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Brush and Forest Residuals Baler



***Baling Fireline and WUI Fuels
Reduction Woody Biomass:
Alternative to on-site Chipping***

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U.S. DEPARTMENT OF
ENERGY | Office of ENERGY EFFICIENCY
& RENEWABLE ENERGY
BIOENERGY TECHNOLOGIES OFFICE

Problems with on-site chipping of fireline debris

- Labor intensive
- Ties up skilled crews
- Precludes opportunity for beneficial use off-site



Problems with on-site chipping of wildfire protection and fuels reduction materials

- Noise and dust
- Ties up skilled crews
- Precludes opportunity for beneficial use off-site

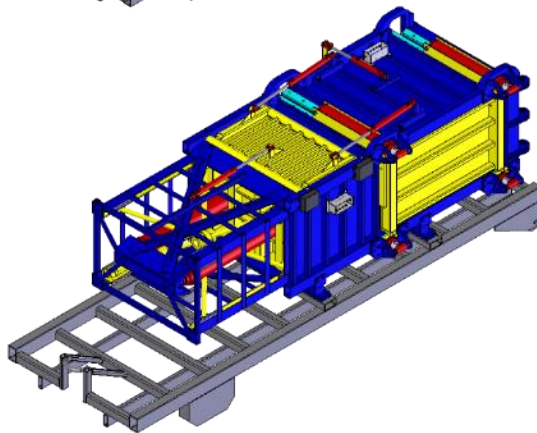
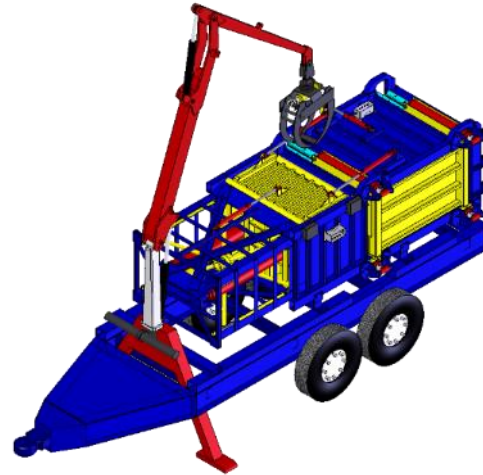
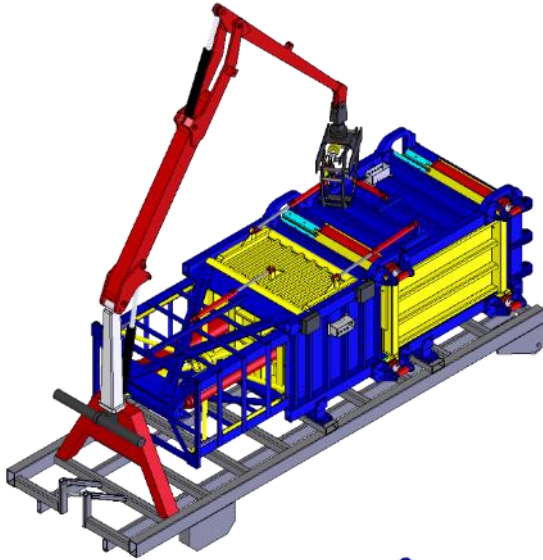


Alternatives to chipping

- Lop and spread
- Burn when able
- Haul in bulk bins & trucks
- Bale and haul like hay



Woody biomass baler is a modular system



Module can be mounted on:

- Hook-lift skid
- Straight trailer
- 5th-wheel trailer
- Log forwarder chassis
- AWD truck chassis

Optional Equipment:

- Slashing saw
- Wire auto-tie
- Small log/brush grapple
- Hydraulic power unit
- Tele-operation via RF
- Chassis and running gear

Why Bale? Minimize processing at the source (roadside, landing, or forest)



Lake Tahoe



Winthrop

This is a big WUI fuels reduction pile, BUT...it is on a play field in the middle of a residential area. Onsite chipping or grinding are not options.



Cambria



Auburn

Why Bale? Enable cost-effective transportation, storage, and processing



Ten years in development

- USDA NIFA SBIR – Small business innovation research program
- USDA CAP NARA – Oregon State U.
- DOE BETO BRDI – Humboldt State U.
- USDA National Fire Plan – Deschutes NF
- Yakama Nation Forestry – Baling alternative to pile burning
- Deschutes County Forestry, OR – Fuels reduction thinning
- City of Auburn, WA – Vegetation Mgmt. > Green Energy
- Jones Tree Service, TX – Pipeline corridor Maint.
- Asplundh Tree Service, WA – Powerline Maint.
- Rainier Wood Recyclers, WA – Woody biomass fuels
- Eco-Options Energy Co-op, BC – Woody bioenergy feedstocks

Arborist chipper replacement baler test Wildland Urban Interface – Deschutes County, OR



Deschutes NF field demo with
Forest Resources Association,
Friends of the Metolius
City of Bend,
USFS R6 Staff

Yakama Forestry burn piles

After two years of waiting for a burn window, these piles needed to be hauled off-site.

Baling greatly reduced the cost.



City of Auburn Parks and Roads

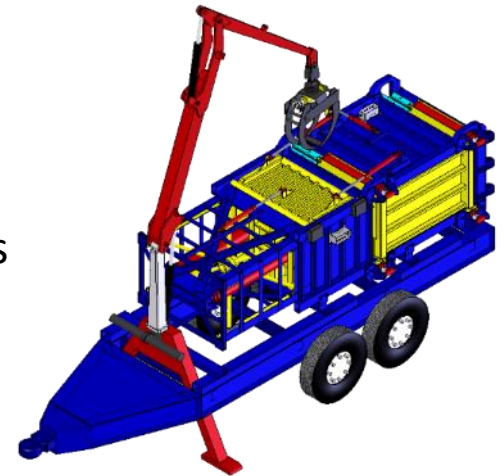


Forest biomass utility baler

- Modular baler unit that can be mounted to:
 - On-road or off-road trailer
 - Log forwarder
 - Tracked undercarriage
 - Truck chassis or flatbed truck
 - Hook-lift skid
- Bale size and weight optimized for:
 - Skid-steer loader handling
 - Smaller Peterson* horizontal grinders
- Primary uses:
 - Baling roadside windrows and supporting thinning crews
 - Baling fireline and fuels reduction biomass
 - Baling slash from keyhole and stranded landings
 - Recovering dispersed slash



Baling roadside slash from forest thinnings
Snoqualmie National Forest (Aug 2015)



Next Steps

- Contact us to discuss your projects and needs
- Arrange a time for a personal webinar
 - More in-depth discussion in your context
 - Videos of field trials and baler use
- Arrange for live demonstration or site visit
- Develop detailed specifications for a baler system optimized for your operations



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Thank You

www.forestconcepts.com

*** Peterson is a brand of Peterson Pacific Corporation**

Mention of corporations or brand names does not constitute an endorsement or recommendation.

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