feds**
 - New administration = very large national investments

Interesting Issues

- **Aesthetics**
 - Clothes lines, solar panels, wind walls, “shiny” windows
- **Powering your farm with your car at peak**
 - E.g., Night recharge w/ cheaper wind power (High Plains)
- **Improving IAQ while reducing air leakage**
 - E.g., VOCs, Moisture, Combustion Air
- **Structural concerns** from added thermal mass
 - E.g., Where to put 8-16 tons of water
- **Reduced water** use impacts
 - E.g., Drainage and septic systems ok?

Summary

- **Great opportunities** exist with rural programs
- We'll see **overall energy savings** in these buildings of **50%** or more
- **Significant and broad economic payoff** can be expected in rural income and jobs
- **Many potential rural partners** are able and willing to help
- **SEOs are key** to capturing the huge potential

A photograph of a field of sunflowers. In the foreground, a wire fence runs horizontally across the frame. The sunflowers are in various stages of bloom, with bright yellow petals and dark brown centers. The background is a soft-focus field of more sunflowers under a bright sky.

Thanks for your attention

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