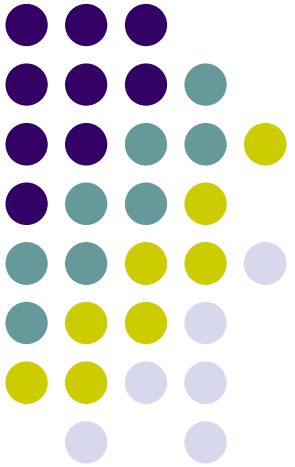
landfill levy review

Waste Management Board of Western Australia

11 October 2007



reviewer

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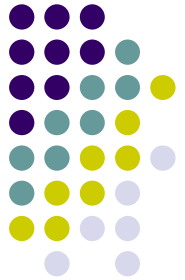
review objectives

a) review the current and future effectiveness of the landfill levy as an economic instrument for influencing waste management practices, including reducing waste to landfill

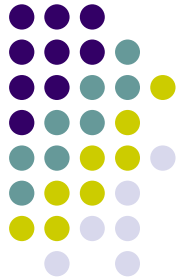
a) review the landfill levy to determine a sound methodology for medium to long term increases for the purpose of:
   a) an effective economic instrument for reducing waste to landfill; and
   b) ensuring the levy is able to raise sufficient funds for waste related programs.

approach



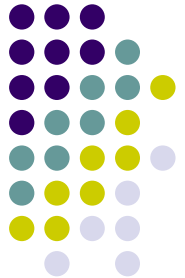
- interviews with key stakeholders
  - industry players and industry associations (CCI)
  - regional local governments and WA Local Government Association
  - state government (DEC, Minister’s office)
  - community (Conservation Council of WA)

approach



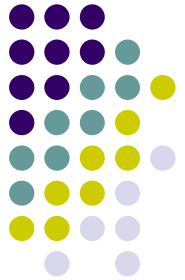
- review of previous studies, including:
  - Economics Consulting Service 2003: *Landfill levy study*
  - DEC 2003: *Recommendations for the statutory review of the WMRF*
  - DEC 2004: *Final recommendations for the statutory review of the WMRF*
  - ATA 2006: *WMRF audit of completed projects funded under the grant schemes*
  - WMB 2005: *Resourcing the zero waste vision. A discussion paper on the landfill levy and the programs it funds*
  - ACIL Tasman 2006: *An assessment of the impact of increasing the Landfill Levy*
  - ACIL Tasman and GHD 2006: *Landfill ban*
  - Productivity Commission 2006: *Waste Management*
  - MMA & BDA Group 2003: *The potential of market based instruments to better manage Australia's waste streams*

