

Waste Management DePIN Tokenomics

Token Architecture

WASTE Token (Primary Utility Token)

Symbol: WASTE
Network: Solana
Type: SPL Token
Total Supply: 1,000,000,000 WASTE
Decimals: 6

Token Distribution

Community Rewards: 40% (400M WASTE)
└─ User Participation: 25% (250M)
└─ Node Operators: 10% (100M)
└─ Municipal Partners: 5% (50M)
Development Fund: 20% (200M WASTE)
└─ Core Development: 12% (120M)
└─ Hardware Subsidies: 5% (50M)
└─ Research & Innovation: 3% (30M)
Ecosystem Growth: 15% (150M WASTE)
└─ Partnerships: 8% (80M)
└─ Marketing: 4% (40M)
└─ Community Grants: 3% (30M)
Team & Advisors: 10% (100M WASTE)
└─ Core Team: 7% (70M) - 4 year vest
└─ Advisors: 2% (20M) - 2 year vest
└─ Early Contributors: 1% (10M)
Treasury Reserve: 10% (100M WASTE)
└─ Emergency Fund: 5% (50M)
└─ Governance: 3% (30M)
└─ Future Expansion: 2% (20M)
Liquidity & Exchange: 5% (50M WASTE)
└─ DEX Liquidity: 3% (30M)
└─ CEX Listings: 1.5% (15M)
└─ Market Making: 0.5% (5M)

Earning Mechanisms

Individual User Rewards

Basic Participation

Proper Waste Disposal:

- Correct Bin Usage: 1-2 WASTE per disposal
- Proper Sorting: 2-5 WASTE per item
- Recycling Verification: 3-8 WASTE per item
- Composting Participation: 5-10 WASTE per kg

Weight-Based Rewards:

- General Waste: 0.1 WASTE per kg
- Recycling: 0.5 WASTE per kg
- Organic Waste: 0.3 WASTE per kg
- Hazardous Disposal: 2.0 WASTE per item

Quality Bonuses:

- Zero Contamination: +50% bonus
- Perfect Sorting Week: +100 WASTE
- Monthly Consistency: +200 WASTE
- Educational Sharing: +25 WASTE per post

Advanced Participation

Community Leadership:

- Waste Auditing: 50-100 WASTE per audit
- Neighbor Education: 25 WASTE per session
- Contamination Reporting: 10-20 WASTE per report
- Event Organization: 200-500 WASTE per event

Data Contribution:

- Photo Verification: 5 WASTE per photo
- Bin Status Updates: 2 WASTE per update
- Route Optimization: 10-50 WASTE per suggestion
- Problem Reporting: 15-30 WASTE per report

Household & Community Rewards

Household Achievements

Monthly Targets:

- 90% Proper Sorting: 100 WASTE bonus
- 50% Waste Reduction: 200 WASTE bonus
- Zero Contamination: 150 WASTE bonus
- Composting Adoption: 300 WASTE bonus

Seasonal Challenges:

- Spring Cleaning: 500 WASTE (proper disposal)
- Summer Composting: 400 WASTE (organic waste)

- └─ Fall Leaf Collection: 300 WASTE (yard waste)
- └─ Holiday Recycling: 600 WASTE (packaging)

Neighborhood Competitions

- Community Metrics (Monthly):
- └─ Lowest Contamination Rate: 1000 WASTE pool
 - └─ Highest Participation: 800 WASTE pool
 - └─ Best Waste Reduction: 1200 WASTE pool
 - └─ Innovation Award: 500 WASTE pool
- Distribution Method:
- └─ Top 3 Neighborhoods: 60% of pool
 - └─ Participation Bonus: 25% of pool
 - └─ Improvement Award: 15% of pool

Node Operator Rewards

Hardware Node Operators

- Basic Fill Monitoring (Type A):
- └─ Uptime Rewards: 10-20 WASTE per day
 - └─ Data Quality: 5-15 WASTE per day
 - └─ Maintenance Bonus: 100 WASTE per month
 - └─ Upgrade Incentive: 500 WASTE per upgrade
- Advanced AI Nodes (Type B):
- └─ Base Operation: 25-40 WASTE per day
 - └─ AI Accuracy Bonus: 10-30 WASTE per day
 - └─ Community Impact: 50-100 WASTE per week
 - └─ Innovation Rewards: 200-500 WASTE per feature
- Performance Multipliers:
- └─ 99%+ Uptime: 1.5x multiplier
 - └─ Zero Downtime Month: 2.0x multiplier
 - └─ Community Feedback >4.5: 1.3x multiplier
 - └─ Data Accuracy >95%: 1.4x multiplier

Collection Vehicle Operators

- Route Optimization:
- └─ Fuel Efficiency: 20-50 WASTE per route
 - └─ Time Optimization: 15-40 WASTE per route
 - └─ Customer Satisfaction: 10-25 WASTE per route
 - └─ Safety Record: 100 WASTE per month

Data Contribution:

- Real-time Updates: 5 WASTE per update
- Problem Reporting: 25 WASTE per report
- Route Suggestions: 50-200 WASTE per adoption
- Training Participation: 100 WASTE per session

Token Utility & Spending

Redemption Options

Local Benefits

Municipal Services:

