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THE ELECTRONICS LIFECYCLE RESOURCE

The Electronics Lifecycle Resource™

John Dickenson -- REWAS 2008



E-Waste Situation and Trends in US and EU

- **European Union Situation**
- **United States Situation**
- **Differences & Similarities EU vs. US**
- **Trends**
- **Some Lessons**



Harmonization



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European Union WEEE Directive

- Started in August 2005
- Required individual member states to transpose the Directive into individual state law
- today all states beside Malta and Cyprus are “fulfilling” the requirements by the EU
- Producer`s obligations (overall and specific country by country)
- 10 product categories
- 27 different approaches (27 countries; 25 already started) →
 - additional efforts (registration, tendering, reporting, controlling) by producer
 - different cost models for all international producers
- Small amount of reuse value recovery (<1%)



Key aims of the WEEE Directive

- Reduce WEEE disposal to landfill
- Provide for free End-of-Life producer take-back schemes to consumers
- Improve product design with a view to both:
 - preventing WEEE and
 - increasing recoverability, reusability and / or recyclability
- Achieve targets for recovery, reuse and recycling of different classes of WEEE
- Provide for the establishment of collection facilities and separate collection systems
- Provide for the establishment and financing of systems for the recovery and treatment of WEEE, by producers including provisions for placing financial guarantees on new products placed on the market



Ten product categories

- 1) Large household appliances (refrigerators, washing machines, stoves)
- 2) Small household appliances (vacuum cleaners, toasters, hair dryers)
- 3) Information and telecommunications equipment (computers and peripherals, cell phones, calculators)
- 4) Consumer equipment (radios, TVs, stereos)
- 5) Lighting (fluorescent lamps, sodium lamps)
- 6) Electrical and electronic tools (drills, saws, sewing machines)
- 7) Toys, leisure, and sports equipment (electric trains, video games)
- 8) Medical devices (ventilators, cardiology and radiology equipment)
- 9) Monitoring instruments (smoke detectors, thermostats, control panels)
- 10) Automatic dispensers (appliances that deliver hot drinks etc).



Large Cost Differences

WEEE-costs in Europe (€per unit sold)

	<i>No. of TB Schemes for IT</i>	<i>PDA</i>	<i>Di-Cam</i>	<i>Laptop</i>	<i>PC</i>	<i>Inkjet printer</i>	<i>Flat Screen</i>
Belgium¹	1	0.33€	0.25€	0.25€	0.50€	0.60€	2.47€
Sweden¹	1	0.05€	0.10€	1.52€	3.80€	1.33€	3.42€
Netherlands²	1	0.03€	-	0.70€	1.08€	0.95€	2.43€
Ireland²	2	0.01€	2.00€ (0.02€)	0.21€	0.52€	0.18€	0.48€
Spain²	2	0.01€	0.01€	0.20€	0.50€	0.18€	0.48€
Austria³	4	0.01€	0.02€	0.39€	0.83€	0.34€	1.49€
France³	3	0.01€	0.03€	0.45€	1.00€	0.25€	1.00€
Germany⁴	>12	0.01€	0.01€	0.15€	0.38€	0.12€	0.33€

1: includes collection, treatment, communication and contribution to municipal costs

2: includes collection, treatment and contribution to municipal costs

3: includes collection, treatment, communication, clearing-house and contribution to municipal costs

4: includes collection, treatment and clearing house.