original purpose of landfill levy



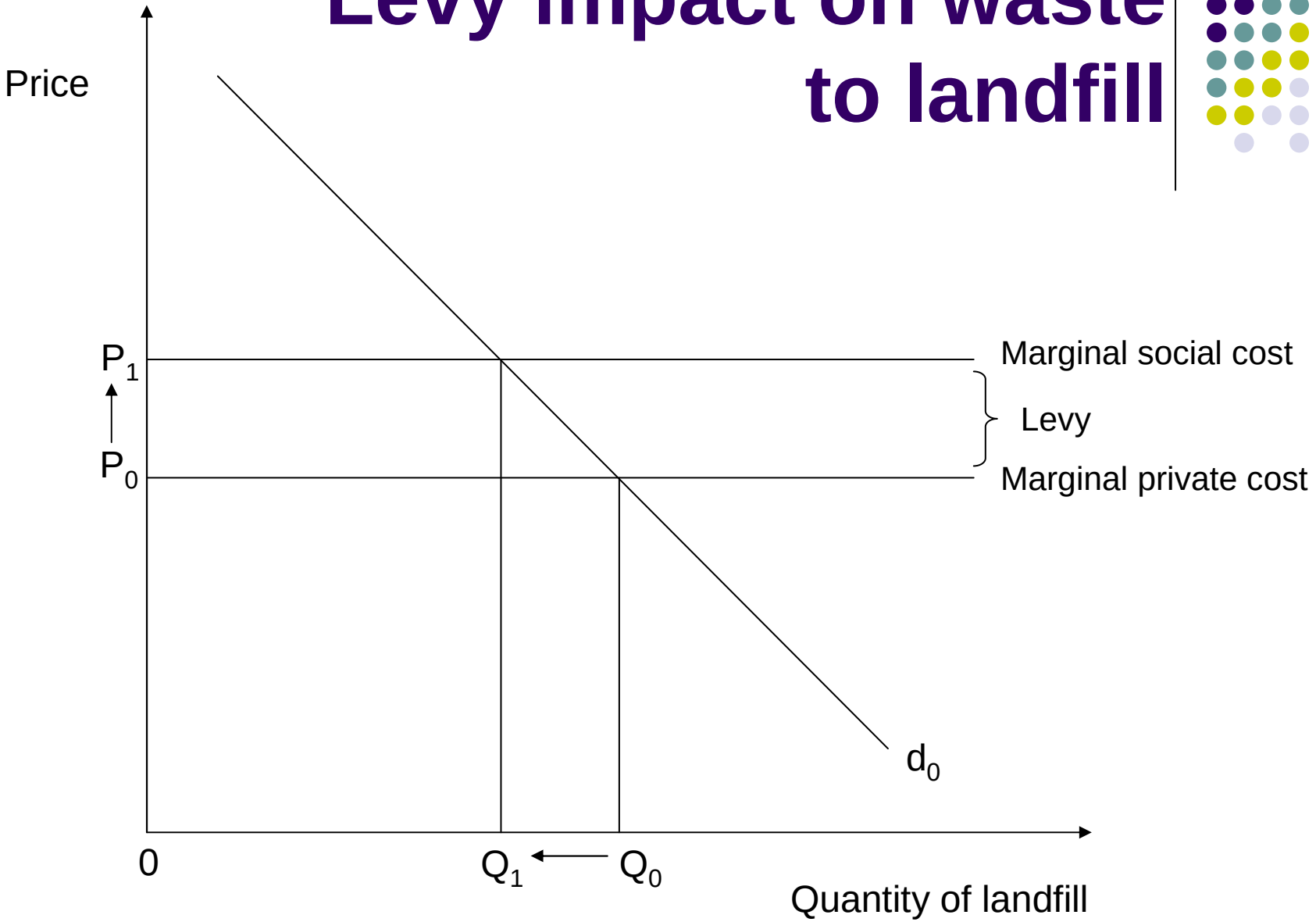
- divert waste from landfill and make recycling and re-use more competitive
- generate revenue for investment in initiatives and projects aimed at reducing waste to landfill and supporting recycling and reuse

background

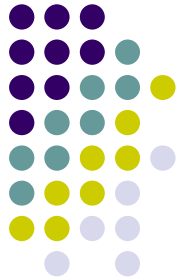


- 1998 established with differential levy for inert and putrescible
  - hypothecated: Waste Management and Recycling Fund
- 2006-07: levy increases announced
- 2010-11: $9/tonne for putrescible and $9/$m^3$ for inert