- Utility Bill Discounts: 100 WASTE = \$1 credit
- Parking Fee Reduction: 50 WASTE = 1 hour free
- Public Transit: 25 WASTE = 1 ride discount
- Recreation Fees: 200 WASTE = facility access

Local Business Partners:

- Grocery Discounts: 150 WASTE = 5% off
- Restaurant Rewards: 300 WASTE = \$5 credit
- Retail Partnerships: Variable exchange rates
- Service Discounts: Cleaning, repair services

Environmental Products

Sustainability Store:

- Reusable Bags: 200 WASTE
- Compost Bins: 1,500 WASTE
- Water Bottles: 800 WASTE
- Solar Chargers: 3,000 WASTE
- Bike Accessories: 1,200 WASTE
- Garden Supplies: 500-2,000 WASTE

Educational Materials:

- Sustainability Books: 400 WASTE
- Workshop Access: 300 WASTE per session
- Online Courses: 800 WASTE per course
- Certification Programs: 2,000 WASTE

Staking & Governance

Staking Rewards

Staking Pools:

- 30-day Lock: 5% APY

- └─ 90-day Lock: 8% APY
- └─ 180-day Lock: 12% APY
- └─ 365-day Lock: 18% APY
- └─ Governance Lock: 15% APY + voting power

Staking Benefits:

- └─ Reward Multipliers: 1.1x to 1.5x
- └─ Exclusive NFT Access: Staker-only drops
- └─ Priority Support: Faster issue resolution
- └─ Beta Features: Early access to new tools

Governance Rights

Voting Power:

- └─ 1 WASTE = 1 vote (liquid tokens)
- └─ Staked tokens = 1.5x voting power
- └─ Long-term stake = 2x voting power
- └─ Node operators = 3x voting power

Governance Proposals:

- └─ Token Economics: Reward rate changes
- └─ Feature Development: New functionality
- └─ Partnership Approvals: Municipal contracts
- └─ Treasury Management: Fund allocation
- └─ Protocol Upgrades: Technical improvements

Economic Sustainability

Token Burn Mechanisms

Deflationary Pressure

Transaction Fees:

- └─ 0.1% burn on all token transfers
- └─ 1% burn on redemption transactions
- └─ 2% burn on large stake withdrawals
- └─ 0.5% burn on governance proposals

Service Fees:

- └─ Premium Features: 50% of fees burned
- └─ API Access: 30% of revenue burned
- └─ Data Licensing: 25% of income burned
- └─ Hardware Upgrades: 10% of cost burned

Quarterly Burns:

- └─ Excess Treasury: Up to 1% of supply
- └─ Partnership Profits: 50% of net income

- └ Carbon Credit Sales: 100% of proceeds
- └ Municipal Contracts: 20% of revenue

Revenue Streams

Primary Revenue

Municipal Contracts:

- └ SaaS Licensing: \$2-5 per bin per month
- └ Data Analytics: \$10-25k per city annually
- └ Consulting Services: \$50-200 per hour
- └ Custom Development: Project-based pricing

Hardware Sales:

- └ Node Hardware: 20-30% markup
- └ Installation Services: \$50-100 per node
- └ Maintenance Contracts: \$20-40 per node/year
- └ Upgrade Services: Premium pricing

Data Monetization:

- └ Research Licensing: \$5-50k per dataset
- └ API Access: \$0.01-0.10 per call
- └ Predictive Analytics: Subscription model
- └ Benchmarking Reports: \$500-5000 per report

Secondary Revenue

Token Economy:

- └ Transaction Fees: 0.1-1% of volume
- └ Staking Services: 10% of rewards
- └ Governance Fees: Proposal deposits
- └ Premium Features: Subscription model

Partnerships:

- └ Recycling Facilities: Revenue sharing
- └ Waste Haulers: Efficiency bonuses
- └ Equipment Manufacturers: Referral fees
- └ Technology Integrators: Licensing deals

Market Dynamics

Token Price Drivers

Positive Pressure

- Increased municipal adoption
- Growing user participation

- Token burn mechanisms
- Staking demand
- Partnership announcements
- Regulatory clarity
- Technology improvements

Negative Pressure

- Market volatility
- Regulatory uncertainty
- Competition
- Technical issues
- Reduced participation
- Economic downturns

Long-term Sustainability

5-Year Projections

Year 1: Foundation

- |— 10,000 active users
- |— 500 deployed nodes
- |— 5 municipal partnerships
- |— \$2M annual revenue

Year 3: Growth

- |— 100,000 active users
- |— 5,000 deployed nodes
- |— 50 municipal partnerships
- |— \$25M annual revenue

Year 5: Maturity

- |— 1,000,000 active users
- |— 50,000 deployed nodes
- |— 500 municipal partnerships
- |— \$200M annual revenue

Success Metrics

- **User Retention:** >80% monthly active users
- **Node Uptime:** >99% network availability
- **Token Velocity:** Healthy circulation patterns
- **Governance Participation:** >30% voter turnout
- **Revenue Growth:** 50%+ year-over-year
- **Environmental Impact:** Measurable waste reduction

Sustainable tokenomics driving real-world environmental impact through community participation and technological innovation.