

Costs	
... of Capping Carbon	... Of Climate Disruption
<p><u>DEQ & E3 2017 Analysis of “Market Approach”</u></p> <ul style="list-style-type: none"> • 16 modeling scenarios for OR C&T • GDP effect -0.08% to +0.19% (vs. historical OR GDP swings from -1.5% to +10.9%) • Jobs impact from -0.07% (-1543 jobs) to +0.32% (+6578 jobs) <p><u>PSU Study 2013</u> <u>When revenues returned to economy:</u> (per 2013 PSU analysis of \$60/ton carbon price / Scenario C)</p> <ul style="list-style-type: none"> • Positive job growth (+7000 jobs) • Positive labor income growth • Slight reduction in output (- 0.3%) • Distributional issues (but scenario includes revenue set-asides for low income and at-risk industry; and effects further mitigated if neighbors – CA, WA, BC – adopt comparable GHG regulation.) 	<p><u>In Oregon</u></p> <ul style="list-style-type: none"> • 2018 Wildfire: \$100 million (ODF/USFS 40/60 split) for firefighting; plus community economic losses (e.g., \$5 million wheat farmers’ loss to Stateline fire) • 2017 Wildfire: \$51 million in lost tourism revenues (e.g., Ashland Shakespeare and Sisters Folk Festival smoke-caused cancellations) • Growing risks to OR: <ul style="list-style-type: none"> • agriculture (\$4.8 B) • ocean fisheries (\$200 MM) • tourism (\$11.8 B/150,000 jobs) • public health • infrastructure (2800 road miles in 100-yr flood plain; rebuild costs \$250K to \$500MM/mile)
<p><u>CA/WCI Carbon Cap; Regional GHG Initiative (RGGI)</u></p> <ul style="list-style-type: none"> • Allowances auctioned 2012-2018 • Auction prices: \$10/T to \$15.31/T • CA gets more “clean energy venture capital” than all other states combined • CA and RGGI state economies growing faster than national average • RGGI electricity <i>rates</i> down 1% (nat’l average down 2%); but \$220 MM customer <i>bills reduction</i> beats national averages (2015-17) 	<p><u>Nationally/Globally</u></p> <ul style="list-style-type: none"> • 2017 Extreme Weather/Fire: \$160B loss (MunichRe) • 2018 Paradise CA / “Camp Fire”: \$16B loss & 86 lives (200 miles from CA/OR border) • 2018 Natl Climate Assessment estimates climate-driven losses of 1% to 10% loss in US GDP by 2100 . . . identifies agriculture, manufacturing, supply chains, trade at risk... \$ billions to relocate infrastructure
<p><u>Utilities and Industry</u></p> <ul style="list-style-type: none"> • Wind (-67%), solar (-86%) costs down since 2000; lower than new gas, coal generation • New electric vehicles available at ± \$35K; with lower life cycle (fuel + service) costs • New carbon-efficient process options for cement, aluminum production • World Bank estimates that effective climate fixes (e.g., clean energy) would add \$1.8T to \$2.6T to global GDP 	<p><u>Utilities and Industry</u></p> <ul style="list-style-type: none"> • PG&E (North CA) facing bankruptcy from utility-assisted wildfire; delivering rolling blackouts to customers • Other bankrupted utilities from extreme weather: Entergy (New Orleans), ExGenTexas Power (Houston) • Fed Reserve/Richmond finds climate change depresses overall US GDP growth rate, with negative impacts to housing, services, finance, insurance