Levy impact on waste to landfill

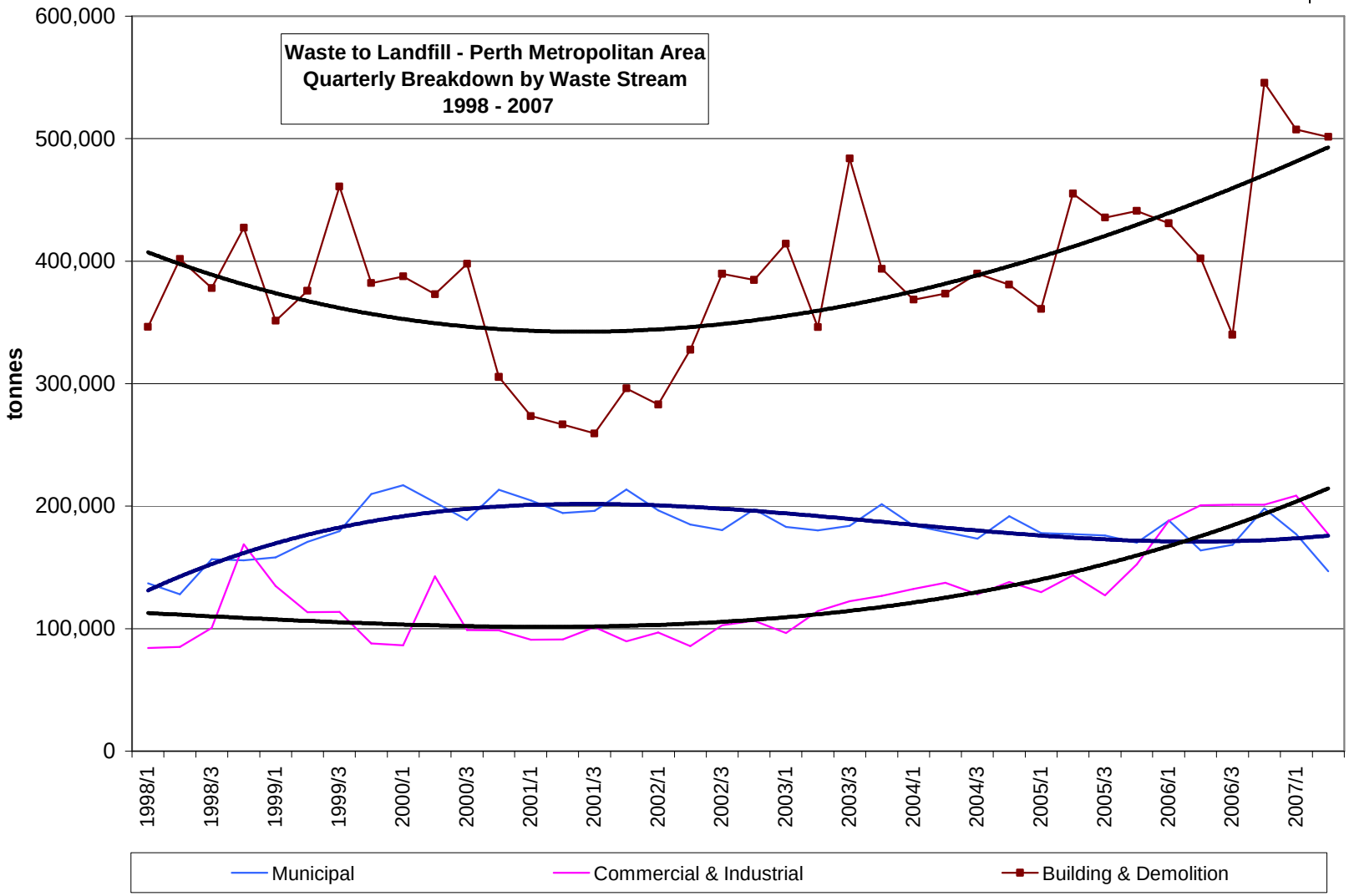


1. effectiveness of landfill levy as an economic instrument

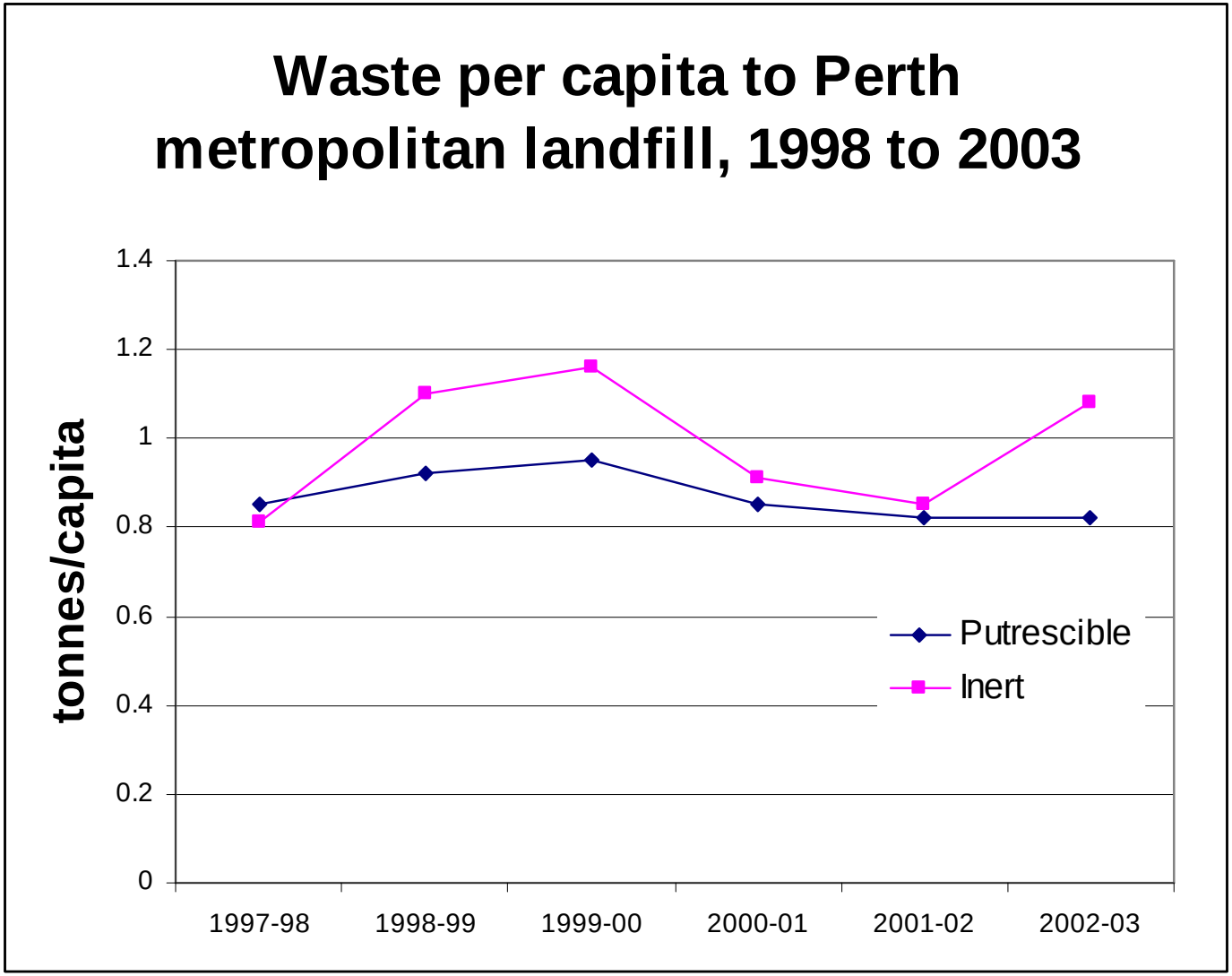


- prior to 2006-07, levy had little impact on reducing quantities of waste disposed to landfill
  - pattern of waste disposals to landfill since 1998
  - levy unchanged – declined in real terms
- levy set too low to have an impact
  - as a proportion of total costs of waste management – gate fees, collection, transport
- one of a number of factors influencing waste management practices

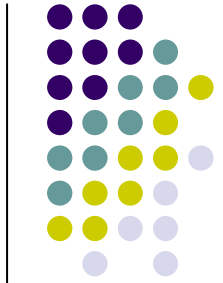
waste to landfill patterns



waste per person

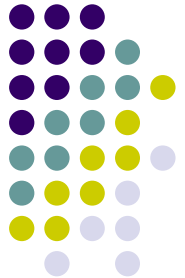


factors influencing waste management practices



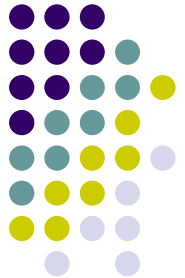
- changes in gate fees
- transport costs – location/access
- regulations - enforcement
- level of knowledge and awareness of alternatives
- commitment to good environmental practice – willingness to pay
- waste volumes – economic activity
- direct exposure to landfill levy – households removed
- availability of choices
- (increased) demand for recyclable materials
- cost of air space – remove low density materials
- elasticity of demand for landfill - household (lower), commercial (higher)