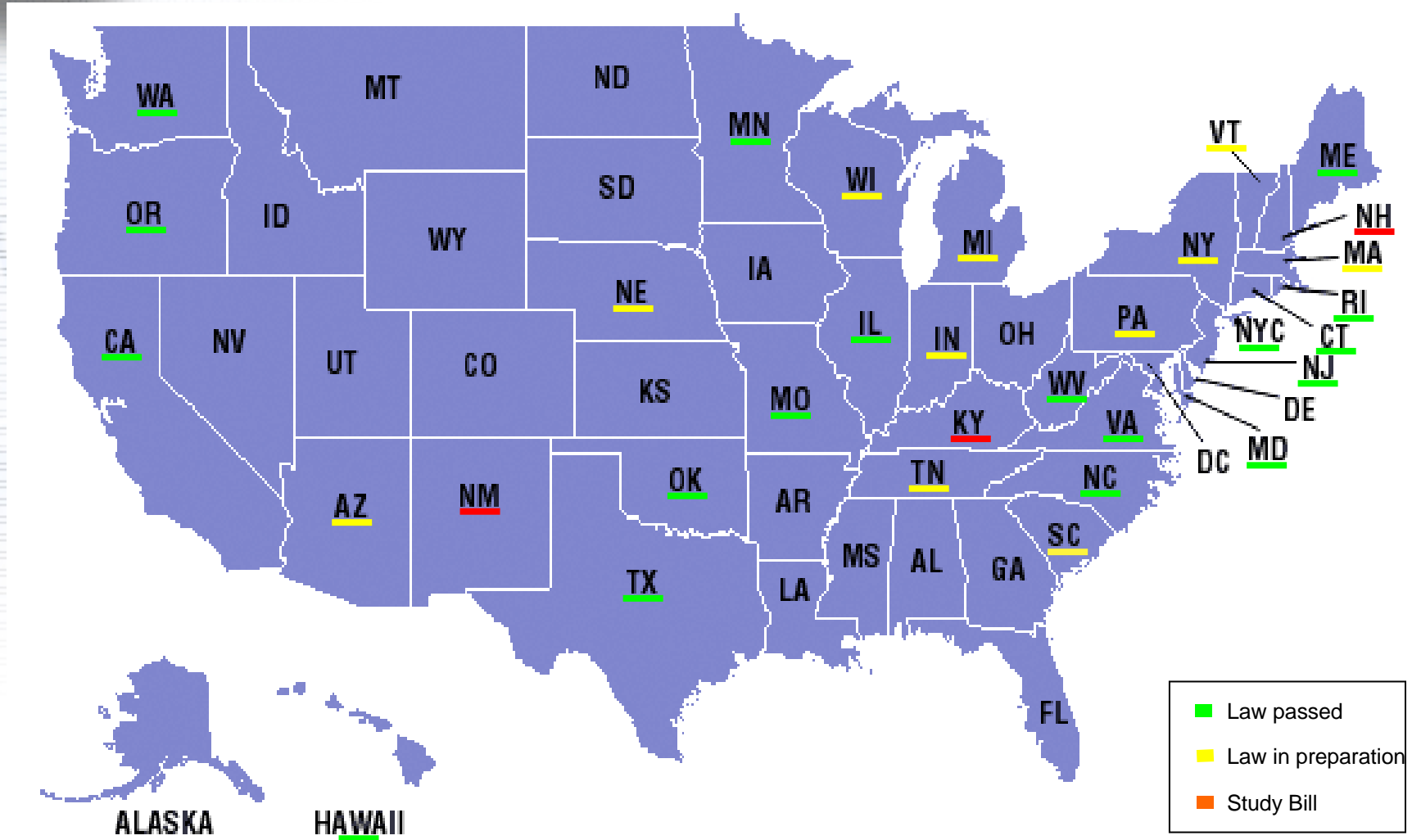


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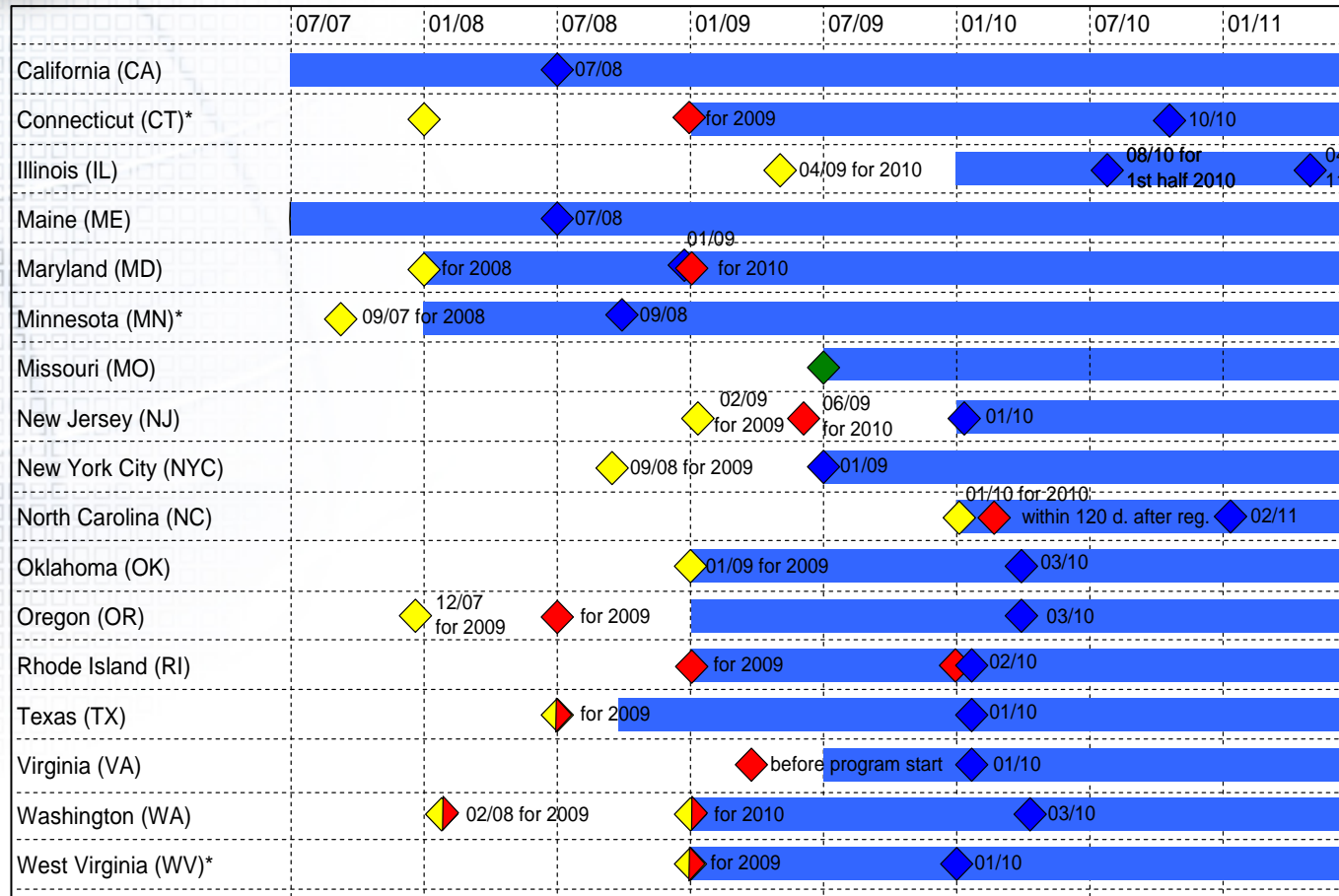


Status of US State Legislation





US States starting programs '08-'10



Deadlines lie within stated month e.g. 1st, 15th, 30th

* State program with option for voluntary manufacturer program

- ◆ Law applicable
- ◆ 1st Registration
- ◆ Opt-out-date / Plan for Manufacturer Program
- ◆ 1st Annual reporting
- Program operational

Note: Based on experience from Europe and first US implementations change in timelines expected, e.g. introduction of registration period, reporting deadlines on 31.01 will be postponed



Variety of State Legislative Requirements

	Common	←—————→	Rare
Product	Desktop computer, laptop computer, monitor	TV	Printer, keyboard, mouse, fax machine, digital music player
Source	Consumer	Small businesses	All commercial end-users
Financing	Producer Responsibility	Producer Responsibility & Advanced Recycling Fee	Advanced Recycling Fee
Producer obligation	<ul style="list-style-type: none"> ■ Labelling ■ Registration ■ Reporting ■ Free of charge take-back 	<ul style="list-style-type: none"> ■ Registration fee ■ Consumer information ■ Disposal ban 	<ul style="list-style-type: none"> ■ Compliance with heavy metal targets ■ Exemption for small producers ■ Targets
Compliance possibility	Choice between: <ul style="list-style-type: none"> ■ individual program ■ collective program 	Choice between: <ul style="list-style-type: none"> ■ state program ■ individual program ■ collective program 	No choice: <ul style="list-style-type: none"> ■ obligation to participate in state program & ■ voluntary individual / collective program



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Key Differences – EU vs. US

	EU	US
Products	Electric & Electronic	Displays, laptops, pc's
Covered Entities	B2B & B2C	B2C only (mainly)
Type of Legislation	EPR	mix
Collection Point	Municipality (mainly)	Consumer (mainly)
"Federal" Guidance	EU Directive	No Federal guidance



Key Similarities – EU vs. US

- **EPR preference**
- **Not Harmonized**
- **Too Complex**
- **Increasing collection amounts**
- **Where is material?**
 - **Continued problems with export control**



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Trends

- **Increasing Legislation**
- **Increasing environmental awareness & concern**
- **Emphasis on EPR concept**
- **EPEAT – “chain of custody”**
- **But where is the material?**



Some Lessons

- **Harmonization, Harmonization, Harmonization**
- **Strict enforcement of industry to level the playing field**
- **Do not discourage Reuse**
- **Collection, Collection, Collection**
- **Stakeholder consultation**



Thank You!



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