levy effectiveness since 2006-07 – early days



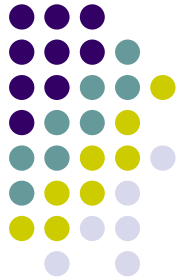
- putrescible levy increase from $3/tonne to $6/tonne
- inert levy increase from $1/m^3 to $3/m^3
- anecdotal evidence indicates:
  - reduction in C&D waste from inert waste streams
    - some diversion to recycling, but insufficient volumes to sustain operations (excess capacity)
    - possible increase in illegal dumping
  - no noticeable change in diversions from putrescible waste streams

proportion of gate fees



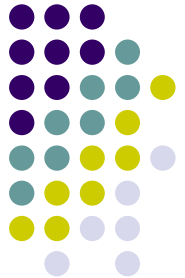
- Putrescible
  - $6/tonne in $60-$84/tonne gate fees
  - 7% to 10%
  - price non-responsive
  - absorbed in existing charges to households
  - at $60/tonne, investment in alternative waste treatment process would be attractive (existing technologies)
    - but, willingness to pay?
    - resource recovery facilities already operating (SMRC)
- Inert
  - $3/$m^3$ in $9.00 to $15.50/$m^3$ gate fees
  - 22% to 33%
  - price responsive
  - passed onto source

an effective economic instrument?



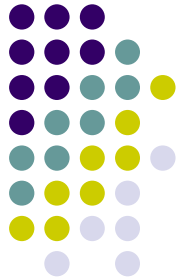
- yes, if set right, but…
- challenge is to set it right
  - environmental and social externalities
- avoid unintended consequences
  - Illegal dumping, if levy too high
  - discourage investment in recycling, if levy too low
  - put at risk existing investments, if increase too far too quickly
  - penalise environmentally sound alternatives

differential levies or a single levy?



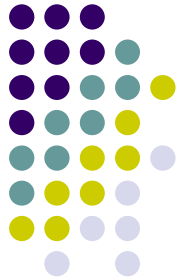
- maintain differential levies on wastes
  - reflect environmental and social impacts of different wastes – inert, putrescible, hazardous
  - assess all externalities for each type of waste
  - incentive to improve waste management practices
- differentiate for residual wastes following resource recovery
  - lowers incentive to reduce wastes further; may increase residual wastes
- impose differential levy on different landfill types/standards according to environmental footprint
- differential levy according to carbon footprint
  - more efficiently dealt with through carbon emissions trading or comprehensive policy approach

improving effectiveness



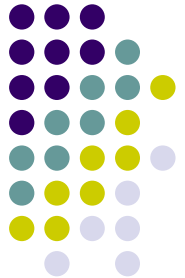
- combine levy with other instruments, such as
  - ban particular wastes to landfill
  - extended producer responsibility (EPR)
  - material deposits e.g., container deposits
- artificially increase demand for recycled materials through mandatory procurement policy
- remove institutional barriers to investment and market development
  - eg road sub-base specifications
- consumer perceptions regarding recycled materials
- strengthen enforcement of standards and regulations
- impose levy at source of waste – eg, unit based charges for households; more choice for households
- underwrite investment in infrastructure by government
- facilitate market development – create market pull

ban wastes to landfill (ACIL 2006)



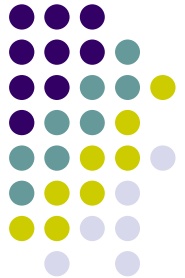
- construction and demolition wastes diverted to recyclers, or green wastes to compost
  - higher disposal costs
- positive environmental benefits – extended landfill capacities; pollution reduction; reduced greenhouse gas emissions; resource and energy conservation
- may encourage illegal dumping, especially where access to recycling is limited, adding to transport costs
- enforcement
  - adds costs, but aids compliance
- inflexible instrument
  - requires demand for recycled materials (size of market)
  - requires sufficient volumes to sustain recycling
  - may require mandatory minimum content (procurement policy)

state-wide levy



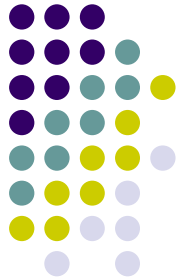
- levy non-metropolitan waste to landfill as well as metropolitan
- improve landfill management standards first
- scale and other disadvantages
  - resources
  - volumes
  - markets
  - distance
  - capacity

2. setting landfill levy



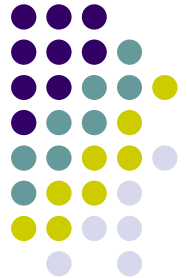
- to reflect environmental and social externalities associated with landfill
  - greenhouse gas emissions, local visual amenity, transport corridor impacts and intergenerational equity
  - set levy to deliver the socially optimal level of landfill or resource recovery and re-use
  - does not duplicate external costs already embodied in gate fees
- to provide sufficient funds for strategic programs and initiatives aimed at diverting waste flows to landfill
  - set levy to generate a pool of funds

externalities

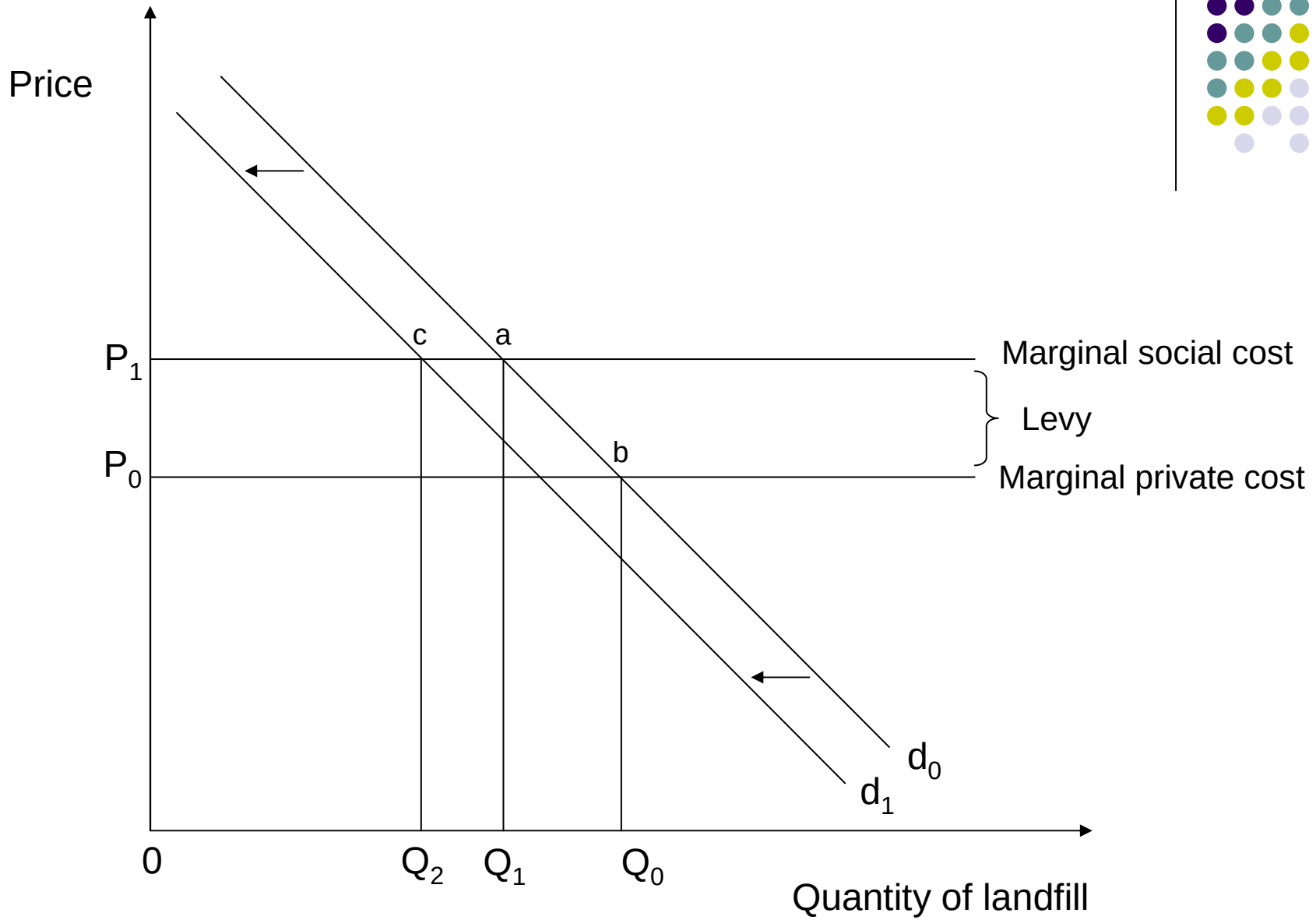


- comprehensive analysis of landfill externalities to set levy such that it minimises market distortions in waste disposal
  - environmental and social externalities associated with waste disposal
  - metropolitan and non-metropolitan
- has been used in NSW
- Productivity Commission 2006 - ‘very difficult to achieve to achieve in practice’

understanding landfill demand and supply

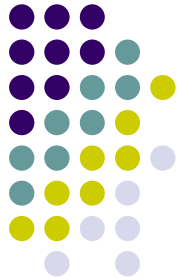


- estimate elasticity of demand for landfill
  - inert
  - putrescible
- long-term supply assumptions
- key inputs to a robust levy setting mechanism



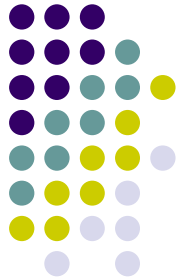
Based on ACIL Tasman 2006

strategic investment fund



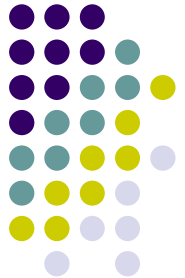
- levy revenue
- set levy to generate a level of funds required to invest in a range of strategic projects and initiatives

strategic context



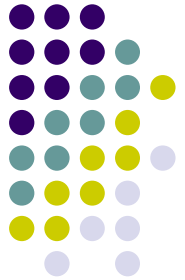
- Western Australia's sustainability strategy
- towards zero waste
- economic outlook of WA
- demographic patterns, settlement patterns
- production trends
- long-term perspective – 10 years +
  - scenarios

determining strategic funding priorities



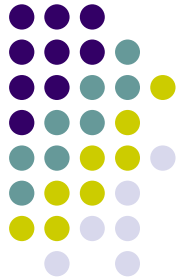
- participative process
- public benefits

delivering benefit



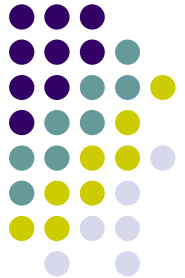
- management of grants programs
  - link to strategic priorities
  - independent technical assessment
  - performance
  - accountability
  - dissemination strategy
- Implementation
  - effectiveness

Certainty



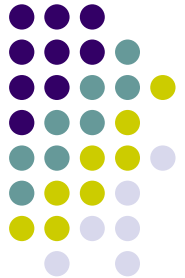
- time frame to change in levy – 5 years
- inline with investment time frames of industry
- uncertainty a key barrier to investment
- align time frames

Other issues



- Landfill and land rehabilitation
  - C&D waste diverted to disused quarries
  - site rehabilitated for light industrial or recreational use; not ‘landfill’
  - attracts inert waste levy
  - re-use of inert waste as a resource
  - as levy increases, material diverted to recyclers away from landfill
  - recycling may incur higher unit energy costs than re-use for site rehabilitation

Other



- Separation of regulatory functions of DEC and policy functions of WMB